DILLON CONSULTING

Imperial Oil Limited

Environmental Report

Sarnia Products Pipeline Segments Mitigation Project

September 2026 – 26-2934

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Acronyms, Abbreviations, Definitions

An abbreviation and an acronym are both shortened versions of something else. Both can often be represented as a series of letters. Many people are unable to tell the difference between an abbreviation and an acronym.

- AA — Archaeological Assessment
- ANSI — Area of Natural and Scientific Interest
- AQHI — Air Quality Health Index
- ARA — Aquatic Resource Area
- BHR — Built Heritage Resource
- °C — degrees Celsius
- CHL — Cultural Heritage Landscape
- CHRECPIA — Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment
- CHSR — Cultural Heritage Screening Report
- CHVI — Cultural Heritage Value or Interest
- cm — centimetre(s)
- COSEWIC — Committee on the Status of Endangered Wildlife in Canada
- cSWH — Candidate Significant Wildlife Habitat
- DFO — Fisheries and Oceans Canada
- Dillon — Dillon Consulting Limited
- EA — Environmental Assessment
- EASR — Environmental Activity and Sector Registry
- ECCC — Environment and Climate Change Canada
- ELC — Ecological Land Classification
- Enbridge — Enbridge Pipelines Inc.
- ER — Environmental Report
- *ESA* — *Endangered Species Act, 2007*

GHG	greenhouse gas(es)
HDD	horizontal directional drilling
HIA	Heritage Impact Assessment
HVA	Highly Vulnerable Aquifer
IPZ	Intake Protection Zone
km	kilometre(s)
km^2	square kilometre(s)
kt	kilotonne(s)
LTC	Leave-to-Construct
m	metre(s)
m^3	cubic metre(s)
MBCA	*Migratory Birds Convention Act, 1994*
masl	metres above sea level
mbgs	metres below ground surface
MECP	Ministry of the Environment, Conservation and Parks
MEM	Ministry of Energy and Mines
MCM	Ministry of Citizenship and Multiculturalism
MNR	Ministry of Natural Resources
MTO	Ministry of Transportation
NHIC	Natural Heritage Information Centre
NRCan	Natural Resources Canada
O. Reg.	Ontario Regulation
OEB	Ontario Energy Board
OEB Guidelines	Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition

- OGS — Ontario Geological Survey
- OMAFA — Ontario Ministry of Agriculture, Food and Agribusiness
- OPCC — Ontario Pipeline Coordinating Committee
- PE — polyethylene
- PIF — Project Information Form
- PPS — Provincial Planning Statement
- ROW — right-of-way
- SAR — Species at Risk
- *SARA* — *Species at Risk Act*
- *SCA* — *Species Conservation Act* (2025)
- SCC — Species of Conservation Concern
- SWH — Significant Wildlife Habitat
- TMHC — TMHC Inc.
- TWS — temporary workspace(s)
- WHPA — Well Head Protection Area

Executive Summary

Imperial Oil Limited (Imperial Oil) retained Dillon Consulting Limited (Dillon) to conduct an environmental and cumulative effects assessment (the Study) for the proposed Sarnia Products Pipeline Segments Mitigation Project (the Project) located in the City of Hamilton.

The purpose of the Project is to replace portions of the Sarnia Products Pipeline (SPPL) and will involve the installation of approximately 1 kilometre (km) of 12-inch pipeline entirely within the existing Imperial Oil right-of-way (ROW) in the City of Hamilton. Approximately 200 metres (m) of 12-inch pipeline is proposed to run from an existing Enbridge Pipelines Inc. valve station (Millgrove Station) to a new pump station north of Concession 5 Road East. The new pump station is subject to approval through separate regulatory and permitting processes and is not assessed in this report. In addition, two sections of 12-inch pipeline, approximately 400 m each, are proposed to connect the new pump station to the existing Waterdown to Finch pipeline at a tie-in point east of Concession 5 Road East.

The Study results have been documented in this Environmental Report (ER), which was developed in accordance with the Ontario Energy Board (OEB) *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition* (2023).

Stakeholder engagement and Indigenous consultation are important components of the Project. Early and frequent consultation with directly and indirectly affected Indigenous communities, government agencies, interest groups, and the public was an integral part of the Study. Imperial Oil is committed to meaningful engagement with stakeholders and Indigenous communities, as needed and required, throughout each phase of the Project.

The Study involved undertaking an inventory of physical, natural, and socio-economic features within the Study Area. This information was used to produce maps identifying features that could be impacted by Project construction and operation. The Preferred Route was selected based on the need for the replacement, technical requirements, and the location of the existing Imperial Oil ROW. The Preferred Route will be constructed entirely within the existing Imperial Oil pipeline ROW.

Mitigation measures are recommended to reduce potential adverse effects to the environment. These recommendations are anticipated to effectively protect the physical, natural, and socio-economic features along the pipeline route. Based on the Study findings, Dillon does not anticipate significant adverse effects from the construction and operation of the Project with the implementation of the mitigation measures and monitoring recommended in this report.

The OEB's review and approval is required before the Project can proceed. Imperial Oil anticipates filing a Leave-to-Construct (LTC) Application with the OEB in September 2026. If approved, construction of the Project is anticipated to begin in spring 2027.

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1.0 Introduction

Imperial Oil Limited (Imperial Oil) has retained Dillon Consulting Limited (Dillon) to conduct an environmental and cumulative effects assessment for the Sarnia Products Pipeline Segments Mitigation Project (the Project) located in the City of Hamilton. If approved, construction of the Project is anticipated to begin in January 2027.

1.1 Description of the Project

The Project will address the pipeline integrity risk for the approximately 5 kilometre (km), 10-inch diameter section of pipeline between the existing Enbridge Pipelines Inc. (Enbridge) valve station (Millgrove Station) and the Imperial Waterdown pump station. The Project will involve the decommissioning in place of 5 km of 10-inch pipeline and the construction of approximately 1 km of 12-inch pipeline entirely within the existing Imperial Oil right-of-way (ROW). Approximately 200 metres (m) of 12-inch pipeline is proposed to run west from the Millgrove valve station to a new pump station north of Concession 5 Road East. In addition, two sections of 12-inch pipeline, approximately 400 m each, are proposed to connect the new pump station to the existing Waterdown to Finch pipeline at a tie-in point east of Concession 5 Road East. The new pump station is subject to approval through separate regulatory and permitting processes and is not assessed in this report.

The pipeline is proposed entirely within Imperial Oil's existing ROW. Locating the pipeline within the existing, previously disturbed ROW will reduce the potential for environmental effects. Typical depth of ground cover over the pipeline will be a minimum depth of 1.2 m; however, it may be installed deeper to provide additional protection in areas where it crosses underneath existing infrastructure (e.g., roads, railroad lines, sewers, other utility structures) or environmental or cultural features (e.g., watercourses, archeological sites).

Temporary workspace (TWS) and laydown areas will be required adjacent to the proposed location of the pipeline to facilitate the movement and storage of equipment necessary for construction. Imperial Oil will work with the local municipalities, regulatory agencies, and landowners to identify and secure appropriate workspace, as required.

1.2 Project Purpose and Rationale

Imperial Oil currently operates an existing pipeline that transmits products from the Enbridge Millgrove Station to the Waterdown Pump Station. The section of pipeline connecting the two stations is nearing the end of its useful life. As a result, Imperial Oil is proposing to replace this section of pipeline and construct new sections of pipeline to connect to a new pump station west of Concession 5 Road East.

Imperial Oil is proposing to decommission the 5 km section of 10-inch pipeline between the Enbridge Millgrove Station and the Waterdown Pump Station.

Figure 1-1: Project Overview



1.3 Environmental and Cumulative Effects Assessment

Dillon conducted a Study to identify potential environmental effects that the Project could have on the existing physical, natural, and socio-economic environment. Mitigation measures designed to reduce environmental effects were also developed as part of the Study. The Study results have been documented in this Environmental Report (ER), which was developed in accordance with the Ontario Energy Board (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition* (OEB Guidelines; OEB, 2023).

1.4 Regulatory Framework

The Study was prepared to meet the requirements of the OEB. More information on the regulatory process is provided in the following subsections.

1.4.1 Ontario Energy Board

The Project is being planned in accordance with OEB regulations. The OEB acts as a regulatory body to protect the public interest, to determine that the Project is necessary, and to ensure that Imperial Oil obtains the necessary approvals to meet health, safety, and environmental standards and regulations.

For OEB approval, the ER must document that the concerns of municipal, provincial, and federal agencies, as well as Indigenous communities, were considered. Concerns identified by landowners and the public should also be addressed.

Once complete, the ER is circulated to the Ontario Pipeline Coordinating Committee (OPCC). The OPCC coordinates the Ontario government's review of pipeline projects that require OEB approval. The OPCC's goal is to reduce adverse environmental effects that could arise from projects by reviewing environmental and routing reports.

The ER is also circulated to Indigenous communities, directly impacted landowners, and to interest groups, such as municipalities and the local conservation authority. Where possible, all outstanding issues are resolved prior to submission of an application to the OEB. The OEB may order a written or oral hearing, based on the complexity of the Project and the level of public concern.

Imperial Oil plans to file a Leave-to-Construct (LTC) Application with the OEB in Q3 2026 If approved by the OEB, construction of the Project is anticipated to start in January 2027.

1.4.2 Other Potential Permits, Approvals, or Notifications

In addition to OEB approval, there may be federal, provincial, and municipal approvals, permits, and notifications required for the Project, as outlined in **Table 1-1**. An appropriate amount of time should be scheduled to obtain necessary permits and approvals prior to construction. Permit requirements will be confirmed with final Project design.

Table 1-1: Potential Permits, Approvals, or Notifications

Agency	Legislation, Regulation, or Standard	Permit/Approval/Notification
Environment and Climate Change Canada (ECCC)	*Species at Risk Act, 2002* (*SARA*) (SC 2002, c. 29) *Migratory Birds Convention Act, 1994* (*MBCA*) (SC 1994, c.22)	*SARA* contains general prohibitions that make it an offence to kill, harm, harass, capture, or take a federally listed Species at Risk (SAR) or damage or destroy their critical habitat on federal lands (or other designated lands). *SARA* also applies to all lands in Canada for Schedule 1 bird species cited in the *MBCA* and applies to all lands/waters in Canada for Schedule 1 aquatic species. If Project activities are anticipated to affect federally listed SAR and/or their habitat, ECCC should be consulted, as a permit under Section 73 of *SARA* may be required. See **Section 4.2.7** of this report for more information on federally listed SAR species with the potential to occur in the Project Study Area.
Ministry of Natural Resources (MNR)	*Fish and Wildlife Conservation Act, 1997* (SO 1997, c. 41)	The MNR regulates the collection, transportation, rearing, and/or release of any wildlife species scheduled in the *Fish and Wildlife Conservation Act*. A Wildlife Scientific Collector's Authorization is required if wildlife is encountered during construction and requires handling and relocation. Currently, there is no instream work planned for the Project; however, if construction plans change and instream work is proposed in a fish-bearing watercourse, then a Licence to Collect Fish for Scientific Purposes must be acquired prior to conducting fish salvages.
Ministry of the Environment, Conservation and Parks (MECP)	*Species Conservation Act, 2025* (S.O. 2025, c. 4, Sched. 10) and Ontario Regulation (O. Reg.) 75/26	A permit or registration is required for activities that may affect provincially listed SAR (species listed as Endangered or Threatened under O. Reg. 60/26) and/or their habitat. See **Section 4.2.7** of this report for more information on provincially listed SAR with the potential to occur in the Project Study Area.
MECP	*Ontario Water Resources Act* (RSO 1990, c. O.40) and O. Reg. 387/04: Water Taking and Transfer Regulation *Environmental Protection Act* (RSO 1990, c.E.190) and O. Reg. 63/16: Registrations under Part II.2 of the Act – Water Taking	Registration under the Environmental Activity and Sector Registry (EASR) is required if the Project will result in dewatering of more than 50,000 litres per day (L/day).
MECP	*Environmental Protection Act* (RSO 1990, c. E.19O) and O. Reg. 406/19 On-Site and Excess Soil Management	O. Reg. 406/19 describes the regulatory requirements for managing on-site and excess soil, including documentation and tracking procedures, transportation of soil, depositing of excess soil, and general excavation procedures. The regulation also requires a notice to be filed in the excess soil registry if certain project and project area criteria are met. Should Project construction result in the production of excess soils, it is recommended to conduct due diligence sampling to verify it meets the soil quality requirements of the receiver prior to transporting it. Soil management practices, documentation requirements, and other administrative requirements specified in O. Reg. 406/19 will apply. If the Project generates more than 2,000 cubic metres (m^3) of excess soil, additional requirements under O. Reg. 406/19 may apply, such as the requirement to file a notice on the excess soil registry, completion of specific reports by a qualified person, and implementation of a soil tracking system. If a notice is required, it must be completed prior to moving soils off site.

Agency	Legislation, Regulation, or Standard	Permit/Approval/Notification
Ministry of Citizenship and Multiculturalism (MCM)	*Ontario Heritage Act* (RSO 1990, c. O.18)	Archaeological assessments (AAs) are required for areas of archaeological potential. Archaeological concerns are considered addressed when the MCM provides a letter indicating that all reports have been entered into the Ontario Public Register of Archaeological Reports and those reports recommend that: • The AA of the Project area is completed; and • That all archaeological sites identified by the assessment are either of no further cultural heritage value or interest (as per Section 48(3) of the *Ontario Heritage Act*) or that mitigation of impacts has been accomplished through an excavation or avoidance and protection strategy. A Stage 1 AA was completed for the Project. A copy of the report is provided in **Appendix A.** A Stage 2 AA was completed for the Project and reporting is underway. A Cultural Heritage Report (CHR) was completed for the Project and is provided in **Appendix B**. See **Section 4.4** of this report for more information on cultural heritage resources.
Conservation Halton	*Conservation Authorities Act* (RSO 1990, c. C.27) and O. Reg. 41/24 Prohibited Activities, Exemptions and Permits	A permit from Conservation Halton under O. Reg. 41/24 is required for development, site alteration, or interference with wetlands/watercourses within Conservation Halton regulated areas. This includes construction, grading, or placing materials near wetlands, floodplains, shorelines or hazardous lands.
Niagara Escarpment Commission (NEC)	*Niagara Escarpment Planning and Development Act* (RSO 1990, c. N.2) and O. Reg. 828/90 Development Within the Development Control Area	The NEC is a provincial agency that operates under the *Niagara Escarpment Planning and Development Act* and acts as a regulatory body to protect the Niagara Escarpment by maintaining the area through land-use planning, development permits and enforcing the Niagara Escarpment Plan. An NEC Development Permit under O.Reg. 828/90 is required for most construction, land alteration or land-use changes within the Area of Development Control in the Niagara Escarpment Plan Area.
City of Hamilton (CoH)	CoH Conservation By-law R00-054	A Notice of Intent to Cut permit is required from the CoH for cutting, burning, or destroying trees on private land that are part of wooded areas 0.81 hectares or greater in size. Pursuant to the *Forestry Act* (RSO 1990, c.F26) as amended, tree removals may be exempt from the need for a permit under CoH By-law R00-054 if the removals are required in order to erect a building, structure, or thing in respect of which a building permit has been issued, provided no tree of a prescribed species is destroyed more than 10 meters from the outer edge of the building, structure, or thing.

2.0 Study Process

The Study process followed three main steps:

- Identification of Study Areas and environmental inventory;
- Routing selection; and
- Effects assessment and proposed mitigation measures.

Stakeholder engagement and Indigenous consultation was conducted throughout the Study (see **Section 3.0**).

2.1 Study Methods

The Study methods were designed to achieve the following objectives:

- Select a Study Area;
- Collect environmental and socio-economic data to evaluate the proposed routes;
- Provide opportunities for Indigenous communities, agencies, potentially affected landowners, and the general public to comment on the Project;
- Select a preferred route for the pipeline that reduces adverse effects to the physical, natural, and socio-economic environment; and
- Identify and recommend environmental protection and mitigation measures to be implemented during Project construction.

The Study was conducted between February and May 2026.

2.1.1 Identification of Study Area and Environmental Inventory

The first step of the Study involved identifying the Study Area for the Project. The Study Area boundaries were determined based on the pre-established start and end points of the pipeline and included areas that are most likely to be directly or indirectly affected by the Project.

To address potential indirect effects on physical, natural, and socio-economic features, Dillon conducted desktop studies that encompassed 125 m on each side of the proposed pipeline routes for a total width of 250 m (**Figure 2-1**).

An environmental constraints inventory and a features mapping exercise was conducted. Dillon mapped features based on both primary and secondary sources including data collected through site reconnaissance activities, contact with local, provincial, and federal agencies, where applicable, and discussions with stakeholders. Based on Dillon's experience conducting studies of a similar nature and, in accordance with the OEB Guidelines, the mapping generally includes topographical features, natural environment features, natural hazard information, and relevant land use planning information.

The purpose of collecting applicable data to compile features mapping was to assist the Study team, Imperial Oil, Indigenous communities, the public, regulatory agencies, and interested parties in understanding how the environment may be affected by the Project. Feature maps serve as the baseline for route evaluation and for assessing the potential adverse effects resulting from construction and operation of the Project.

To determine potential direct effects on the environment, Dillon completed a field verification visit that encompassed the Project footprint, defined as the land area directly disturbed by Project activities and associated physical works including the pipeline ROW, TWS, and access.

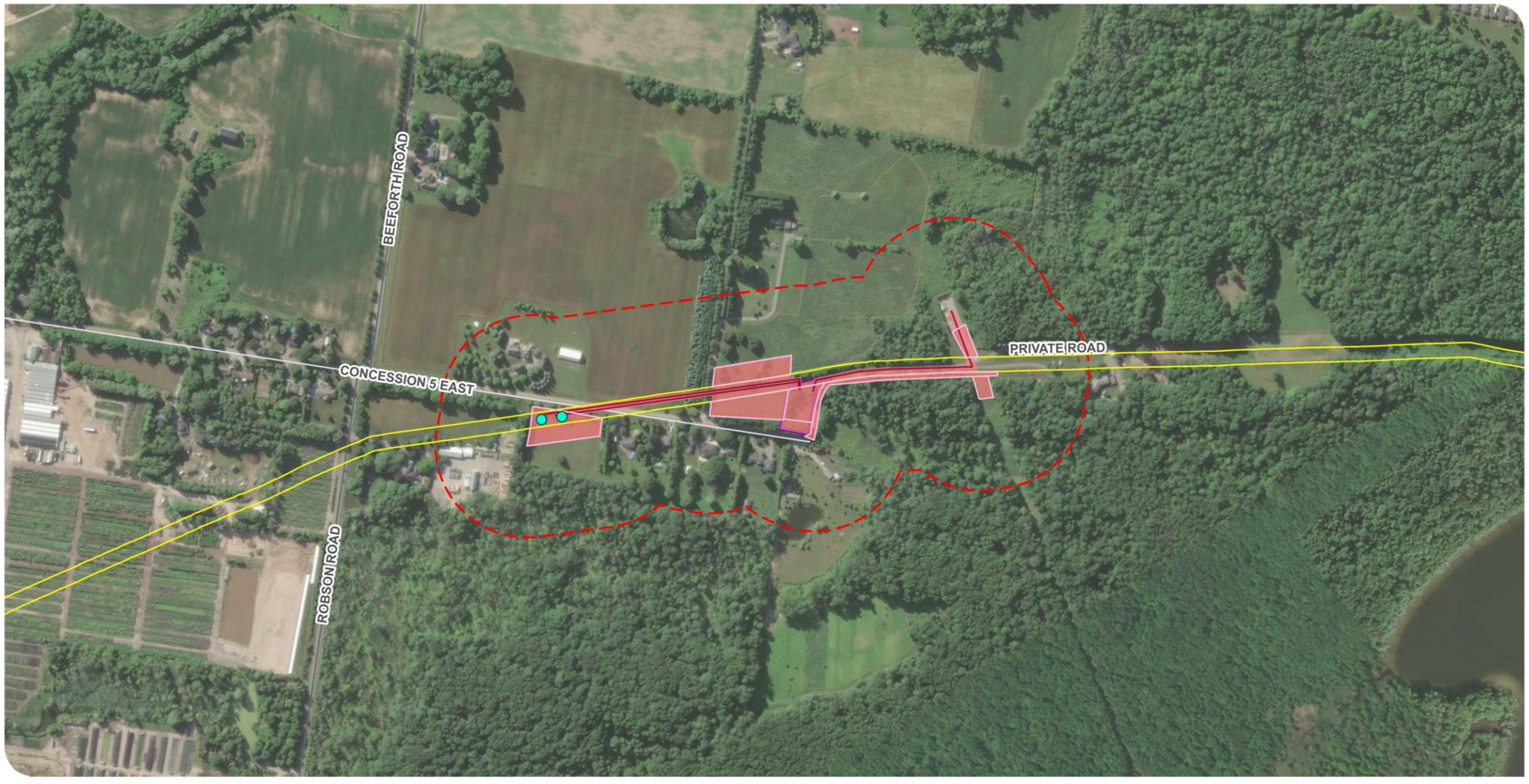
Primary and secondary source data was collected and used to develop the environmental baseline setting for the Project. Primary sources include data retrieved during field studies, and secondary sources include data obtained through the review of electronic databases, published reports, existing literature, journals, information letters, and information received from Project stakeholders. Proper record-keeping practices were exercised to maintain data and results for future use. Methods used to retrieve information included internet research and correspondence with agencies and other stakeholders. A list of key secondary sources is included in **Table 2-1**. Secondary sources reviewed as part of the Stage 1 AA are included in the Stage 1 AA report in **Appendix A**.

Table 2-1: Key Data Records and Sources

Source	Records Reviewed
Provincial	
Conservation Halton	• Source Protection Plans for the Halton Region Source Protection Area and the Hamilton Region Source Protection Area (Conservation Halton, 2022)
MNR	• Ontario Hydro Network – Watercourse (MNR, 2025a). • Natural Heritage Information Centre (NHIC) database (MNR, 2024a). • Geospatial Ontario (formerly Land Information Ontario) (MNR, 2024b). Aquatic Resource Area (ARA). Wetlands with Significance. Wooded Areas. Areas of Natural and Scientific Interest.
MECP	• Search Records of Site Condition (MECP, 2025a). • Well Records Database (MECP, 2025b). • Source Protection Information Atlas (MECP, 2025c).
Ontario Geological Survey (OGS)	• Surficial Geology of Ontario (OGS, 2010).
Federal	
Treasury Board of Canada Secretariat	• Inventory of Federal Contaminated Sites (Treasury Board of Canada Secretariat, 2025).
Natural Resources Canada (NRCan)	• Earthquake Zones in Eastern Canada (NRCan, 2021a) • Simplified Seismic Hazard Map for Canada, the Provinces and Territories (NRCan, 2021b).
Fisheries and Oceans Canada (DFO)	• Aquatic Species at Risk mapping overlapping the Study Area (DFO, 2025).
Wildlife Atlases	
Atlas of the Mammals of Ontario (Dobbyn 1994) and Mammals of the Western Hemisphere (NatureServe, 2007)	• Distribution data for mammals overlapping the Study Area.

Source	Records Reviewed
Ontario Breeding Bird Atlas (Cadman et al., 2008)	• Breeding bird historical occurrence records for the 10 km x 10 km grid squares overlapping the Study Area: 17NJ86 and 17NJ96.
Christmas Bird Count (Birds Canada, 2023)	• Bird historical occurrence records for the circle overlapping the Study Area: ONKL.
Ontario Reptile and Amphibian Atlas (Ontario Nature, 2024a)	• List of reptile and amphibian species occurrences for the 10 km x 10 km grid square overlapping the Study Area: 17NJ86 and 17NJ96.
Ontario Butterfly Atlas (Toronto Entomologists' Association, 2024)	• Lepidoptera historical occurrence records for the 10 km x 10 km grid square overlapping the Study Area: 17NJ86 and 17NJ96.
Dragonfly and Damselfly (Odonata) Guide, (Ontario Nature, 2024b)	• Odonata historical occurrence records for the 10 km x 10 km grid square overlapping the Study Area: 17NJ86 and 17NJ96.
eBird Species Maps (Cornell Lab of Ornithology, 2025)	• Bird observation occurrence records overlapping the Study Area.
iNaturalist Species Observations Maps (iNaturalist, 2025)	• Species observation occurrence records overlapping the Study Area.
Planning and Policy	
Province of Ontario	• Provincial Planning Statement (2024).
Government of Ontario	• Oak Ridges Moraine Conservation Plan (2017).
Municipality	• Rural Hamilton Official Plan (2021). • Flamborough Secondary Plans (West Waterdown Secondary Plan, Waterdown North Secondary Plan, Waterdown South Secondary Plan (OPA 5), Waterdown Community Node Secondary Plan (OPA 165). • Zoning By-law No. 11-285.

Figure 2-1: Study Area and Footprint



2.1.2 Effects Assessment and Proposed Mitigation Measures

The next step in the Study process involved an assessment of the potential environmental effects of the Project, along with the identification of mitigation measures for the Preferred Route. The objective of the effects assessment was to:

- Predict and analyze the nature and extent of Project effects;
- Identify mitigation measures to protect valued components; and
- Determine the significance of any effects remaining following mitigation (i.e., residual effects).

The following Project phases were considered when conducting the effects assessment:

- Construction – approximate duration 6 months, from ground preparation to clean-up and testing; and
- Operations and Maintenance – begins following the in-service date and extends for the useful life of the pipeline (i.e., 50+ years).

The methods for the cumulative effects assessment are described in **Section 2.1.3.**

2.1.2.1 Criteria for Characterizing Residual Effects

The qualitative criteria defined in **Table 2-2** were used to characterize residual effects (i.e., effects remaining after the application of mitigation measures) and evaluate their significance.

Table 2-2: Criteria for the Characterization of Residual Effects and Evaluation of Significance

Assessment Criteria	Rating and Definition
Duration	• **Immediate** – Effect is limited to two days or less; • **Short-Term** – Effect is limited to the construction phase or any one year during the life of the pipeline; • **Medium-Term** – Effect extends into the operations phase of the pipeline for up to 10 years;

Assessment Criteria	Rating and Definition
	• **Long-Term** – Effect extends into the operations phase of the pipeline for more than 10 years, but ceases before or upon decommissioning or abandonment; and • **Extended-Term** – Effect extends beyond the decommissioning or abandonment of the pipeline.
Frequency	• **Rare** – Effect occurs uncommonly or unpredictably (such as, the result of an accident or malfunction) over the assessment period; • **Isolated** – Effect is confined to specified phase of the assessment period (e.g., during construction); • **Occasional** – Effect occurs intermittently and sporadically over the assessment period; • **Periodic** – Effect occurs intermittently but repeatedly over the assessment period; and • **Continuous** – Effect occurs regularly throughout the assessment period.
Reversibility	• **Reversible** – Effect is reversible to pre-construction or equivalent conditions; and • **Irreversible** – Effect is permanent.
Magnitude	• **Negligible** – Effect is not detectable (no detectable change from baseline conditions); • **Low** – Effect is detectable, but is well within environmental or regulatory standards, or has no effect on the socio-economic environment beyond that of an inconvenience; • **Medium** – Effect is detectable and may approach, but is still within, environmental or regulatory standards, or results in moderate modification in the socio-economic environment; and • **High** – Effect is beyond environmental or regulatory standards or results in a severe modification in the socio-economic environment.

2.1.2.2 Evaluation of Significance of Residual Effects

All of the assessment criteria (**Table 2-2**) were considered when determining the significance of each residual effect. Qualitative significance determinations incorporate professional judgment, which allows for the integration of the effects criteria ratings to provide relevant significance conclusions that are sensitive to context and facilitate decision-making (Lawrence, 2007).

For the purposes of this assessment, a "significant residual effect" is defined as a permanent (irreversible) or extended-term residual effect of high magnitude that cannot be technically or economically mitigated.

2.1.2.3 Identification of Mitigation Measures and Monitoring

Mitigation measures were identified that align with Imperial Oil's standard construction and maintenance procedures, as well as the relevant permitting authority requirements, including the OEB. The development of the mitigation measures and recommended monitoring was also based on Dillon's professional experience and field study, feedback received as part of the consultation program, industry best practices, and guidelines provided by local conservation authorities and other agencies. Recommended mitigation measures are described in **Section 6.0.** Recommended monitoring is described in **Section 10.0**.

2.1.2.4 Project Activities Considered in the Effects Assessment

If approved, Imperial Oil plans to begin construction of the Project in spring 2027 and have Project construction completed by October, 2027. Construction will involve a number of distinct steps that may have direct and indirect effects on the physical, natural, and socio-economic environment. These steps are described below and are depicted in **Appendix C**.

- **Pipeline Decommissioning** – The existing 5 km section of pipeline to be decommissioned will be cut, capped, and filled with nitrogen. The section of pipeline will continue to have cathodic protection and will be monitored by Imperial operations.
- **Right-of-Way Preparation** – Involves staking or marking the pipeline location, identifying where other utilities are located, clearing vegetation (only as required), sweeping for wildlife, placing wildlife exclusion fencing (as required), and grading to

allow for the movement of equipment and preparation of workspace. In vegetated areas, topsoil along the ROW is stripped and stored in piles for replacement after construction. Soils that are not adequate for reuse will be removed and taken to a licensed facility in accordance with O. Reg. 406/19: On-Site and Excess Soil Management. Crews re-stake the centre point of trench line/route;

- **Pipe Delivery and Pipe Preparation** – Trucks will deliver pipes in sections to avoid having to stack large quantities of pipe. Crews lay out or string sections of the pipe along the ROW;
- **Joining Pipe Sections** – Pipes are then welded into one long piece, following the contour of the land. Welded joints are coated with epoxy to protect against corrosion. X-rays and visual inspections are undertaken to confirm the integrity of the joints;
- **Trenching/Horizontal Directional Drilling (HDD)** – Pipeline is installed via open trench or trenchless construction methods. Backhoes, excavators, or other machinery are used to dig trenches along the staked or marked points. Entry and exit pits will be identified for specific trenchless construction activities;
- **Lowering the Pipe** – Crews use side booms/cranes to lower the pipe into the trench or through the drilled passage;
- **Backfilling** – Excavated material is either reused, or clean fill is brought in to backfill the trench. Large stones and other debris materials are removed from the backfill to prevent pipeline damage. Subsoil and topsoil are then laid over the trench. Anything disturbed by construction (such as fences and pavement) is repaired or replaced. Vegetative cover is replaced by sodding or seeding, where required;
- **Testing** – The new pipeline will be nitrogen tested or hydrostatically tested. The pipeline is sealed then pressurized with nitrogen or filled with water and tested at a pressure higher than actual operating pressures. Nitrogen and hydrostatic tests check for leaks and confirm pipeline strength. If hydrostatically tested, water for the test may be obtained from the local municipality and either disposed of at a licensed facility or discharged in accordance with local by-laws; and
- **Clean-up** – The construction area is carefully cleaned up after the trench/drill hole is completed or backfilled. All construction material and equipment are removed when construction is completed. A final grading of the area is completed, and excess soil is also removed. Reclamation work will be completed to restore the area to pre-

construction condition following clean-up. Slope stability and re-establishment of vegetation is carefully monitored following construction.

Activities during operations include, but are not limited to, periodic site visits, vehicle use, remote surveillance and monitoring, and integrity digs (where necessary).

2.1.2.5 Potential Project Interactions

Potential Project interactions with the physical, natural, and socio-economic environment are identified in **Table 2-3.** The setting information presented in **Section 4.0** provides the context and rationale for potential interactions, which are assessed in **Section 6.0.**

Table 2-3: Interaction Matrix

Component	Interaction with the Project (Yes [Y]/No [N])	
	Construction	Operations
Physiography and Topography	Y	N
Geology and Soils	Y	Y
Groundwater	Y	Y
Atmospheric Environment	Y	Y
Aquatic Environment	Y	Y
Wetlands	Y	Y
Areas of Natural and Scientific Interest and Other Environmentally Sensitive Areas	N	N
Vegetation	Y	Y
Wildlife and Wildlife Habitat	Y	Y
Species at Risk	Y	Y
Land Use Planning	N	N
Population, Employment, and Economic Activities	N	N
Human Occupancy and Resource Use	Y	N
Infrastructure and Services	Y	N
Indigenous Community Land and Resource Use	N	N

Component	Interaction with the Project (Yes [Y]/No [N])	
	Construction	Operations
Archaeology	Y	N
Built Heritage Resources and Cultural Heritage Landscapes	Y	N

2.1.3 Cumulative Effects Assessment Methods

The cumulative effects assessment was conducted in accordance with the OEB Guidelines and included developing a cumulative effects Study Area with appropriate boundaries.

For the purposes of this assessment, cumulative effects are defined as follows:

- The combination and interaction of effects of the same project;
- The combination and interaction of the effects of the proposed Project with other projects; and
- The combined effects over time in the same space.

Two conditions must be met to pursue an assessment of cumulative environmental effects:

- There are likely residual Project effects on a specific element as identified through the assessment in **Section 6.0**; and
- Residual Project effects could act cumulatively with effects of other past, present, and reasonably foreseeable future projects or physical activities.

2.1.3.1 Spatial and Temporal Boundaries

Based on Dillon's professional experience, it was determined that the spatial boundaries for the cumulative effects assessment be established as a 2 km buffer centred on the Preferred Route (a 1 km buffer on each side of the route).

The temporal boundaries identified for the assessment considered existing activities or disturbances that have shaped the current land use in the Project area and recently constructed projects, projects currently under review, under construction, or planned (i.e., there are publicly disclosed plans to proceed and seek necessary permits or approvals).

2.1.3.2 Characterization of Cumulative Effects and Evaluation of Significance

The same criteria that were used to characterize and evaluate the significance of residual effects were used for the cumulative effects assessment (see **Section 2.1.2**).

The cumulative effects assessment focuses on an evaluation of the significance of the Project's contribution to total cumulative effects (i.e., the extent to which the Project alone is contributing to the total cumulative effect). Predicted levels of significance of the Project's contribution to total cumulative effects are provided for each identified cumulative effect.

The Project's contribution to potential cumulative effects depends on many factors, including:

- The source of the disturbance;
- Resilience of the receiving environment; and
- The way in which disturbances interact within the spatial and temporal boundaries defined for the Project.

A qualitative assessment was considered the most appropriate method to evaluate the significance of predicted cumulative effects in consideration of the nature and context of the Project activities. The assessment of cumulative effects relied on available literature, baseline data and information, and the professional judgement of the assessment team.

The significance of the Project's contribution to cumulative effects is determined in a manner similar to that employed in determining the significance of residual effects as previously outlined in **Section 2.1.2**.

2.2 Stakeholder Engagement and Indigenous Consultation

Stakeholder engagement and Indigenous consultation are requirements of the Project. Early and frequent consultation and engagement with directly and indirectly affected Indigenous communities, landowners, government agencies, and the public was an integral part of this Study. The objectives of the consultation and engagement process were to:

- Identify all potentially affected parties;
- Provide information to the parties on relevant components of the Study;

- Obtain input from these parties;
- Mitigate and, where appropriate, accommodate for impacts on Aboriginal and Treaty Rights; and
- Integrate information received into the decision-making process.

A number of methods were utilized to achieve these objectives, including:

- Identification of key community members and interest groups during the Study Area definition phase including the local conservation authority, utility companies, government agencies, as well as directly impacted landowners;
- Preparation and completion of a comprehensive stakeholder engagement program (**Sectio 3.0**);
- The provision of key Project information to Indigenous communities;
- Advertisement of the Project in a local newspaper prior to the in-person public information session;
- An in-person public information session held locally in the City of Hamilton to present the Project, and facilitate public and stakeholder participation;
- Receipt of and response to stakeholder input through letters, e-mails, and phone calls;
- Analysis of Project comments from the public information session; and
- Circulation of information at key points in the process to Indigenous communities and stakeholders including government agencies, residents, and other interested parties.

The stakeholder engagement and Indigenous consultation program also included early and frequent contact with regulatory agencies to provide or request information regarding the Project. Details of the stakeholder engagement and Indigenous consultation program are provided in **Section 3.0.**

3.0 Stakeholder Engagement and Indigenous Consultation Program

A comprehensive stakeholder and Indigenous engagement program was undertaken for the Project. This section provides an overview of the consultation and engagement activities completed as part of the Study.

3.1 Objectives

The objectives of the consultation and engagement program were to:

- Inform potentially affected individuals/organizations about the Project;
- Recognize Aboriginal and Treaty Rights;
- Seek and facilitate the involvement of potentially affected individuals/organizations;
- Make all reasonable efforts to identify the interests and meet the needs of participants;
- Provide participants with the information they required to participate in a meaningful way;
- Consider stakeholder issues/concerns during Project design and when making Project approval decisions;
- Incorporate feedback and evolve, as necessary, in response to the input and needs (access, format, etc.) of participants; and
- Communicate to participants how their input affected outcomes (i.e., Project design and review/approval decisions).

3.2 Consultation Activities

From the outset, and throughout the Study process, Imperial Oil emphasized the importance of consulting with Indigenous communities, landowners, area residents, community organizations, and government agencies. Indigenous and stakeholder engagement for the Project consisted of a series of communication and consultation activities that would inform the Study and was designed to meet the consultation requirements set by the OEB Guidelines, Imperial Oil's consultation objectives, as well as the legal Duty to Consult with Indigenous communities.

Communication activities included notices, newspaper advertisements, and one in-person public information session hosted in the community. In addition, meetings by telephone and correspondence by email were also undertaken by the Project team.

3.2.1 Contact List

A list of regulatory agencies and interest groups active in the area was compiled through research and published information including government listings, previous studies completed in the region, the internet, and telephone calls. A contact list was developed that divided the groups into the following categories:

- Indigenous communities;
- Federal and Provincial Elected Officials;
- Provincial Agencies, including the Ontario Pipeline Coordinating Committee (OPCC) and the local Conservation Authority (i.e., Conservation Halton);
- Municipal Agencies and Elected Officials;
- Interest Groups and Businesses (e.g., Chamber of Commerce, Naturalists/Agricultural Organizations, and Local Businesses);
- Potentially Impacted/Adjacent Landowners; and
- General Members of the Public.

The stakeholder groups listed above are included in the Contact List provided in **Appendix D**. Stakeholder engagement logs are provided in **Appendix E**.

3.2.2 Project Email

Dillon created a Project-specific email address (SPPL_project@dillon.ca) that was used to communicate directly with stakeholders. The Project-specific email will continue to be monitored, and emails responded to throughout the OEB process until substantial construction on the Project is complete.

3.2.3 Project Notices

3.2.3.1 Notice of Upcoming Project

A Notice of Upcoming Project was sent to identified Indigenous communities, municipal elected officials, provincial government agencies, and to OPCC members via email on

March 10, 2026. The Notice of Upcoming Project was hand delivered to potentially affected/adjacent landowners over the week of March 16, 2026.

A copy of the Notice of Upcoming Project is provided in **Appendix F**.

3.2.3.2 Notice of Study Commencement and Public Information Session

A Notice of Study Commencement and Public Information Session (Notice of Commencement) was sent to identified Indigenous communities via email on March 23, 2026, and to federal and provincial elected officials, provincial and municipal government agencies, and interest groups via email on March 27, 2026.

The Notice of Commencement was mailed to approximately 490 residences and businesses in the Study Area over the week of March 23, 2026, via Canada Post. A newspaper ad of the Notice of Commencement was published in the Hamilton Spectator on March 31 and April 7, 2026.

A copy of the Notice of Commencement is provided in **Appendix F**.

3.2.4 In-Person Public Information Session

One in-person public information session was hosted by Imperial Oil and Dillon. The public information session was held at the Waterdown Legion Branch 551 (located at 79 Hamilton Street North, Hamilton, ON) from 4:30 pm to 7:30 pm on April 14, 2026. A total of four people attended the public information session, including one local business and three directly impacted landowners.

The purpose of the in-person public information session was to provide an opportunity for the public and stakeholders to review the Project details and provide input. The public information session was designed to achieve the following objectives:

- Introduce participants to the Project, the Study and consultation process;
- Seek feedback from participants on local environmental and socio-economic considerations, issues, or concerns that should be addressed as part of the Study;
- Consult with landowners and Indigenous communities and engage with members of the public and regulatory authorities regarding the proposed pipeline, potential impacts, and proposed mitigation; and
- Provide an opportunity to review the Preferred Route, and to ask questions and/or provide comments to the Project team.

Display panels were placed on easels around the room and one large table map was provided for public review. The display boards included the following information:

- Introduction to Imperial Oil and their commitment to meaningful engagement;
- Purpose of the Information Session;
- Project Overview;
- Imperial Oil Engagement with Indigenous Peoples;
- Environmental Study Process;
- OEB Review and Approval Process;
- Consultation and Engagement;
- Environmental Assessment Process and Timeline;
- Imperial Oil Safety Policy;
- Pipeline Design;
- Constructing a Pipeline;
- Trenched (Open Cut) Installation Steps;
- Trenchless (Horizontal Directional Drilling (HDD)) Installation Steps
- Access and Land Requirements;
- Socio-Economic Features;
- Noise Considerations;
- Cultural Heritage Resources;
- Aquatic Resources;
- Terrestrial Resources;
- Project Next Steps; and
- Information on How to Stay Informed.

Visitors to the in-person public information session were encouraged to fill out a comment form. Among the four attendees, there were no comment form submissions.

Copies of the display board panels and the comment form are provided in **Appendix G.**

3.2.4.1 Results from Public Information Sessions

During the Public Information Session, the following comments and concerns were raised:

- Drainage impacts to property, during and following construction;
- Noise and vibration impacts, particularly during construction;

- Impacts to property access, particularly during construction;
- A request to tag trees during natural environment surveys prior to their removal to facilitate landowner discussions;
- A request for field personnel to identify themselves on vehicles and their person during on-site surveys; and
- Requests for copies of the Public Information Session's display board materials to review.

Following the Public Information Session, the following commitments were made by the Project Team:

- Copies of the Public Information Session's display board materials were circulated on April 16, 2026 to attendees who had requested them;
- All field personnel and vehicles will be clearly marked with Project/company identification while on-site; and
- Trees slated for removal will be tagged during natural environment surveys to provide visual clarity and to facilitate landowner discussions.

3.2.4.2 Route Refinements Resulting from Public Input

No refinements were made to the Preferred Route, as the proposed pipeline is located entirely within the existing Imperial Oil ROW. Public feedback received during the in-person Public Information Session focused primarily on pre-construction surveying protocols and construction-related impacts (e.g., noise, drainage, and access) rather than the alignment of the pipeline. The concerns raised during the in-person Public Information Session will be addressed through site-specific construction management plans and ongoing communication during the planning and construction phases of the Project.

3.3 Indigenous Consultation

On August 18, 2025, an email was sent to the Ministry of Energy and Mines (MEM) providing notification of Imperial Oil's intention to apply to the OEB for LTC for the Project and to request the MEM's assessment of Duty-to-Consult requirements.

In a letter dated October 28, 2025, the MEM determined that the Project may have the potential to affect Aboriginal and Treaty Rights and provided a list of the following communities that should be consulted:

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

Imperial Oil also consulted with Wendat Nation.

The following Project Notices were sent to the four identified Indigenous communities listed above:

- A Notice of Upcoming Project was emailed to the key Indigenous contacts included the contact list on March 10, 2026; and
- A Notice of Study Commencement and Public Information Session (Notice of Commencement) was emailed to the key Indigenous contacts included the contact list on March 20, 2026.

These notification letters invited the four identified Indigenous communities to provide comment and input on the proposed Project, specifically regarding potential impacts that the Project may have on constitutionally protected Aboriginal or Treaty Rights and preferred measures for mitigating these impacts. Imperial Oil and Dillon also offered to meet with each community to discuss the Project.

In addition to the Project notices described above, notifications and invitations to participate in the Project's archaeological assessments were issued to the four identified Indigenous communities via email to the key contacts included the contact list. All Indigenous communities were also invited to review this Environmental Report prior to submission to the OEB.

Consultation with Indigenous communities from the period of February 2025, to May 8, 2026, is summarized in **Appendix H**. The consultation record for these communities included initial outreach for notice of the Project, followed by an overview and summary of the Project.

3.4 Ongoing Engagement Activities

Although the ER is complete, Imperial Oil is committed to ongoing communication with Indigenous communities, agencies, stakeholders, and the public.

Imperial Oil will continue to actively engage all identified Indigenous groups in meaningful dialogue concerning the Project and endeavour to meet with each Indigenous community for the purposes of exchanging information regarding the Project. Imperial Oil is committed to continuous engagement with Indigenous communities, responding in a timely manner to inquiries, discussing issues and concerns regarding the Project. A full consultation record with Indigenous communities is provided in **Appendix H.**

4.0 Physical, Natural, and Socio-Economic Environment Setting

This section describes the existing physical, natural, and socio-economic environment setting for lands that are located within the Project Study Area.

4.1 Physical Environment

This subsection provides baseline information on the following components:

- Physiography and Topography;
- Geology and Soils; and
- Groundwater.

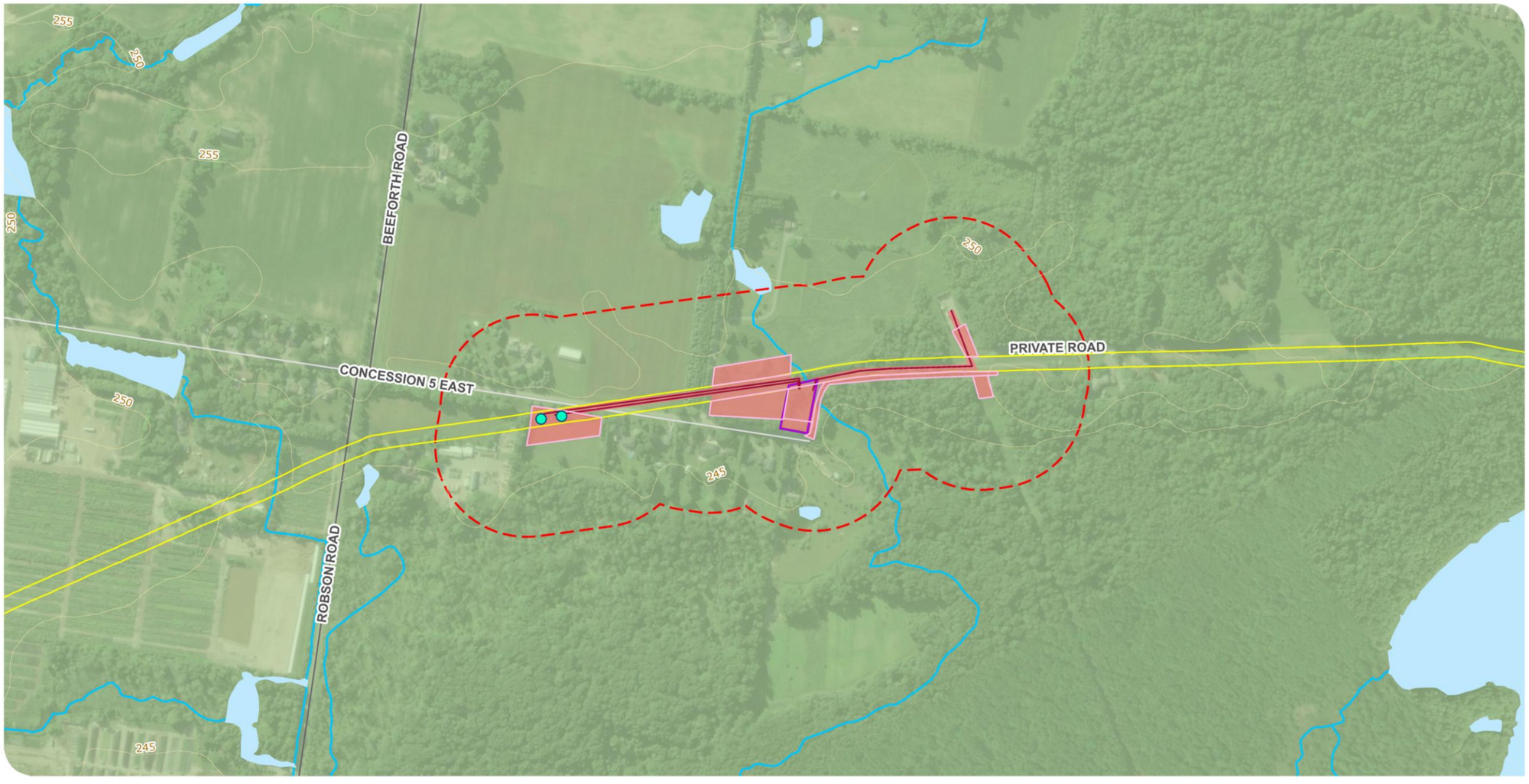
4.1.1 Physiography and Topography

The Project Study Area is located within the Norfolk Sand Plain physiographic region (Chapman and Putnam, 2007), which is characterized by a wedge-shaped plain of sands and silts which were deposited as a delta in glacial Lakes Whittlesey and Warren (Chapman and Putnam 1984).

Tributaries and ponds of Grindstone Creek meander through the Project Study Area, as shown in **Figure 4-1**, which lead into Lake Medad, located approximately 550 m southeast of the Study Area.

Topography in the Study Area is relatively consistent throughout, with elevation ranging from approximately 261 metres above sea level (masl) to 245 masl, with the highest elevation along the northeastern portion of the area (MECP, 2025c). Topography along the pipeline route, shown on **Figure 4-1**, ranges in elevation from approximately 250 masl to 246 masl, generally decreasing in elevation from west to east. The lowest point in elevation is along the centre portion of the route, within an agricultural field located north of Concession 5 Road East and northwest of the new pump station location. The highest point in elevation is along the northeastern most part of the route, located at the Enbridge Millgrove Station (MECP, 2025c).

Figure 4-1: Physiography and Topography



4.1.2 Geology and Soils

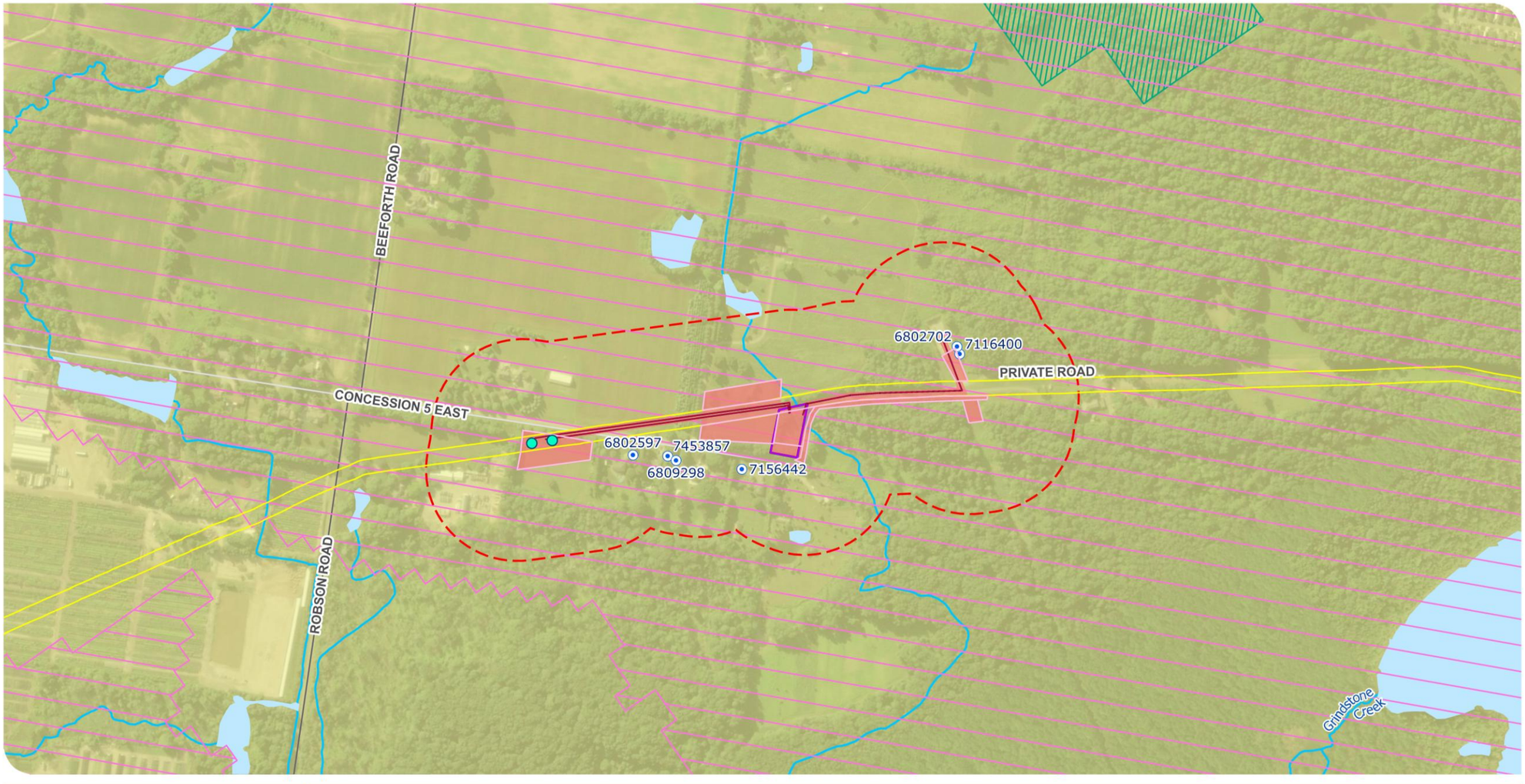
4.1.2.1 Bedrock

The Study Area lies over Lower Silurian bedrock consisting of sandstone, shale, dolostone, and siltstone (OGS, 2011). Underlying bedrock within the general area surrounding the Study Area is shown on **Figure 4-2**.

Underlying the overburden soils within the Study Area are a sequence of Lower Silurian–aged sedimentary rocks of the Amabel Formation (Armstrong and Dodge, 2007). The Amabel Formation is characterized by dolostone which is thick-bedded, crinoidal, and locally biohermal, becoming locally bituminous within the Eramosa Member (Armstrong and Carter, 2010).

The varying overburden thickness ranges from approximately 0.30 m to 35.97 m (Gao et al., 2006; MECP, 2025b). Areas of exposed bedrock may be encountered in the eastern portion of the Study Area, specifically near the Enbridge Millgrove Station, as the overburden there is the thinnest. The majority of the proposed pipeline will be buried between 0.9 m to 1.2 m deep and will be installed in the previously disturbed Imperial Oil ROW.

Figure 4-2: Underlying Bedrock and Water Well Data



4.1.2.2 Surficial Geology

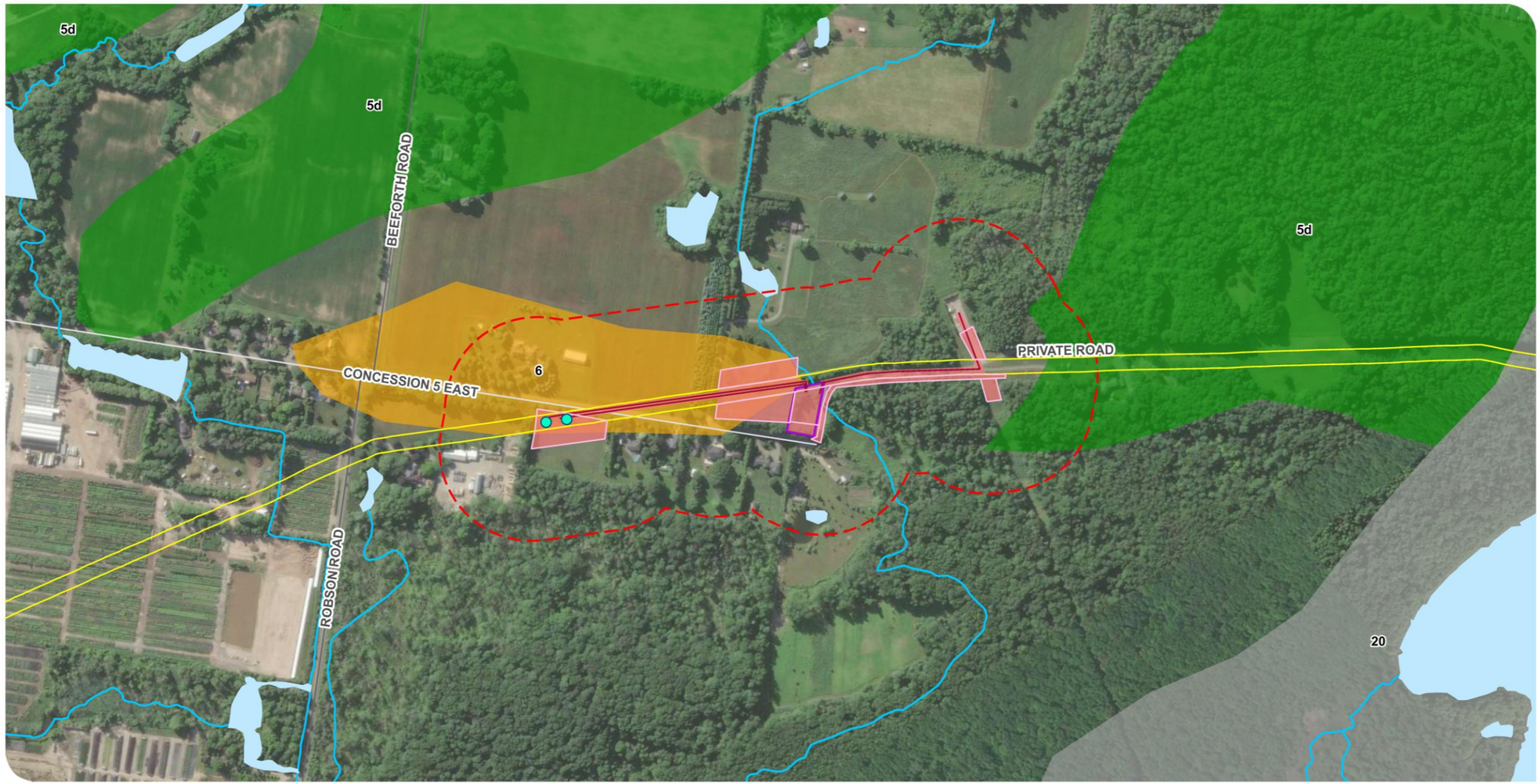
Surficial geologic mapping indicates the Study Area lies primarily within a mixed zone of Paleozoic and Quaternary (Pleistocene) aged overburden deposits (as shown on **Figure 4-3**), composed of the following types, in order of abundance (OGS, 2010):

- Coarse-textured glaciolacustrine deposits comprised of sand, gravel, minor silt and clay;
- Ice-contact stratified deposits comprised of sand and gravel, minor silt, clay, and till;
- Paleozoic bedrock; and
- Clay to silt-textured till derived from glaciolacustrine deposits or shale.

Where present, the overburden thickness ranges from approximately 0.30 m to 35.97 m (Gao *et al*., 2006; MECP, 2025b), and areas of exposed bedrock may be encountered within the eastern portion of Study Area as the overburden there is the thinnest.

The surficial geology underlying the majority of the Project footprint is primarily composed of coarse-grained glaciolacustrine deposits with underlying medium to coarse-grained ice-contact stratified deposits. Overlaying the Paleozoic bedrock in the eastern portion of the Study Area are fine-grained till deposits (Gao *et al.,* 2006).

Figure 4-3: Surficial Geology



4.1.2.3 Soils

The Project Study Area is located in a rural residential and agricultural setting within the Halton Region. The Project footprint consists of partially disturbed soils as a result of previous pipeline construction. The subsoils in the Project footprint are likely comprised of medium to coarse-grained deposits with underlying fine-grained till deposits and Paleozoic bedrock.

Soil capability for agriculture is mapped by Agriculture and Agri-Food Canada. Lands classified as Class 1 are the most agriculturally productive, while those classified as Class 7 have the lowest capacity for agriculture (Agriculture and Agri-Food Canada, 2013). Class 1 to 5 agricultural lands are generally arable, while Classes 1 through 3 are defined by the Ontario Ministry of Agriculture, Food and Agribusiness (OMAFA), formerly the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA), to be prime agricultural soils for common field production (OMAFRA, 2022). Most land in the Halton Region is comprised of a mixture of Prime Agricultural Land (Classes 1 to 3) and marginal to restricted agricultural soils (Classes 4 to 7). The dominant soil types within the Study Area are Class 2, which possesses moderate limitations for agriculture, and Organic (O) soils, typically associated with wetlands or poorly drained areas (Agriculture and Agri-Food Canada, 2021).

A search of the Federal Contaminated Sites Inventory revealed no records of historical contamination within the Study Area (Treasury Board of Canada Secretariat, 2025). A search of the MECP Record of Site Condition database revealed no records within the Study Area (MECP, 2024).

Based on the disturbed nature of the soils and the location of the Project, it is possible that historical contamination (i.e., soils and/or groundwater) may be encountered in association with past developments or road runoff.

4.1.3 Groundwater

The Study Area lies within the jurisdiction of Conservation Halton and intersects the Halton Region Source Protection Area (MECP, 2026).

Based on topography and surface water features, it is anticipated that, locally, groundwater flows eastward toward Lake Medad, approximately 1 km northeast of the

Study Area. Regionally, groundwater flows eastward towards Lake Ontario (MECP, 2026).

Detailed policy information for new development within mapped Well Head Protection Areas (WHPAs) and Intake Protection Zones (IPZs) have been developed by the MECP and relevant conservation authorities (MECP, 2023). WHPAs and IPZs have been identified as areas that are particularly sensitive to surface water contamination (e.g., spills, leaks, surface leaching, etc.). The Study Area does not overlap any IPZs or WHPAs based on an analysis of the Source Protection Information Atlas (MECP, 2026).

Highly Vulnerable Aquifer (HVA) areas are considered particularly susceptible to contamination due to shallow, near-surface groundwater, or a permeable soil layer above the aquifer (MECP, 2023). The Study Area lies within HVA areas outlined by the MECP (MECP, 2026). Significant Groundwater Recharge Areas (SGRAs) are areas that are desirable to regulate or monitor drinking water threats that may affect the recharge of an aquifer. The Project Study Area does not overlap with any SGRAs (MECP, 2026). The operation of a pipeline is not identified as a drinking water threat under the *Ontario Clean Water Act* (SO 2006, c. 22); however, construction activities, such as excavation, have the potential to interact with groundwater quality and quantity.

Well information from the MECP (2025b) Water Well Information System was reviewed in the vicinity of the Study Area to better understand local groundwater conditions. Six (6) unique well ID records are located within 100 m of the proposed pipeline route, and include 2 wells of domestic use, 1 of irrigation and livestock use, 1 of irrigation use, 1 observation well, and 1 well of unknown use. Locations of these wells are shown on **Figure 4-3**. The wells identified within 100 m of the proposed pipeline route range in depth between 6.1 metres below ground surface (mbgs) and 45.7 mbgs, with an average depth of approximately 23.8 mbgs. Static water levels range in depth between 4.0 mbgs and 9.1 mbgs with an average of 6.4 mbgs. Depths to bedrock range between 0.3 mbgs and 36.0 mbgs with an average of 19.0 mbgs. Based on evaluation of the drilling contractors' notes contained in the well logs, groundwater was found at depths ranging from 15.4 mbgs and 43.1 mbgs, with an average "water found" depth of 31.8 mbgs.

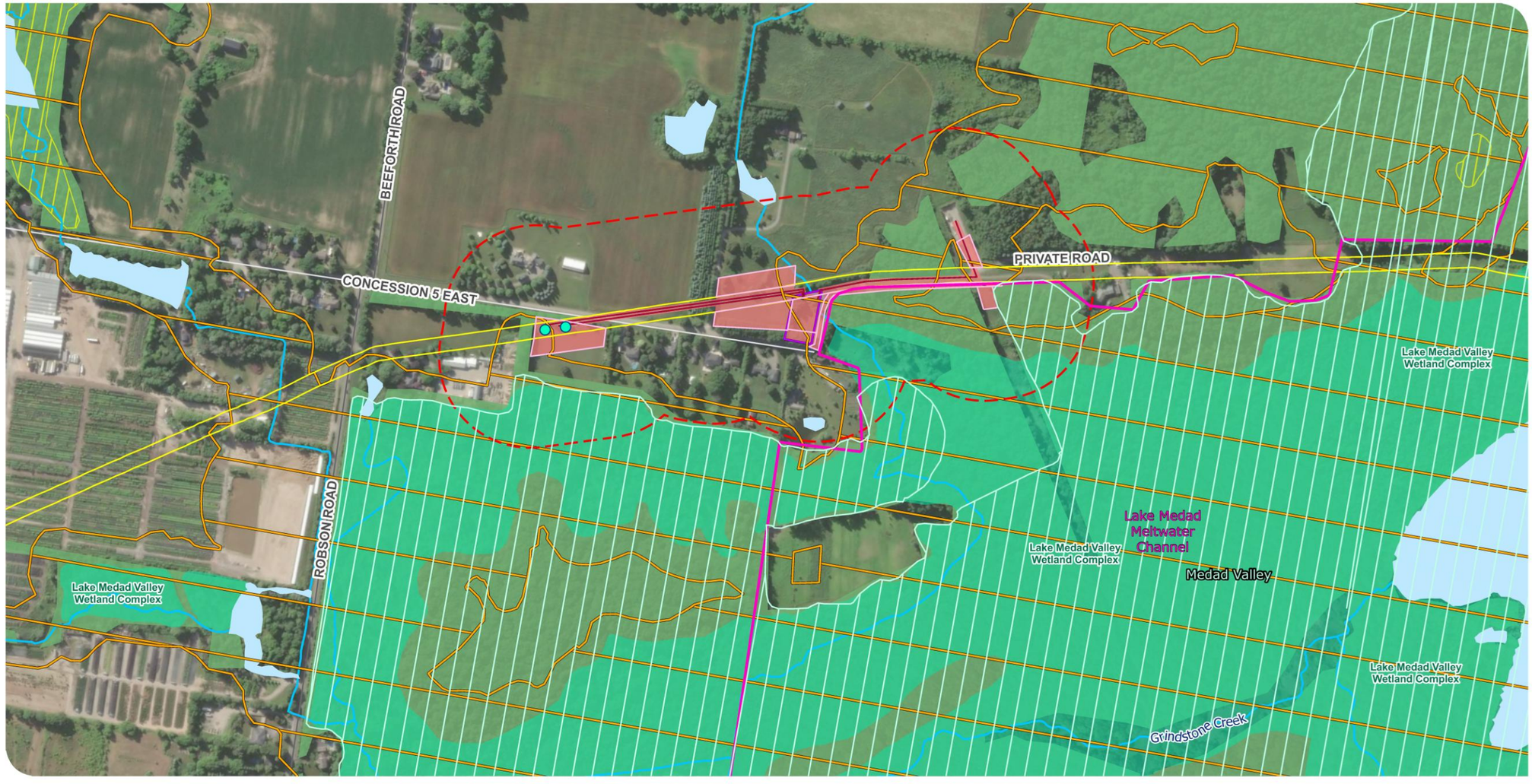
4.2 Natural Environment

This subsection provides baseline information on the following components:

- Atmospheric Environment;
- Aquatic Environment;
- Wetlands;
- Areas of Natural and Scientific Interest and other Environmentally Sensitive Areas;
- Vegetation;
- Wildlife and Wildlife Habitat; and
- Species at Risk.

Designated natural heritage features identified from background data sources and confirmed during field verification visits are shown on **Figure 4-4.**

Figure 4-4: Existing Natural Features



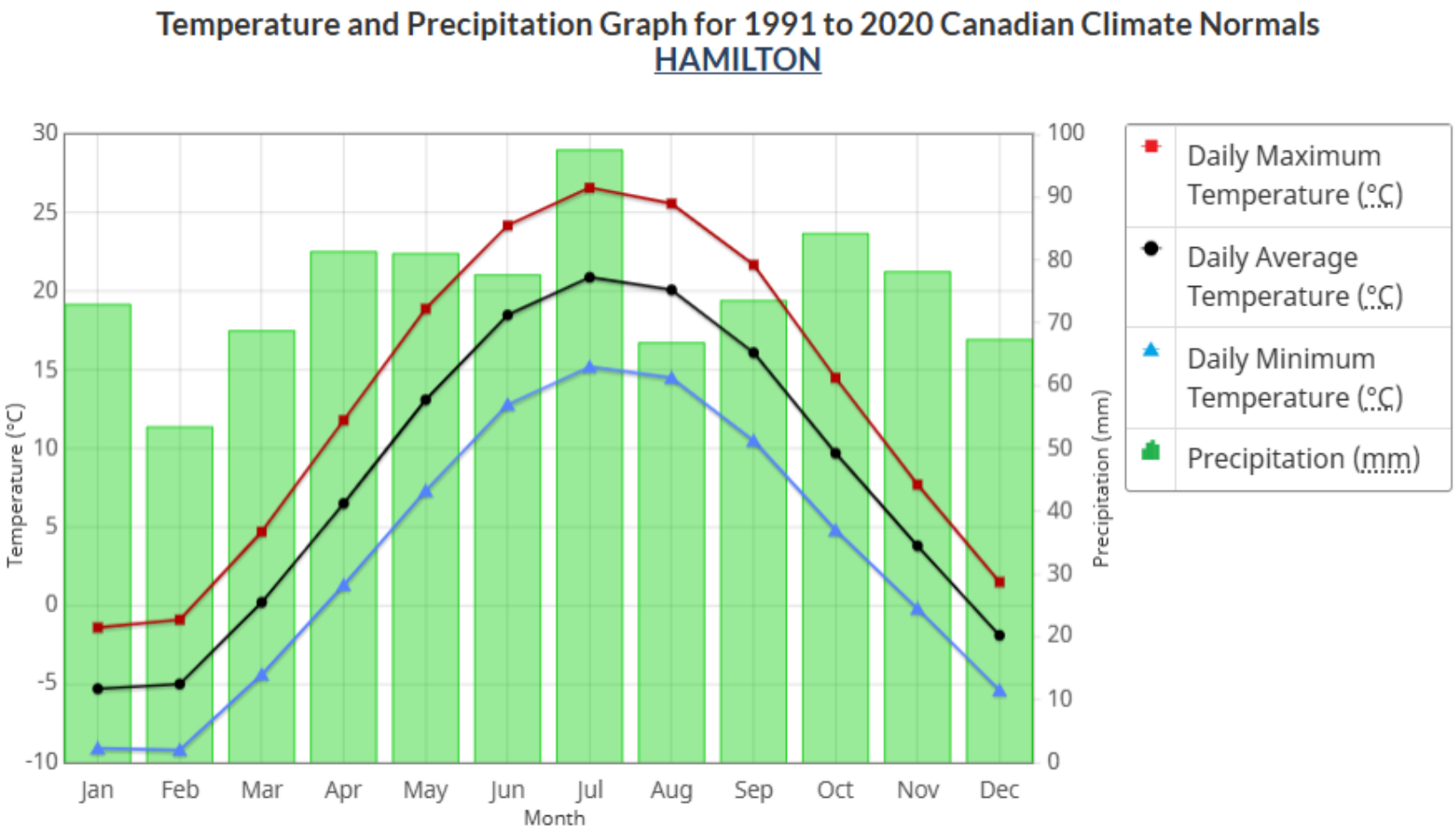
4.2.1 Atmospheric Environment

4.2.1.1 Climate

Climate averages are commonly used to describe the climatic conditions of a particular location in Canada. At the end of each decade, ECCC updates its climate averages for select locations across Canada and for as many climatic characteristics as possible. The climate averages and extremes are obtained from Canadian climate stations with at least 15 years of data between 1991 and 2020 (ECCC, 2025a).

The nearest climate station to the Project with temperature and precipitation data is the Hamilton Airport Station, located approximately 22 km south of the Study Area. **Image 4-1** shows temperature and precipitation data averaged over the period from 1991 to 2020 taken at the Hamilton Airport Station.

Image 4-1 Temperature and Precipitation Graph for 1991 to 2020 – Hamilton Airport Station



The historical climate data is summarized below based on averages for the period of 1991 to 2020 (ECCC, 2025b):

- The annual daily average temperature recorded at the Hamilton (Airport) Station was 8.1 degrees Celsius (°C), with January being the coldest month (average daily temperature of -5.3°C) and July being the warmest month (average daily temperature of 20.9°C). The extreme minimum temperature recorded for Hamilton (Airport) Station was -30°C on January 16, 2004, and the extreme maximum temperature was 36.4°C on August 8, 2001; and
- The annual average precipitation recorded at the Hamilton (Airport) Station was 902.3 millimetres (mm), with July being the rainiest month (average rainfall of 97.5 mm) and January being the snowiest month (average snowfall of 72.9 centimetres [cm]). The extreme daily rainfall recorded for Hamilton (Airport) Station was 91 mm on October 5, 1995, and the extreme snow depth was 59 cm on January 5, 1995.

4.2.1.2 Air Quality and Greenhouse Gases

Air quality criteria, standards, and objectives in Ontario have been established by MECP, and federally by ECCC. The purpose of air quality objectives and standards is to protect against adverse effects on human health and the environment. Data used to characterize current air quality was obtained from the available 39 ambient air monitoring stations across Ontario in 2025. The monitoring stations provide access to hourly data and inform the annual Air Quality Reports prepared by the MECP.

Trends observed from 2014 to 2023 demonstrated a decrease in fine particulate matter concentrations by 12 percent, a decrease in nitrogen dioxide concentrations by 28 percent, and a decrease in sulphur dioxide concentrations by 42 percent on average across the province (MECP, 2025a).

Due to influencing factors, it is important to note that air quality for communities across Ontario can greatly differ, and that overall quality for the province experiences variability from year to year. Factors such as weather, natural events (e.g., forest fires), and the long-range transport of air pollutants may influence air quality variability.

The Study Area is classified as “Air Zone Category 3”, that is, an area with a concentration of large industrial sources. Air quality management is categorized into 4

levels: “Red”, “Orange”, “Yellow”, and “Green” (MECP, 2025b). Red is the highest level of air quality management, meaning more rigorous management, while Green is the lowest. Air quality management within the Study Area varies from Red to Green depending on the specific contaminant being managed. As such, actions are focused on maintenance of air quality, reducing pollutant levels by Advanced Air Management Actions and prevention of contaminant exceedances (MECP, 2025b).

The Study Area is located in proximity to the Burlington Air Quality Health Index (AQHI) monitoring station. The monitoring station is located at North Shore Boulevard East and Lakeshore Road, approximately 9.5 km southeast of the Study Area, and measures ground-level ozone, fine particulate matter, and nitrogen dioxide (Air Quality Ontario, 2026). The Burlington AQHI monitoring station is an ambient monitoring station, which aims to capture the general air quality of an area without any direct influence of local industrial sources (MECP, 2025d).

Similar to air quality, greenhouse gases (GHGs) in the Study Area may be influenced by a variety of local source types, including industrial, commercial, residential, and transportation, as well as long-range transport from outside the Study Area.

Through the federal Facility Greenhouse Gas Emissions Reporting Program, administered by ECCC, large industrial emitters that emit 10 kilotonnes (kt) or more must submit an annual report of their GHG emissions based on a reporting threshold. ArcelorMittal Canada Inc. is the nearest large industrial emitter of GHGs to the Project. It is located approximately 13.5 km southeast of the Study Area, at the intersection of 1330 Burlington Street East. In 2023, ArcelorMittal Canda Inc. reported a total emission of 4,160 kt of carbon dioxide equivalent (Government of Canada, 2025).

4.2.2 Aquatic Environment

A desktop review of available agency resources, followed by field verification visits, was conducted to verify the location of existing surface water features and assess for the potential for fish habitat within the Project footprint. Results and a detailed watercourse description based on the field assessments are included in **Appendix I**. Locations of watercourse features identified during background reviews and confirmed during field verification visits are shown on **Figure 4-4.**

4.2.2.1 Surface Water

Watersheds and Subwatersheds

The Project is located within the jurisdiction of Conservation Halton. Conservation Halton manages the Grindstone Creek watershed, which passes through rural lands in Hamilton and west Halton before going through the neighbourhoods of Waterdown, Aldershot, and Bayview and discharging into Hamilton Harbour (Conservation Halton, 2026a). Grindstone Creek drains approximately 100 square kilometres (km^2) and provides 14 percent of the water that flows into Hamilton Harbour (Conservation Halton, 2026a).

Waterbodies

One waterbody, a small pond, was identified within the Study Area at 526 Concession 5 Road East. Waterbodies are shown on **Figure 4-4**. The pond is not located within the Project footprint and is not connected to any other mapped natural heritage features. This feature was not assessed during the field verification visits completed on April 27, 2026, as it is considered anthropogenic and not naturally occurring.

Watercourses

One surface water crossing was identified within the Project footprint and is shown on **Figure 4-4**. During field verification visits completed on March 26 and April 27, 2026, aquatic habitat assessments were completed for each surface water feature overlapping with the Project footprint. The surface water crossing was assigned a unique identifier (WC1) and was assessed to characterize its potential to support fish and fish habitat. Photographs and descriptions of aquatic conditions observed for each watercourse crossing are provided in **Appendix I**.

Table 4-1: Watercourse Crossings within the Project Footprint

Watercourse Name	Watercourse Crossing ID	Crossing Location
Unnamed Watercourse	WC1	Crosses Concession 5 Road East, overland drainage from ponds to the north, draining into the Lake Medad Valley Wetland Complex and Grindstone Creek (**Figure 4-4**).

4.2.2.2 Fish and Fish Habitat

Based on a review of available online ARA data from the MNR, WC1 does not have data available to identify its thermal regime or fish community (MNR, 2026). The results of the field verification visits indicate the watercourse is ephemeral in nature and does not contain direct fish habitat, but has the potential to contribute to direct fish habitat downstream, specifically within Grindstone Creek.

4.2.3 Wetlands

Through a review of available agency mapping, several wetlands were identified within the Study Area, including unevaluated wetlands, Provincially Significant Wetlands (PSWs) and PSW Complexes. Wetlands located with the Study Area are shown on **Figure 4-4**. One PSW Complex was identified through MNR online mapping:

- Lake Medad Valley Wetland Complex.

Field verification visits conducted on March 26 and April 27, 2026 did not identify any wetlands within the Project footprint. An additional field verification visit conducted on

August 24, 2026 identified small areas of wetland features north of the existing Millgrove Station.

4.2.4 Areas of Natural and Scientific Interest and Other Environmentally Sensitive Areas

An Area of Natural and Scientific Interest (ANSI) is a designation used in Ontario to identify and protect regions that have significant natural features or phenomena. These areas are recognized for their ecological, geological, or biological importance and are often used for scientific research, conservation, and education. ANSIs are crucial for preserving biodiversity, supporting ecosystems, and maintaining natural heritage (MECP, 2014).

There are two main types of ANSIs: Earth Science ANSIs and Life Science ANSIs. **Earth Science ANSIs** focus on geological and geomorphological features. These areas are notable for their rock formations, fossils, landforms, and other geological phenomena that provide insights into the Earth's history and processes. They are important for understanding geological evolution, studying natural resources, and educating about Earth's physical characteristics. **Life Science ANSIs** are designated for their biological and ecological values. These areas are recognized for their diverse ecosystems, habitats, and species. They are crucial for conserving flora and fauna, studying ecological interactions, and protecting biodiversity. Life Science ANSIs often include forests, wetlands, and other habitats that support a wide range of plant and animal life (MECP, 2014).

Based on a review of available agency mapping (MNR, 2026a), two designated ANSIs are located within the Study Area (**Figure 4-4**):

- **Medad Valley (Regional Life Science ANSI):** associated with the Study Area and Project footprint, located south of Concession 5 Road East; and
- **Lake Medad Meltwater Channel (Provincial Earth Science ANSI):** associated with the Study Area and Project footprint, located south of Concession 5 Road East.

These designated ANSIs are associated with natural features within the Study Area, including PSWs, unevaluated wetlands, woodlands, and watercourses.

No other designated environmentally sensitive areas were identified within the Project footprint or Study Area.

4.2.5 Vegetation

4.2.5.1 Ecological Land Classification

Preliminary ELC mapping was conducted using the ELC System for Southern Ontario, through a combination of the first and second approximation classifications (Lee *et al.,* 1998; Lee, 2008). ELC surveys were used to classify and map ecological communities within the Study Area. The ecological community polygon boundaries were determined through a review of aerial photography and further refined during the field verification visits conducted on April 27, 2026; ELC mapping is provided on **Figure 4-5**. As these surveys were completed outside of the growing season and without soil assessment, vegetation communities were generally identified to the community class level of the ELC hierarchy.

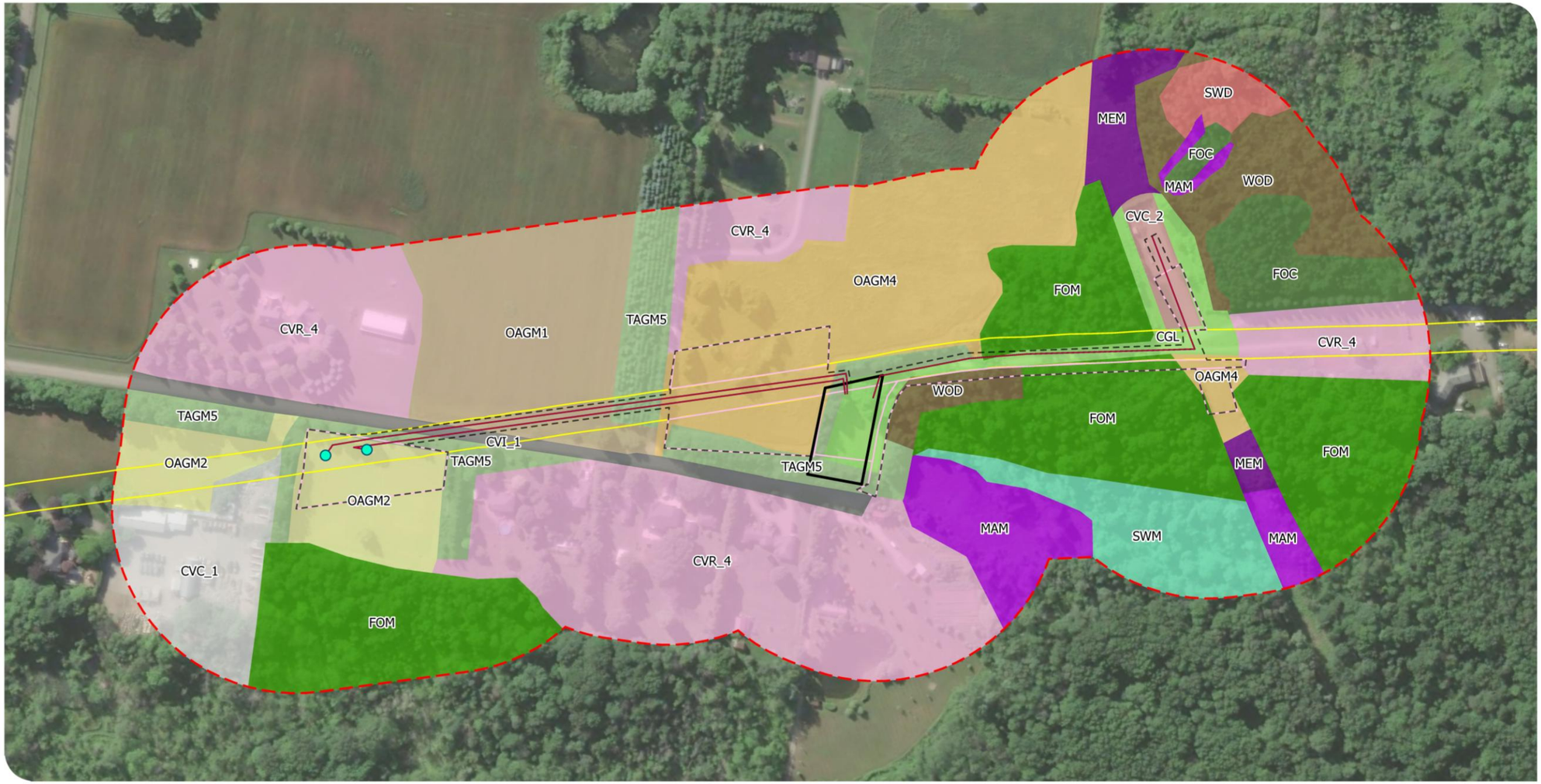
An equal mix of 'natural' or 'naturalized' and 'cultural' community types were identified within the Study Area. Cultural communities within the Study Area are largely dominated by residential properties (CVR), open agriculture (OAG), followed by transportation and utilities properties (CVC) and greenlands (CGL). Natural communities within the Study Area are dominated by meadow (MEM), marsh (MAM), swamp (SWM), forest (FOC, FOM), and woodland (WOD). Natural and naturalized communities throughout the Study Area show moderate to high levels of anthropogenic influences, and in some cases are actively maintained (e.g., hedgerows [TAGM5]). Naturally occurring vegetation communities with low to moderate levels of disturbance are predominantly associated with the adjacent ANSIs and PSW.

A focused assessment for the Project footprint was conducted as part of the preliminary ELC. A full list of ELC community types and their total area within the Project footprint and Study Area is provided in **Table 4-2.**

Table 4-2: ELC Communities within the Project Footprint and Study Area

ELC Community Code	ELC Community Type	Area (ha) within Project Footprint	Area (ha) within Study Area
CVC_1	Business Sector	0	1.0
CVC_2	Light Industry	0.09	0.22
CGL	Manicured Lawns	0.25	0.70
CVI_1	Transportation	0.03	0.52
CVR_4	Rural Property	0	6.5
MAM	Meadow Marsh	0	1.00
MEM	Mixed Meadow	0	0.48
OAGM1	Annual Row Crops (mix of field crops)	0.09	2.00
OAGM2	Perennial Cover Crops (hayfield)	0.37	1.27
OAGM4	Open Pasture (horse pasture)	0.20	3.41
SWD	Deciduous Swamp	0	0.29
SWM	Mixed Swamp	0	0.94
TAGM5	Hedgerow	0.12	1.6
FOC	Coniferous Forest	0	0.76
FOM	Mixed Forest	0.10	4.75
WOD	Deciduous Woodland	0.05	1.11

Figure 4-5: Ecological Land Classification Overview



4.2.5.2 Woodlands

Based on a review of available agency mapping, MNR mapped woodlands were identified within the Study Area (**Figure 4-4**). These woodlands are associated with the designated natural heritage features (i.e., PSW, ANSIs) that surround the Study Area.

A field verification visit conducted on April 27, 2026 confirmed the presence of MNR mapped woodlands, as well as additional woodland communities. Woodland communities were mapped using ELC (Lee *et al.,* 1998; Lee, 2008) and are shown on **Figure 4-5**. Identified woodland communities included three types of forest and woodland community types, including mixed forest (FOM), deciduous woodland (WOD) and coniferous forest (FOC). Large tracts of forest and woodland areas are associated with the designated ANSIs and PSW within the Study Area. Additional cultural wooded communities included treed agriculture (TAGM) and hedgerows (TAGM5). Specific community types are further classified and described in **Table 4-2**.

4.2.6 Wildlife and Wildlife Habitat

A background review of occurrence records for wildlife and wildlife habitat was completed as part of the Study. A records review of the information included in **Table 2-1** identified flora and fauna species with occurrence records within 1 km of the Study Area that help inform the potential for Significant Wildlife Habitat (SWH) within the Study Area. The SWH Technical Guide (MNR, 2000) defines Species of Conservation Concern (SCC) as globally, nationally, provincially, regionally, or locally rare (S-Rank of S1, S2 or S3) but does not include SAR (species listed as Threatened or Endangered). Species identified as provincially and/or federally listed SAR are further defined and discussed in **Section 4.2.7.** SCC include the following:

- Species that are assigned a conservation rank (S-Rank) of S1 to S3 by the NHIC;
- Species that are listed as Special Concern, Threatened, or Endangered on Schedule 1 of *SARA*; and/or,
- Species that are classified as Special Concern, Threatened, or Endangered by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) but have not yet been added to Schedule 1 of *SARA*.

The majority of species identified are considered Secure or Common (S-Rank of S5 or S4) in the province of Ontario. A complete list of flora and fauna species identified through background review is included in **Appendix J**, summarized below.

- **Birds** – The records review identified 147 bird species with recent occurrence records in the vicinity of the Study Area. Of the 147 species, none are provincially listed SAR, and 17 species are characterized as SCC; of these 17 species, 16 are migratory birds (as identified under the *MBCA*) and listed under Schedule 1 of the *SARA* (further discussed in **Section 4.2.7**);
- **Odonata and Lepidoptera** – The records review identified three lepidoptera (butterfly and moth) species with occurrence records in the general vicinity of the Study Area. Of the three species, one is a provincially listed SAR, and two species are characterized as SCC;
- **Herptiles** – The records review identified five herptile (reptile and amphibian) species with historic records in the general vicinity of the Study Area, two of which are provincially listed and three are characterized as SCC;
- **Mammals** – The records review identified 44 mammal species with occurrence records in the general vicinity of the Study Area, of which, 8 species are provincially listed SAR; and
- **Vascular Plants** – The records review identified six species with historic records in the vicinity of the Study Area, of which, four are provincially listed SAR and two species are characterized as SCC.
- **Fish** – The records review identified one fish species as having the potential to occur in the general vicinity of the Study Area, and is characterized as SCC.

SCC are further considered and discussed in **Section 4.2.6.1**; SAR are defined and described further in **Section 4.2.7.**

4.2.6.1 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). To assist planning authorities, the MNR developed the Significant Wildlife Habitat Technical Guide (MNR, 2000) that provides information on the identification, description, and prioritization of SWH in Ontario. To account for the ecological diversity across the

province, MNR developed the SWH Ecoregional Criteria Schedules to support the SWH Technical Guide. These schedules are specific to each geographic area of each ecoregion. The Study Area is located in Ecoregion 7E (Lake Erie – Lake Ontario), Ecodistrict 7E-3 (Grimsby) (Henson and Brodribb, 2005); under the Criteria Schedule for Ecoregion 7E (MNR, 2025b), SWH has been divided into four broad categories consisting of:

- Seasonal concentration areas;
- Rare vegetation communities or specialized habitats for wildlife;
- Animal movement corridors; and
- Habitats of SCC, excluding the habitats of endangered and threatened species.

Wildlife habitat has been preliminarily identified within the Study Area through the field verification visits and ELC mapping. Areas identified as having the potential to support SWH have been identified as candidate SWH (cSWH); cSWH identified within the Study Area is predominantly associated with natural or naturalized features (i.e., woodlands, meadows, wetlands, watercourses/waterbodies and drains) that overlap with the Study Area.

Vegetation community types described in the following four broad categories, below, are detailed in **Appendix K**.

Seasonal Concentration Areas

Seasonal concentration areas are sites that support large numbers of a species to gather together at one time of the year, or where several species congregate. Based on the field verification visit conducted on March 26, 2026, one type of candidate seasonal concentration area has the potential to occur in the Study Area:

- Bat Maternity Colonies.

This cSWH for seasonal concentration areas is detailed further in **Appendix K**.

Rare Vegetation Communities or Specialized Habitats

This category consists of two separate components: rare vegetation communities and specialized habitats.

Rare vegetation communities are those that are considered rare (S-Ranks of S1 to S3; Extremely Rare to Rare-Uncommon, respectively) in the province. S-Ranks are rarity rankings applied to species at the provincial level. Generally, S-Ranks of S1 to S3, as defined by the NHIC, would qualify. Based on the field verification visit conducted on April 27, 2026, no rare vegetation communities were identified within the Project footprint and no rare vegetation communities are anticipated to occur in the Study Area.

Specialized habitats are microhabitats that are critical to some wildlife species. Based on the field verification visits, six candidate specialized habitat types have the potential to occur in the Study Area and include:

- Waterfowl Nesting Area;
- Woodland Raptor Nesting Habitat;
- Amphibian Breeding Habitat (Woodland);
- Amphibian Breeding Habitat (Wetland);
- Turtle Nesting Areas; and
- Seeps and Springs.

These cSWH for specialized habitats are detailed in **Appendix K.**

Animal Movement Corridors

Animal movement corridors are elongated, naturally vegetated parts of the landscape used by animals to move from one habitat to another and are typically identified by MNR and/or planning authorities. Based on the field verification visit conducted on April 27, 2026, including the records reviewed in **Appendix K,** the Study Area does not have identified areas of Amphibian Movement Corridors mapped by MNR; however, due to the naturally vegetated corridors along the Grindstone Creek and its tributaries, potential amphibian movement corridors may occur if SWH for amphibian breeding habitat (woodland and wetland) is present.

Habitat for Species of Conservation Concern

Based on the results of the background review, a total of 22 SCC were identified as having historical occurrences in the general vicinity of the Study Area (**Appendix K**).

The potential for cSWH for Special Concern and Rare Wildlife was considered for SCC that are not already covered under another specific habitat type. The review was determined based on existing land uses, the general habitat requirements of the species, and the ELC communities identified during the field verification visit conducted on April 27, 2026. Based on the existing land uses within the Study Area being a mix of natural communities interspersed with industrial, urban and rural residential lands and active agriculture, the habitat requirements associated with many of the SCC are present in the Project footprint. As a result, and in the absence of targeted field surveys being completed, select natural or naturalized features have been identified in the Project footprint and carried forward as cSWH for Special Concern and Rare Wildlife for the following two SCC:

- Wood Thrush (*Hylocichla mustelina*); and
- Eastern Wood-pewee (*Contopus virens*).

Additionally, the following habitats for SCC may occur in the Study Area:

- Terrestrial Crayfish;
- Marsh Breeding Bird Habitat; and
- Shrub/Early Successional Bird Breeding Habitat.

Prior to construction, a more detailed investigation may be required to assess for potential SCC habitat presence and occurrence if encroachment into natural features or

cSWH is anticipated. Appropriate mitigation measures will be considered and brought forward during the detailed design phase.

4.2.7 Species at Risk

4.2.7.1 Regulatory Context

Federal

The federal *SARA* applies to species listed under Schedule 1 of the Act on federal lands and/or aquatic species, as well as migratory birds listed under the *MBCA*, on non-federal lands. Under *SARA*, species listed on Schedule 1 receive species protection (Section 32) and residence protection (Section 33). Critical Habitat is defined under Section 2 of *SARA* as "the habitat that is necessary for the survival or recovery of a listed wildlife species and that is identified as the species' critical habitat in the recovery strategy or in an action plan for the species".

The *MBCA* and associated regulations protect and conserve migratory birds, their eggs, and their nests in Canada. Activities that are harmful to migratory birds, their eggs, and their nests are prohibited under the Act's regulations regardless as to whether they occur on federal, private, or public lands. Migratory birds are species that meet three criteria: species referred to in Article 1 of the Migratory Birds Convention as amended under the 1995 protocol, species that are native or naturally occurring in Canada, and species known to have regularly occurred in Canada.

Provincial

The *Species Conservation Act, 2025* (*SCA*) came into force on March 30, 2026, officially repealing and replacing the former *Endangered Species Act, 2007* (ESA). The provincial *SCA* applies to species designated on the Protected Species in Ontario List (O. Reg. 60/26) on private and public lands under provincial jurisdiction. Under this updated legislative framework, provincial protections focus specifically on terrestrial species classified as Endangered, Threatened, or Extirpated. Migratory birds and aquatic species are no longer provincially listed (relying instead on federal protections), and species of Special Concern do not receive *SCA* protections.

The *SCA* provides frameworks to prevent the killing or harming of a protected species and the damaging or destroying of protected habitat. Under the *SCA*, the definition of

protected habitat has been narrowed compared to the former *ESA*. It now focuses primarily on the specific, localized areas and features a species currently occupies or depends on for its life processes—such as dens, nests, or other immediate residences—rather than broader historic ranges or areas where the species is capable of living.

To proceed with activities that may impact protected species or their habitats, proponents must comply with the *SCA*'s updated regulatory pathways. For most eligible activities, this requires registering the activity on the Species Conservation Registry under O. Reg. 75/26 (Registrable Activities). Registration mandates the development and implementation of a formal Conservation Plan prepared by a qualified professional, which must detail impact avoidance, mitigation strategies, and ongoing monitoring measures. Activities with residual adverse effects or those not eligible for the registry process may require a specific permit issued at the discretion of the Minister.

4.2.7.2 Potential for Species at Risk in the Study Area

Based on the results of the records review, a total of 10 provincially listed SAR and 11 federally listed migratory birds listed under Schedule 1 of the *SARA* were identified as having occurrence records in the general vicinity of the Study Area (**Appendix L**).

Considering the results of the field verification visits and ELC mapping for the Study Area, the habitat requirements associated with each of the 21 SAR and federally listed migratory birds identified during the background review, and the last date of record associated with some of the SAR occurrence records, the Study Area was determined as having the potential to support 13 of the 21 SAR and listed migratory birds identified in the background records review (see **Appendix L**). The majority of SAR that have the potential to occur within the Study Area are associated with the natural communities such as forests, swamps, and meadows (**Table 4-3**).

Species-specific surveys and/or targeted habitat assessments may be required to support registrations under the SCA.

Table 4-3: Potential species at Risk Habitat within Study Area

Scientific Name	Common Name	*SARA* Status[1]	*SCA* Status[2]	S-Rank[3]	Potential to occur in the Study Area (Y/N)
Chaetura pelagica	Chimney Swift	THR	N/A	S4B,S4N	N
Hirundo rustica	Barn Swallow	THR	N/A	S4B	Y
Hylocichla mustelina	Wood Thrush	THR	N/A	S4B	Y
Dolichonyx oryzivorus	Bobolink	THR	N/A	S4B	Y
Riparia riparia	Bank Swallow	THR	N/A	S4B	N
Cardellina canadensis	Canada Warbler	THR	N/A	S4B	Y
Parkesia motacilla	Louisiana Waterthrush	THR	N/A	S2B	Y
Vermivora chrysoptera	Golden-winged Warbler	THR	N/A	S4B	N
Ixobrychus exilis	Least Bittern	THR	N/A	S4B	N
Erynnis martialis	Mottled Duskywing	END	END	S2	N
Trichophorum planifolium	Few-flowered Club-rush/Bashful Bullrush	END	END	S1	N
Cornus florida	Eastern Flowering Dogwood	END	END	S2?	Y
Juglans cinerea	Butternut	END	END	S2?	Y
Melanerpes erythrocephalus	Red-headed Woodpecker	END	N/A	S3	Y
Sturnella magna	Eastern Meadowlark	THR	N/A	S4B	N
Myotis lucifugus	Little Brown Myotis	END	END	S4	Y
Myotis septentrionalis	Northern Myotis	END	END	S3	Y
Pipistrellus subflavus	Tri-colored Bat	END	END	S3?	Y
Urocyon cinereoargenteus	Gray Fox	THR	THR	S1	N

Scientific Name	Common Name	*SARA* Status[1]	*SCA* Status[2]	S-Rank[3]	Potential to occur in the Study Area (Y/N)
Emydoidea blandingii	Blanding's Turtle	THR	THR	S3	Y
Ambystoma jeffersonianum	Jefferson Salamander	END	END	S2	Y

Table 4-3 Notes

1. Status identified by COSEWIC under the federal *SARA*;
2. Protected Species in Ontario List (O. Reg. 60/26) under the provincial *SCA*;

Ontario S-Rank; S5 = secure; S4= apparently secure; S3 = vulnerable; S2 = imperiled; S1 = critically imperiled; S#B = Breeding status rank; S#N = Non breeding status rank; S#? = Rank uncertain; N/A denotes not applicable.

4.3 Socio-Economic Environment

This subsection provides baseline information on the following components:

- Land Use Planning;
- Population, Employment, and Economic Activities;
- Human Occupancy and Resource Use;
- Infrastructure and Services; and
- Indigenous Community Land and Resource Use.

4.3.1 Land Use Planning

Municipalities are the primary decision-makers for their communities. Section 3 of the *Planning Act* requires municipal official plans and planning-related decisions to be consistent with the Provincial Planning Statement and conform to provincial plans.

Table 4-4 provides an overview of the land use planning policies and zoning applicable to the Project.

Table 4-4: Land Use Planning Policies and Zoning

Policy Document	Relevant Policies/Regulations	Project Conformity/Consistency
Provincial Planning Statement (Ministry of Municipal Affairs and Housing, 2024)	**Section 8: Definitions** Infrastructure: means physical structures (facilities and corridors) that form the foundation for development. Infrastructure includes oil and gas pipelines and associated facilities. Section 3.1: General Policies for Infrastructure and Public Service Facilities Infrastructure shall be provided in an efficient manner while accommodated projected needs. Planning for infrastructure shall be coordinated and integrated with land use planning and growth management so that they: c) are available to meet current and projected needs. Before consideration is given to developing new infrastructure: the use of existing infrastructure should be optimized; and b) opportunities for adaptive re-use should be considered, wherever feasible.	The Project is consistent with provincial direction to ensure new infrastructure is provided in an efficient manner to accommodate projected needs. At the outset of the Study, the purpose and rationale for the Project was identified (**Section 1.2**). The Project is also consistent with provincial direction to incorporate climate change considerations in planning for infrastructure, **Sections 6.0** and **9.0** assess the potential effects of the Project on the atmospheric environment, as well as the potential effects of environmental conditions such as severe weather events and natural hazards on the Project.

Policy Document	Relevant Policies/Regulations	Project Conformity/Consistency
Niagara Escarpment Plan (2017)	**Plan Map 2: City of Hamilton** The Project is located within lands designated under the Niagara Escarpment Plan as Escarpment Rural Area, Escarpment Protection Area, and Escarpment Natural Area. Infrastructure is listed as a permitted use in each of the areas applicable to the Project Study Area.	The Project is in conformity with the Niagara Escarpment Plan as infrastructure is listed as a permitted use under Sections 1.3.3, 1.4.3, and 1.5.3.
Greenbelt Plan (2017)	**Schedule 1: The Greenbelt Area (Green Belt Act, 2005) Mapping** The Preferred Route is located within lands designated under the Greenbelt Area as Niagara Escarpment Plan Area.	The Project is in conformity with the Greenbelt Plan as the Study Area falls within the Niagara Escarpment Plan Area, and therefore the requirements of the Niagara Escarpment Plan, established under the Niagara Escarpment Planning and Development Act, continue to apply as outlined above.

Policy Document	Relevant Policies/Regulations	Project Conformity/Consistency
City of Hamilton Official Plan	Schedule D: Rural Land Use Designations The Project is located within lands designated as Agricultural, Rural, and Open Space in the City of Hamilton Official Plan, Schedule D: Rural Land Use Designations. Volume 1 – Chapter C: City Wide Systems and Designations Section 3.4: Utilities b) Only major utility facilities such as but not limited to compressor stations, major easements, and waste management facilities shall be designated as Utilities on Schedule D – Rural Land Use Designations. Other utility uses shall be permitted in all land use designations.	The Project is in conformity with the City of Hamilton Official Plan. The proposed pipeline, as a utility, is permitted in all land use designations applicable to the Project.
Hamilton Zoning By-law 05-200	**Schedule A: Zoning By-Law Mapping** The Project is located within lands zoned as Agricultural (A1) and Conservation/Hazard Land - Rural Zone (P8).	The Project is in conformity with the Hamilton Zoning By-law 05-200. The proposed pipeline, as a utility, is permitted in all zones applicable to the Project.

4.3.2 Population, Employment, and Economic Activities

4.3.2.1 Population and Demographics

According to the 2021 Census, the City of Hamilton has a population of 785,184 people, representing an increase of 5.0% from 747,546 people in 2016 (Statistics Canada, 2025). The City of Hamilton's Ward 15 District (Flamborough Waterdown) has a population of 31,855 people as of 2021, representing an increase of 5.6% from 27,675 people in 2016 (City of Hamilton, n.d.). Similarly, the Province of Ontario experienced a population increase of approximately 5.8% over the same period (Statistics Canada, 2025).

In 2021, the City of Hamilton had an average population density of approximately 571.8 people per square kilometre (Statistics Canada, 2025). During the same year, Flamborough Waterdown's average population density was 182 people per square kilometre (City of Hamilton, n.d.).

The working age population (15 to 64) represents approximately 64.9% of the total population in the City of Hamilton, (Statistics Canada, 2025) and approximately 66.9% of the total population in Flamborough Waterdown (City of Hamilton, n.d.).

The 2021 Census also indicates that the percentage of visible minority population of the City of Hamilton was 25.1% (Statistics Canada, 2025) and 15.5% in Flamborough Waterdown (City of Hamilton, n.d.). Of the visible minorities in the City of Hamilton, the majority of individuals identified as South Asian, representing 6.2% of the total population and approximately 24.5% of the visible minority group (Statistics Canada, 2025).

Of the total population in the City of Hamilton, 2.2% identify as Indigenous (Statistics Canada 2025) and in Flamborough Waterdown, 1.3% of the total population identify as Indigenous (Statistics Canada, 2025).

4.3.2.2 Employment and Economy

According to the 2021 Census, the City of Hamilton has a labour participation rate of 62.8% and an unemployment rate of 11.8% (Statistics Canada, 2025). Flamborough Waterdown has a labour participation rate of 72.3% and an unemployment rate of 9.1%

(City of Hamilton, n.d.). Similarly, the Province of Ontario has a labour participation rate of 62.8% and an unemployment rate of 12.2% (Statistics Canada, 2025).

The largest employment industries in the City of Hamilton are health care and social assistance, retail trade, manufacturing, educational services, construction, and professional, scientific and technical services (Statistics Canada, 2025). In Flamborough Waterdown, the largest employment industries are sales and services, retail trades and transportation, business, finance and administration and educational services (City of Hamilton, n.d.).

The average total household income in the City of Hamilton increased by 23.8% from $87,775 in 2015 to $108,700 in 2020 (City of Hamilton, n.d.). The average total household income in Flamborough Waterdown increased by 17% from $136,351 in 2015 to $155,800 in 2020 (City of Hamilton, n.d.).

The median after-tax household income the City of Hamilton increased by 11.9% from $71,500 in 2015 to $80,000 in 2020 (Statistics Canada, 2025). Similarly, Ontario's median after-tax household income increased by 12.8% from $70,500 in 2015 to $79,500 in 2020 (Statistics Canada, 2025).

4.3.2.3 Main Economic Sectors

Health Care and Social Assistance

This sector employs over 52,132 people in the City of Hamilton making up 14.5% of the labour force (Statistics Canada, 2025). In Flamborough Waterdown, this sector employs 7.4% of the of the labour force population (City of Hamilton, n.d.). In Ontario, health care and social assistance make up 12.6% of the labour force (Statistics Canada, 2025).

Manufacturing

The manufacturing sector employs over 37,885 people in the City of Hamilton making up 10.6% of the labour force (Statistics Canada, 2025). Comparatively, this sector only makes up 3.3% of the labour force population in Flamborough Waterdown (Statistics Canada, 2025).

The City of Hamilton has a historically dominant steel industry, with major companies like ArcelorMittal Dofasco and Stelco making the city known as the "Steel Capital of

Canada," producing a large share of Canada's steel for construction, automotive, and infrastructure (City of Hamilton, 2023; Invest in Hamilton, 2026a). In recent years, the manufacturing base has diversified significantly, with growth in advanced manufacturing, food processing, and life sciences.

Flamborough Waterdown's industrial roots were historically tied to agriculture and resource processing, with the Smokey Hollow area home to mills, tanneries, and small factories. Today, most large-scale manufacturing has shifted to other parts of the city, leaving Flamborough Waterdown with a more specialized, small-scale industrial economy (Flamborough Archives and Heritage Society, 2024). Food and agri-processing remain important in Flamborough Waterdown due to proximity to local farmland for meat and packaged goods production (Invest in Hamilton, 2026a).

Retail Trade

Ontario employs a large proportion of the retail trade sector. In 2024, the retail sector employed approximately 841,500 people in Ontario, approximately 10.3% of the province's total workforce (Government of Canada, 2026a).

The retail trade sector employs over 39,385 people in the City of Hamilton making up 11.0% of the labour force (Statistics Canada, 2023a). In Flamborough Waterdown, the retail sector is anchored by the commercial areas of Clappison's Corners power centre, and the Waterdown core (City of Hamilton, n.d.).

4.3.3 Human Occupancy and Resource Use

The Project is located within a predominantly agricultural and rural setting in the community of Flamborough Waterdown, located in the City of Hamilton's Ward 15. While Ward 15 is largely rural, with agriculture accounting for approximately 67.6% of its existing land use, it also includes light industrial and commercial areas and the rapidly growing urban core of Waterdown (City of Hamilton, n.d.). The Project Study Area is located approximately 12 km north of the primary urban centre of Hamilton. The Project is located adjacent to active agricultural farmlands, and residential density in the immediate vicinity of the Project is low, consisting primarily of single-detached dwellings on large rural lots along Concession 5 Road East.

The Project is in close proximity to the following residential and commercial areas:

- Rural settlement areas: The Study Area is situated approximately 1.5 km north of the low-density Concession 5 Road East and Centre Road rural settlement area. It is also approximately 2.5 km from the rural settlement area of Flamborough Centre, which as of 2021 had a population of 46,860 and 16,405 occupied private dwellings, representing a 9.9% population increase since 2016 (City of Hamilton, 2022);
- Urban Waterdown: Located southeast of the Study Area, Waterdown is one of Hamilton's fastest-growing residential communities. The population increased by 40.7% between 2016 and 2021, reaching 23,858 people (Coleman, 2022); and
- Waterdown Village Business Improvement Area (BIA): A geographic commercial district within Waterdown with more than 250 shops, restaurants, salons, spas, and service providers (Waterdown Village, 2026).

4.3.4 Infrastructure and Services

4.3.4.1 Existing Linear Infrastructure

The community of Flamborough Waterdown is served by a network of local, collector, and arterial roads, as well as Provincial freeways and highways. Highway 6 serves as the primary north-south regional transportation corridor, providing vital connections to the 400-series highways (Highway 403 and Highway 407), and is located approximately 5 km southwest of the Study Area.

The City of Hamilton categorizes its rural road network into the following functional classifications (City of Hamilton, 2013; City of Hamilton, 2026g):

- Rural Arterial Roads: These serve as primary corridors for traffic movement, typically carrying over 5,000 vehicles per day. They feature free-flowing characteristics except at signals and have a typical ROW width of 20-36 m. Centre Road is a key arterial anchor in the vicinity of the Study Area, located approximately 2 km away;
- Rural Collector Roads: These roads balance traffic movement with land access, typically carrying fewer than 5,000 vehicles per day. They generally feature a ROW width of 20-26 m. Concession 5 Road East and Robson Road are both classified as Rural Collectors within the Study Area; and
- Rural Local Roads: These roads prioritize land access over traffic movement, serving volumes of fewer than 1,000 vehicles per day with a typical ROW width of 20-26 m. Beeforth Road is located just west of the Study Area and functions as a local road.

The Project is located within an established utility corridor. The Preferred Route is entirely within the existing Imperial Oil ROW, crossing Concession 5 Road East and maintaining proximity to Robson Road. Both roads function as collector links that distribute traffic from local rural properties to the arterial network.

In addition to the road network, the Study Area contains existing utilities. It is assumed that the Project encounters power and telecommunication lines, as these utilities typically follow the municipal road network. Hydro One and Alectra Utilities are the primary electricity providers in the Flamborough area, and Hydro One has an existing transmission line corridor that crosses Concession 5 Road East approximately 2.5 km west of the Project Study Area.

Recreational features also traverse the area, which is known for its extensive trail network. The Study Area is located approximately 3 km west of Fisher's Pond and City View Park, and 2 km north of Joe Sams Leisure Park, all of which provide access to recreational trails.

4.3.4.2 Community Services and Institutions

The City of Hamilton is responsible for a comprehensive suite of community services including social housing, governed by CityHousing Hamilton, emergency and protective services, public works, and the Hamilton Street Railway (HSR) transit system. The City also manages waste, water and wastewater services, and municipal cemeteries. Public health services are robust, covering addiction support, sexual health, and the Hamilton Food Strategy, which addresses food security and waste management. Specialized support for older adults aged 55 and older includes caregiver support, legal services, and housing options (City of Hamilton, 2025; City of Hamilton, 2026f).

Community services in the Flamborough and Waterdown area include the Food with Grace Food Bank, the Rotary Club of Waterdown, and various local pharmacies, financial institutions, and general retail (Flamborough Connects, 2024).

The region is home to several major educational and healthcare institutions. Post-secondary institutions include McMaster University, Mohawk College, College Boreal, Columbia International College, and Redeemer University (Invest in Hamilton, 2026b). Healthcare institutions include McMaster Children's Hospital, urgent care facilities, and health wellness centres.

4.3.5 Indigenous Community Land and Resource Use

A review of applicable mapping and correspondence with the MEM indicated that the Project may have the potential to affect Indigenous communities who hold or claim Aboriginal or Treaty Rights protected under Section 35 of *Canada's Constitution Act, 1982*. These communities include:

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

To date, consultation with Indigenous communities has not resulted in the identification of potential impacts of the Project on Aboriginal or Treaty Rights or on Indigenous use of land and resources in the Study Area. Additional information pertaining to consultation with Indigenous communities is provided in **Section 3.3**.

4.4 Cultural Environment

4.4.1 Archaeology

A Stage 1 AA was completed by TMHC Inc. (TMHC) under Project Information Form [PIF] P324-1047-2026, dated May 19, 2026 (TMHC, 2026a). Following Indigenous community review, the final Stage 1 AA report (**Appendix A**) was submitted on June 17, 2026, to the MCM under an expedited review request. Comments from the MCM were addressed through resubmissions on July 9 and July 28, 2026, and the MCM will be completing a formal audit at the screening stage.

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 presence of or proximity (within 300 m) to:

- A water source (tributary of Grindstone Creek and associated wetlands);
- Previously registered archaeological sites (AiGx-437, AiGx-438, and AiGx-440);
- 19th century thoroughfares (Concession 5 Road East, Beeforth/Robson Road, and Milburough Line); and

- A mapped 19th century structure (David Carp homestead).

The Stage 1 background research determined that portions of the Project area have been previously assessed and do not require further assessment, while also indicating that portions of the Project area have witnessed prior disturbance and lack integrity. Other areas of low archaeological potential, based on mapping, are low lying and wet lands associated with Grindstone Creek and its tributary. The remainder of the Project area is comprised of manicured lawns, grassed lands that are lightly treed, woodlot, and portions of agricultural fields, all of which appear to retain archaeological potential and require further assessment. Two previously registered archaeological sites are present within the Project area, and will require further archaeological assessment, should impacts be proposed for the site location. Based on the background research and map review, the following recommendations were made:

- Previously Assessed Areas:
  - For the lands within the Project area that were previously subject to Stage 2 assessment using methodologies in keeping with the 2011 *Standards and Guidelines for Consultant Archaeologists* and for which there are no outstanding archaeological concerns, no further assessment is required (3.01 hectares [ha]; 22.8%).
- Areas of Low Archaeological Potential
  - Areas of previous disturbance (e.g., building footprints and existing roads or laneways; 0.8 ha; 6.1%), as well as low-lying and wet areas (0.73 ha; 5.5%), are considered to have low archaeological potential; and
  - As a field investigation was not conducted as part of this study, areas of low archaeological potential within the Project area will need to be confirmed and photo-documented at the time of Stage 2 survey (Ministry of Tourism and Culture [MTC], 2011).
- Stage 2 Methodologies:
  - In keeping with the provincial standards, the ploughable areas (1.64 ha; 12.4%) must be subject to a pedestrian survey at a 5 m interval following Section 2.1.1 of the *Standards and Guidelines* (MTC, 2011). The field must be ploughed to achieve 80% visibility and weathered prior to assessment; and
  - In keeping with the provincial standards, the non-ploughable areas (e.g., manicured lawn, grassed, meadow and wooded areas; 6.34 ha; 48%) must be

subject to test pit assessment at a 5 m transect interval following Section 2.1.2 of the *Standards and Guidelines* (MTC, 2011).

- There are two previously registered archaeological sites located within the Project Area that have further cultural heritage value or interest (CHVI) (0.7 ha; 5.3%). It is recommended that these areas be avoided, if possible. If this is not possible, further archaeological assessment is required. Should impacts be proposed at the location of these sites, the following site-specific recommendations apply:
  - AiGx-437 is a small Woodland period site consisting of three artifacts recovered during pedestrian survey. If AiGx-437 is anticipated to be impacted by construction, the methodology for Stage 3 investigations should be prepared in consultation with Indigenous communities with an interest in this area; and
  - AiGx-438 is a small Indigenous site, consisting of 14 artifacts recovered during test pit survey. If AiGx-438 is anticipated to be impacted by construction, the methodology for the Stage 3 assessment should follow Section 3.2.2 of the 2011 *Standards and Guidelines*. Any work for Stage 3 investigations should be prepared in consultation with Indigenous communities with an interest in this area;
- Changes to the extent of Project area:
  - If the extent of the Project area changes to incorporate lands not addressed in this study, further assessment will be required.

A Stage 2 AA was completed in May 2026, and no further assessment is recommended, pending approval from Indigenous communities and the MCM of Imperial Oil's proposed approach to avoid the previously registered archaeological sites (AiGx-437 and AiGx-438) through HDD.

On July 22, 2026, the draft Stage 2 AA report (**Appendix A**), was circulated to Indigenous communities for review and comment with an initial feedback deadline of August 6, 2026, prior to submission to the MCM. Input received from Indigenous communities to date includes the following:

- **Mississaugas of the Credit First Nation:** On August 20, 2026, confirmed that they have no comments or questions prior to report submission, requesting only to be kept informed of any future fieldwork arising from report recommendations.
- **Huron-Wendat Nation:** Requested a review extension to August 22, 2026, and subsequently provided comments on August 20, 2026, recommending that the

historical background section be expanded beyond the tabular format to include descriptive text for added context.

- **Haudenosaunee Development Institute (HDI):** On August 24, 2026, indicated that additional review time is required, with an updated target review date to follow.

Following the resolution of the Indigenous community comments outlined above, the final Stage 2 AA report will be submitted to the MCM for formal review.

4.4.2 Built Heritage Resources and Cultural Heritage Landscapes

A Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment (dated June 12, 2026) (TMHC, 2026b) was completed by TMHC for the Project and is provided in **Appendix B**. The report was prepared in accordance with the MCM *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes*.

The Cultural Heritage Report identified two potential Built Heritage Resources (BHRs), and one potential Cultural Heritage Landscape (CHL) in the Study Area as having potential Cultural Heritage Value or Interest (CHVI) based on professional judgement and the preliminary application of *Ontario Heritage Act*, O. Reg. 9/06 criteria (as amended by O. Reg. 569/22). The identified potential BHRs and potential CHL within the Study Area were considered for possible direct and indirect impacts.

The two potential BHRs (BHR-01, BHR-02) consist of agricultural properties and their associated buildings with potential CHVI. The potential CHL (CHL-01) was identified as a component of a potential CHL which encompasses the Medad Valley and Lake Medad. CHL-01 was identified as having physical, historical, and contextual value as a representative example of a Woodland Period Indigenous landscape associated with important archaeological remains, and a defining physical landscape feature in Flamborough East, housing both Grindstone Creek and its source, Lake Medad.

The preliminary impact assessment conducted in the Cultural Heritage Report identified the potential for direct and indirect impacts to the potential CHL (CHL-01), and concluded that there are no potential direct or indirect impacts to the two potential BHRs (BHR-01, BHR-02).

5.0 Route Selection

As described in **Section 1.0**, Imperial Oil identified the Preferred Route for the Project within the existing Imperial pipeline Right of Way.

No alternative routes were evaluated identified.

The pipeline route considered in this ER is shown on **Figure 1-1**.

5.1 Identification of the Preferred Route

Imperial Oil identified the need for the Project as the current pipeline transporting products from the Enbridge Millgrove Station to the Waterdown Pump Station is nearing the end of its useful life. As this is a replacement pipeline, Imperial Oil has identified a single proposed route to be constructed entirely within the existing Imperial Oil ROW. This proposed route would allow Imperial Oil to tie a new pump station[1] into an existing, newer pipeline (recently constructed in 2021/2022). There are no possible alternative routes that would meet the Project objectives.

As the proposed pipeline route falls entirely within the existing Imperial Oil ROW, the environmental effects are predictable and will be limited to previously disturbed areas.

5.2 Temporary Workspace and Laydown Areas

TWS and laydown areas will be required along the pipeline alignment to facilitate the movement and storage of equipment necessary for construction (see **Figure 1-1** for TWS locations and extent). Imperial Oil worked with the landowners in the Project footprint to secure appropriate workspace with as minimal an impact as possible.

[1] The new pump station is subject to approval through separate regulatory and permitting processes and is not assessed in this report.

6.0 Effects Assessment and Proposed Mitigation

This section provides the assessment of the potential effects associated with the Preferred Route on the physical, natural, socio-economic, and cultural environment. Recommended mitigation measures are also described in this section and select mitigation measures are shown on **Figure 6-1**.

The criteria for the characterization of residual effects and evaluation of significance are provided in **Section 2.1.2.**

Table 6-1: Potential Effects, Mitigation Measures, and Residual Effects of Project Construction and Operations

Component	Context/Interaction	Potential Effects	Mitigation Measures	Characterization and Significance of Residual Effects
Physical Environment				
Physiography and Topography	• The pipeline will be installed entirely within the existing disturbed Imperial Oil pipeline ROW. Impacted roads, driveways, and agricultural areas will be returned to their pre-construction grade following construction. • Potential interactions may occur during construction due to excavation, stockpiling of materials along the ROW, and movement of vehicles and equipment. • No interactions with physiography and topography are anticipated during operations.	• Temporary alteration of natural surface drainage patterns during construction.	• Store excavated material in a way that does not interfere with natural drainage patterns. • Control surface water drainage on the construction site, if warranted, to prevent surface water from entering areas of disturbed and erodible soils. • Plan construction activities so that they do not cause the ponding of water or unintentional channelization of surface water flow. • Restore pre-construction topography, when possible, to maintain proper drainage of surface water flow. • Regrade areas with vehicle ruts or erosion gullies. • In the event that construction or maintenance activities result in changes in surface water regimes, corrective action, in consultation with landowners and Conservation Halton may be required.	• No residual effects are anticipated following implementation of the recommended mitigation measures.
Geology and Soils	• The pipeline will be installed within the existing disturbed Imperial Oil pipeline ROW which is partially on agricultural lands. • The soils and subsoils in the Project footprint have been disturbed by past utility and road works and related infilling. • TWS is required outside of the pipeline ROW (i.e., on agricultural lands). The TWS will be used for equipment storage and pipe laydown and will not involve soil removal or physical ground disturbance. Matting will be used to reduce the impact to soils in TWS areas, where applicable.	• Degradation of soil structure and lowering of soil productivity on agricultural lands through erosion, compaction, and rutting. • Disturbance of previously contaminated soil.	**General Measures** • Maintain equipment in good working condition such that equipment and vehicles are free of leaks. • Store all fuels, chemicals, and other lubricants away from drainage features and on relatively flat areas in contained storage areas. Re-fuelling activities must be undertaken a minimum of 30 m (unless otherwise specified by approval bodies and/or necessary permit conditions) away from drainage features and other sensitive environmental features. Should a spill occur, the MECP Spills Action Centre (1-800-268-6060) should be contacted immediately, and containment should occur as soon as practical.	• No residual effects are anticipated following implementation of the recommended mitigation measures.

Component	Context/Interaction	Potential Effects	Mitigation Measures	Characterization and Significance of Residual Effects

	• A search of publicly available data revealed no record of historical contamination in the Study Area; however, due to the disturbed nature of the soils along the route, it is possible that historical contamination (i.e., soils and/or groundwater) may be encountered in association with past developments and road runoff.
	• Potential interactions may occur during construction due to excavation, movement of vehicles and equipment, and stockpiling and storage of materials in TWS.
	• Potential interactions may occur during operations where integrity digs are required as a result of similar activities. Potential effects during operations would be the same as those identified for construction but on a smaller scale and the same mitigation measures would apply.
	• The potential for leaks or spills from Project activities to affect Soils is considered in Accidents and Malfunctions (**Section 8.0**).
			Soil Structure and Productivity
			• Within agricultural lands, the Contractor must make every reasonable effort to utilize such equipment and techniques necessary to minimize topsoil compaction as follows:
			  ○ Matting will be placed prior to using areas for storage and/or pipe laydown.
			  ○ Topsoil must not be used as a working pad.
			  ○ Soil compaction must be minimized by working or moving soils when they are dry.
			  ○ Stones which are 75 millimetres in diameter and larger that are left on the ground surface must be removed from agricultural fields following any site regrading and restoration.
			• Install matting in TWS areas prior to movement of heavy vehicles and equipment.
			• Install, regularly inspect, and maintain appropriate sediment and erosion control measures in good repair until disturbed soil surfaces have become stabilized and/or revegetated.
			• Restrict activities to the approved, surveyed TWS boundaries to reduce the area subjected to potential soil compaction.
			• Do not drive or set equipment on land where unsalvaged and unprotected topsoil is present, in order to avoid rutting and subsequent topsoil/subsoil admixing.
			• Use lightweight and wide-tracked equipment to minimize soil compaction, where possible.
			• Postpone construction, suspend equipment travel or utilize construction alternatives in the event of wet/thawed soils in order to reduce terrain disturbance and soil structure damage.
			• Decompaction will be conducted on replaced soils over agricultural lands.
			Disturbance of Previously Contaminated Soils
			• The Contractor should proceed with construction cautiously and be aware of the potential for contaminated soils. If contaminated soils are suspected, suspect soils must be safely	

Component	Context/Interaction	Potential Effects	Mitigation Measures	Characterization and Significance of Residual Effects
			handled and disposed of in a manner consistent with regulatory requirements and Imperial Oil procedures. ● When suspect soil is encountered, workers must warn nearby workers and stop excavation. ● Imperial Oil's Environmental Inspector must be contacted when working in the vicinity of suspect soils and will assist with the understanding of applicable standards and guidelines. ● Additional subsurface investigations (confirmatory and waste classification samples) should take place in areas suspected of having soil contamination. Managing contaminated sites that are encountered during construction will be completed in accordance with regulatory requirements and Imperial Oil procedures. Should suspect soils be encountered, third party consultants are on-call 24/7 to provide support. ● Suspect soils are typically identified based on the following: ○ An odour emanating from the excavation; ○ A significant change in colour, oil sheen, texture or stunted vegetation condition; ○ The presence of coloured, odorous, or non-water like liquid seeping into excavation; and ○ The presence of solid wastes including drums, containers, or tanks. ● Separate topsoil and subsoil suspected of contamination from productive topsoil and subsoil and maintain separate stockpiles of each soil. Store soils suspected of contamination in a manner to prevent leaching and inadvertent admixing of suspect soil with other soils. For suspect liquid soils, store within a bermed and lined containment cell (PE sheeting or equivalent). For dry suspect soils, store similarly to suspect liquid soils, or within stockpiles segregated from soil of other quality, and on an anchored plastic sheet to prevent potential leaching to the ground. Label and/or install signs at the contaminated stockpiles so the contents (subsoil or topsoil) of each pile can be readily identified. ● Use plastic tarps to cover the storage piles and anchor the tarp on the outside of the berms to protect against precipitation events. Minimize the amount of contaminated soil exposed to	

Component	Context/Interaction	Potential Effects	Mitigation Measures	Characterization and Significance of Residual Effects
			open air to control odours and limit potential impacts to air quality. • Qualified personnel are to collect samples and GPS coordinates of each soil sample and stockpile soil suspected of contamination. • Submit samples of suspected contaminated soils to an approved laboratory and test for the following minimum parameters: benzene, toluene, ethylbenzene, and xylene (BTEX); F1 to F4 petroleum hydrocarbons; polyaromatic hydrocarbons; flashpoint; BTEX toxicity characteristic leaching procedure (TCLP), TCLP metals, and pH. Collect and/or analyze samples for any additional parameters as identified by the landfill or waste disposal or processing facility operator. • Identify a local licensed landfill or waste disposal or processing facility able to receive soils if contamination is confirmed by the lab analysis and obtain waste acceptance at the proposed facilities. • Excavations left following the removal of contaminated soil must be backfilled as soon as possible. • Imported soil must meet the requirements set forth in O. Reg. 406/19. • Contaminated areas that have been remediated will be reclaimed during final clean-up and reclamation of the work areas.	
Groundwater	• Potential interactions may occur during construction should sections of the pipeline trench encounter the groundwater table or artesian conditions. Groundwater may exfiltrate into the trench and require dewatering to facilitate construction. Similarly, groundwater may be encountered at trench depth	• Reduction in groundwater quality and quantity.	**General Measures** • Maintain equipment in good working condition such that equipment and vehicles are free of leaks. • Store all fuels, chemicals, and other lubricants away from drainage features and on relatively flat areas in contained storage areas. Re-fuelling activities must be undertaken a minimum of 30 m (unless otherwise specified by approval bodies and/or necessary permit conditions) away from drainage features and other sensitive environmental features. Should a spill occur, the MECP Spills Action Centre (1-800-268-	• No residual effects are anticipated following implementation of the recommended mitigation measures.

Component	Context/Interaction	Potential Effects	Mitigation Measures	Characterization and Significance of Residual Effects
	where integrity digs are conducted during operations. • There is potential to encounter contaminated groundwater in conjunction with the disturbance of previously contaminated soils (as mentioned above in the Geology and Soils row of this table). • Bentonite slurry will be generated during construction when trenchless construction methods are used. There is potential for bentonite slurry to seep into porous subsurface formations, reduce groundwater quality, and leave the tunnel along a preferential flow pathway and inadvertently seep into a nearby watercourse, or interfere with nearby structures (i.e., roadways). Bentonite slurry used in trenchless construction process can be considered a liquid solid, industrial waste, or excess soil depending on the circumstances and may require specific handling. • The potential for leaks or spills from Project activities to affect Groundwater is considered in		6060) should be contacted immediately, and containment should occur as soon as practical. **Dewatering** • Register under the EASR where dewatering in excess of 50,000 L/day. Excess water should be directed away from sensitive natural features. • Prior to initiating dewatering activities or water discharge activities, the On-Site Inspector will approve the water discharge plan to ensure that Best Management Practices are applied and to minimize the potential for scour and sedimentation. • Excavation dewatering must only be carried out while personnel are on-site or nearby, allowing for regular inspection and maintenance of the pumping and discharge system. • Visually inspect area to be dewatered (e.g., excavation) for debris (e.g., floating solids, visible foam) and/or hydrocarbon sheen prior to dewatering. Remove floating debris, if feasible, prior to release. • Potentially contaminated groundwater must be managed and disposed of in accordance with applicable regulatory requirements. • Place equipment (e.g., pumps, generators) on polyethylene (PL) sheeting or other suitable containment to prevent spills. • Use a floating suction hose equipped with a screen and elevated intake, or other measures, to prevent sediment from being sucked up during dewatering. • Do not pump sediment laden water directly into a watercourse, drainage ditch, or wetland. • Discharge sediment laden water through a sediment bag (i.e., dewatering bag; or approved equipment) and release in a well	

Component	Context/Interaction	Potential Effects	Mitigation Measures	Characterization and Significance of Residual Effects
	Accidents and Malfunctions (**Section 8.0**).		vegetated low-lying area or level ground a minimum 30 m away from a wetland or waterbody. • If a suitable well vegetated discharge location is not available or feasible, place the discharge sediment bag (or approved equivalent) on top of a rock pad overlain with a geotextile fabric and a sediment control barrier (e.g., silt fence, filter socks, fibre logs/wattles, etc.) for added protection. • If neither filtering nor a settling pond is practical, a vacuum truck or additional water treatment actions may be necessary to sufficiently treat and/or dispose of the discharge water. • All discharge water must be retained on the property where it was encountered. • If increased turbidity in nearby watercourses is observed or there is a reduction in water flows of nearby watercourses during dewatering activities, implement the following measures or approved alternatives (depending on the issue observed): ○ Reduce dewatering rates, where possible; ○ Reconfigure, modify or relocate dewatering discharge point to increase flow back to natural features, including the watercourse; ○ Modify erosion and sediment control measures and/or improve turbidity removal treatment processes; and, ○ Investigate other construction methodologies to minimize the amount of water management. **Bentonite Slurry** • Bentonite slurry generation can be reduced by using a centrifuge to screen out solids and fines, allowing the bentonite to be reused on-site to a certain extent. Prior to disposal, bentonite slurry can be treated by solidification methods and removed from the site under the appropriate waste classification. • The composition of the bentonite slurry will be determined based on the geotechnical conditions of the site.	

Component	Context/Interaction	Potential Effects	Mitigation Measures	Characterization and Significance of Residual Effects
			• The application of bentonite slurry will be monitored frequently by the Contractor. Extra caution will be exercised near drainage features, natural features, and nearby structures that could be impacted.	
Natural Environment				
Atmospheric Environment	• Air emissions (including GHGs) from vehicle and equipment use (exhaust and dust) will occur during construction and site-specific maintenance activities during operations. • Air contaminants from vehicle and equipment use include sulphur dioxide, nitrogen oxide, volatile organic compounds, carbon monoxide, and particulate matter. In addition, carbon dioxide, a GHG, is emitted from internal combustion engines.	• Increase in air emissions during construction and where site-specific preventative maintenance is performed during operations.	• Equip vehicles with emission controls, as applicable, and operate within regulatory requirements. • Utilize fuel-efficient equipment when possible. • Limit long-term idling, where possible. • Limit the area of open trenches (where possible) to reduce dust. • Implement dust management practices such as road watering to reduce fugitive road dust. • Implement dust control measures during dry and windy conditions. Dust control measures should be monitored regularly to increase efficiency. • Implement wetting or apply dust suppressants during cutting or crushing activities. • Limit construction activities during high wind events. • Cover or water material stockpiles when possible to minimize fugitive dust from wind erosion.	• Temporary, localized increase in air emissions during construction. • Given the limited, sporadic nature of site-specific maintenance activities, residual effects are not expected during operations. • The residual effect is reversible and is isolated to the construction period. It is anticipated to be low magnitude, short-term in duration, and not significant.

Aquatic Environment	• There is one watercourse crossing within the Project footprint, the crossing is identified on **Figure 4-4**. • The results of the field verification visits completed on March 26, 2026, and April 27, 2026 indicate the watercourse does not contain direct fish habitat, but has the potential to contribute to direct fish habitat downstream, specifically within Grindstone Creek. • The watercourse does not have a defined bed or banks and is considered ephemeral in nature. Existing flows and the drainage of the watercourse will be maintained. • Is it not anticipated that construction activities will result in disruption of surface water flow or alteration of fish habitat, resulting in death/injury of fish. • Potential interactions may occur due to erosion and sedimentation from the Project footprint to nearby water features. Natural drainage patterns will be restored post-construction. • Potential interactions are unlikely during operations but may occur where site-specific maintenance (i.e., integrity digs) is required in the vicinity of water features. • The potential for leaks or spills from Project activities to affect the Aquatic Environment is	• Reduction in surface water quality due to erosion and sedimentation into water features during construction or where site-specific maintenance is performed during operations.	**Erosion and Sedimentation** • Install and maintain erosion and sediment control measures prior to commencing grading within the vicinity of a watercourse. • Store and stabilize stockpiled materials at least 30 m from watercourses. • Machinery should arrive on site in a clean condition and be maintained free of fluid leaks. Wash, refuel and service machinery and store fuel and other materials for the machinery away from watercourses to prevent any deleterious substance from entering the water. • Upon completion of construction, all vegetation removed or damaged should be replaced with appropriate native species. Ontario native seed mixes should be appropriate for the habitat type and existing land use. • Undertake site restoration works immediately following construction. • Stabilize any waste materials removed from the work site to prevent them from entering watercourses. This could include covering spoil piles with biodegradable mats or tarps or planting them with grass or shrubs. • Promptly repair erosion and sediment control measures that are not functioning properly. • During construction, sufficient materials such as sandbags, Siltsoxx, filter cloth, snow fencing, and fence posts must be readily available on-site. • Limit vegetation removal to the area(s) strictly required to accommodate the Project construction.	• No residual effects are anticipated following implementation of the recommended mitigation measures.

Component	Context/Interaction	Potential Effects	Mitigation Measures	Characterization and Significance of Residual Effects
	considered in Accidents and Malfunctions (**Section 8.0**).			
Wetlands	• There is one PSW identified within the Project Study Area, the Lake Medad Valley Wetland Complex. • There are two unevaluated wetland areas identified within the Project Study Area. • Construction will take place entirely within the existing Imperial Oil ROW and TWS has been sited outside of wetland boundaries. No encroachment into wetland features is anticipated. • Potential interactions with wetlands may occur indirectly during construction due to erosion and migration of sediment from excavation activities, movement of vehicles and equipment, and vegetation removal. • Potential interactions are unlikely during operations but may occur if site-specific maintenance (i.e., integrity digs) is required within 30 m of a wetland feature. • The potential for leaks or spills from Project activities to affect Wetlands is considered in Accidents and Malfunctions (**Section 8.0**).	• Alteration of wetland habitat, hydrological, and/or biogeochemical function during construction or where site-specific maintenance is performed during operations.	• Clearly identify the limits of the work area prior to beginning construction. • Narrow the construction area in the vicinity of wetlands and limit vegetation removal to the extent practical. • Use existing roads as access routes, where possible, to avoid disturbance to riparian vegetation. • Machinery should arrive on site in a clean condition and be maintained free of fluid leaks. Wash, refuel and service machinery away from wetlands to prevent any deleterious substance from entering wetlands. • Sediment shall not be allowed to enter into watercourses, wetlands, waterbodies, or leave the work site. • Sediment and erosion control measures appropriate to site conditions and the nature of development are to be properly installed, inspected regularly, and maintained in good repair until all disturbed soil surfaces have become stabilized and/or revegetated. • Sediment laden water shall not be pumped directly into any waterbody or wetland. Sediment laden or turbid water generated during construction should be treated through a minimum of 30 m of vegetated cover before discharging to a wetland, or if this is not possible, be discharged into a proper sediment containment system (e.g., sediment bag) for settling and filtration. • Undertake site restoration works immediately following construction and in accordance with Imperial Oil protocols. • Do not dewater any wetland.	• No residual effects are anticipated following the implementation of the recommended mitigation measures.
Areas of Natural and Scientific	• Two ANSIs were identified within the Study Area, Medad Valley Life	• No adverse effects to ANSIs are anticipated.	N/A	N/A

Component	Context/Interaction	Potential Effects	Mitigation Measures	Characterization and Significance of Residual Effects
Interest and Other Environmentally Sensitive Areas	Science ANSI and the Medad Valley Meltwater Channel ANSI. • Construction will occur within the existing Imperial Oil ROW and TWS has been sited to avoid sensitive environmental features (e.g., wetlands and woodlands). No encroachment into the ANSIs is anticipated.			
Vegetation	• The Preferred Route is located in a rural residential area with agricultural fields. An equal mix of 'natural' or 'naturalized' and 'cultural' community types were identified within the Study Area. • The Project is within the existing Imperial Oil ROW. Minor tree removals may be required to accommodate pipeline construction and operations. • Construction activities may result in the temporary loss or alteration of native and planted vegetation species. • Construction activities could result in the introduction or spread of invasive species and/or weeds. • Similar interactions may occur during operations where site-specific maintenance (e.g., integrity digs) is required. • The potential for leaks or spills from Project activities to affect Vegetation is considered in Accidents and Malfunctions (**Section 8.0**).	• Temporary loss or alteration of native or planted vegetation. • Introduction or spread of invasive species and/or weeds.	**Loss or Alteration of Vegetation** • Minimize the width of the construction area where possible, to reduce the amount of vegetation affected. • Limits of the workspace should be clearly marked to avoid encroachment into adjacent vegetated areas and to avoid unnecessary tree removals and encroachment. • Protect vegetation adjacent to the working area from construction traffic and/or materials storage. • Upon completion of construction, all native vegetation that was removed or damaged should be replaced with appropriate native species. Ontario native seed mixes should be appropriate for the habitat type and existing land use. • Upon completion of construction, all vegetation removed or damaged should be replaced with appropriate native species, and/or according to the landowners' preferred revegetation strategy. • Restrict vehicle access over newly seeded areas. **Introduction or spread of invasive species and/or weeds** • All equipment should arrive to site clean and free of soil and/or vegetation to prevent the introduction and spread of invasive species and weeds. • As approved by applicable landowners, Ontario native seed mixes that are free of weed species should be used for revegetation. Obtain seeds from a local source whenever possible.	**Loss or Alteration of Vegetation** • The Project will result in a temporary, localized loss or alteration of vegetation. • The residual effect is reversible and is isolated to the construction period or to site-specific maintenance during operations. It is anticipated to be low magnitude, short to medium-term in duration, and not significant. **Introduction or Spread of Invasive Species** • No residual effects are anticipated following the implementation of the recommended mitigation measures.

Component	Context/Interaction	Potential Effects	Mitigation Measures	Characterization and Significance of Residual Effects
Wildlife and Wildlife Habitat	• The pipeline will be installed entirely within the existing Imperial Oil ROW. The wildlife habitat features in the Study Area generally occur beyond the existing ROW, and therefore, direct interaction with wildlife is anticipated to be limited. • TWS has been sited to avoid wetlands and woodlands in the Study Area. • Cultural features like outbuildings, barns, hedgerows, and houses may provide habitat for bats and nesting birds; as well, graveled shoulders of the roads could provide habitat to nesting birds, turtles, and reptiles. Areas of unique habitat features may also be associated with designated natural features, including the PSW, ANSIs, and woodland in the Study Area. These areas have the potential to provide cSWH as well as general wildlife habitat. • Vegetation removal during construction may potentially limit or alter wildlife habitat. The removal of vegetation can impact nesting birds if conducted during known breeding bird timing windows (generally between March 15 and August 15 for nesting waterfowl and between April 1 and August 31 for nesting songbirds).	• Alteration of wildlife habitat, disruption of movement, and/or increase in wildlife mortality.	**General Measures** • Flag or fence off nearby natural vegetation communities that should not be disturbed, prior to construction. • Undertake environmental awareness training for all workers onsite to highlight issues specific to the Project. Training should focus on protocols for injured wildlife and the identification of SAR that may be encountered. • All wildlife encountered must be handled by a qualified professional using approved MNR/MECP handling protocols and relocated away from the construction area to prevent incidental harm. • Nuisance and large wildlife encounters or incidents involving wildlife must be reported to the MNR/MECP. • Food waste and debris will be removed from the site daily and disposed of at an approved waste facility to avoid attracting wildlife. • Conduct pre-construction planning that includes a review of the areas of potential habitat. • Minimize the width of the construction area to reduce the amount of vegetation affected. • Suspend construction if active habitat is discovered and an adequate setback distance cannot be maintained. • Maintain habitat connections, where possible, during construction. • Implement measures to restore lost habitat/habitat connections. **Birds** • Abide by regulatory timing windows (generally March 15 to August 15 for waterfowl; April 1 to August 30 for songbirds) and setback distances when vegetation removal is required or when working in or directly adjacent to natural features. • Conduct pre-construction nest sweeps if construction will occur within the migratory bird restricted activity period (March 15 to August 15; April 1 to August 31) in areas with suitable nesting	• The Project may result in the temporary alteration of wildlife habitat, disruption of wildlife movement, and/or increase in wildlife mortality. • The residual effect is reversible and is isolated to the construction period or to site-specific maintenance during operations. It is anticipated to be low magnitude, short to medium-term in duration, and not significant.

Component	Context/Interaction	Potential Effects	Mitigation Measures	Characterization and Significance of Residual Effects

	• No snag trees or large cavity trees are planned for removal. As such, interactions with roosting bats are anticipated to be avoided.
	• The movement of vehicles and equipment has the potential to cause physical harm to slower moving animals like terrestrial frogs, snakes, and turtles when working in areas adjacent to wetland and woodland habitats that may provide breeding habitat, overwintering areas, areas of hibernation (including hibernacula), as well as wildlife movement corridors.
	• Noise or light from construction activities can cause some temporary sensory disturbance to local wildlife, if present in the Study Area.
	• Excavations have the potential to cause physical harm to wildlife that may fall into open pits or trenches, particularly if the excavations are left open overnight.
	• The potential for leaks or spills from Project activities to affect Wildlife And Wildlife Habitat is considered in Accidents and Malfunctions (**Section 8.0**).
			habitat. Nest sweeps are valid for 7 days. It is recommended to clear within 48 hours of nest sweep completion.
			• Protect active nests by flagging or fencing off an appropriate setback distance as determined by a qualified professional.
			• If a nest is found during construction activities, stop work and notify the Environmental Inspector or Imperial Oil designate.
			
			Herptiles
			
			• Abide by regulatory timing windows and setback distances. General timing windows for reptiles are:
			  ○ Turtle active season (when exclusion fencing is required in designated turtle habitat areas) – April 1 to October 31.
			  ○ Turtle nesting period – May 1 to July 15.
			  ○ Turtle hatchling period – August 15 to October 31.
			  ○ Turtle overwintering – October 1 to April 30.
			• If a turtle is encountered on site, stop work and allow the individual to leave the area.
			• Prior to the timing windows for the nesting and breeding season, flag or fence off identified habitat features with dual purpose wildlife exclusion and erosion and sediment control (ESC) fencing. It is recommended that the fence is buried a minimum of 10 to 20 centimetres (cm) below ground with a vertical height of at least 60 cm to effectively exclude turtles from the work areas.
			• Complete wildlife sweeps for turtles migrating to overwintering sites until exclusion fencing is in place at the start and end of the overwintering period.
			• If in-water work is required, a qualified biologist or technician must complete a wildlife salvage from the isolated area prior to and during dewatering where isolated crossing techniques are used. Wildlife salvage activities will need to be conducted in accordance with applicable approvals and minimize harm and stress to wildlife.
			• Release captured wildlife to pre-determined areas of similar or better habitat, where possible, preferably downstream of the work site.	

Component	Context/Interaction	Potential Effects	Mitigation Measures	Characterization and Significance of Residual Effects
			• Complete a wildlife sweep within the exclusion area following fence installation to ensure there is no trapped wildlife. • Visually inspect machinery and/or engine compartments each day during construction for basking reptiles such as snakes.	
Species at Risk	• The Project Study Area was determined as having the potential to support 13 SAR including 6 bird species, 2 vegetation species, 3 bat species, 1 turtle species, and 1 salamander species. • The SAR with potential to occur within the Study Area are associated with the natural communities such as forests, swamps, and meadows. • Impacts related to encroachment into natural features will be further evaluated during detailed design to inform potential permitting and/or registration requirements with the appropriate regulatory agencies (i.e., MECP, ECCC).	• Alteration of SAR habitat, disruption of SAR movement, and/or increase in SAR mortality.	• Implement recommended mitigation measures outlined in the Vegetation and Wildlife and Wildlife Habitat rows of this table. • Abide by the conditions of regulatory permits or approvals when working in areas where there is potential to interact with SAR. • ECCC should be consulted (where appropriate) during detailed design to determine whether species-specific surveys may be required to support potential permitting and/or approvals under the *SARA* for listed species under the *MBCA*. • Provide SAR training and identification sheets to workers that outline habitat, identifying characteristics, and mitigation measures. • Document SAR encounters and notify appropriate regulatory authorities.	• No residual effects are anticipated following the implementation of the recommended mitigation measures.
Socio-Economic Environment				
Land Use Planning	• As demonstrated in **Table 4-4**, the Project is consistent with and conforms to relevant municipal and provincial land use policies. • It is not anticipated that Project activities will have an impact on existing or planned land use as the proposed pipeline will be installed entirely within the existing Imperial Oil ROW. The Project does not require re-zoning of lands and will not	• No adverse effects to planning policies or existing and planned land use are anticipated.	N/A	N/A

Component	Context/Interaction	Potential Effects	Mitigation Measures	Characterization and Significance of Residual Effects
	restrict future development within existing linear infrastructure corridors (beyond their current existing and planned allowable uses). • Imperial Oil will obtain the required approvals and/or land agreements prior to construction and operations. As such, no adverse effects to existing and planned land use are expected to occur as a result of Project activities.			
Population, Employment, and Economic Activities	• The Project is located in a residential area where there is a mix of residential and agricultural lands. Construction activities may affect traffic and/or access to private properties for a short period of time. The Project is not anticipated to have a noticeable impact on business levels due to short-term duration of construction activities and the implementation of appropriate traffic control and access measures. • The Project will employ a small workforce for a short period of time and no permanent jobs will be created or lost as a result of the Project.	• No adverse effects to population, employment, and economic activities are anticipated.	N/A	N/A
Human Occupancy and Resource Use	• The Project is located in a rural setting with agricultural land uses within the community of Flamborough in the City of Hamilton.	• Increase in nuisance noise during construction.	**Nuisance Noise** • Construction activities will be carried out in compliance with municipal noise by-laws with respect to noise and construction equipment.	**Nuisance Noise** • The Project will result in a temporary, localized increase in nuisance noise during construction.

Component	Context/Interaction	Potential Effects	Mitigation Measures	Characterization and Significance of Residual Effects

	• Construction activities may temporarily cause nuisance noise for local residents and commercial businesses.
	• TWS has been sited on private property adjacent to the Imperial Oil ROW, which may temporarily disrupt agricultural activities. During construction, affected landowners may have limited access to certain portions of land to accommodate the TWS over a short period of time.
	• Construction activities also have the potential to crush and/or sever agricultural tile drains. Crushing or severing of drainage tiles is closely related to ground conditions and more likely to occur in wet (versus dry) soil conditions.
	• Visual effects of construction cannot be mitigated; however, they will be short-term and localized.
	• During operations, visual effects of the pipeline will be limited to the presence of above-ground safety signage.
		• Disruption to agricultural activities during construction.	• General noise control measures will be implemented during construction (i.e., proper maintenance of equipment, muffling systems, minimum of equipment and vehicles).
			• If needed, temporary noise barriers (e.g., acoustic walls) will be installed in advance of HDD operations following the completion of a site-specific noise assessment.
			Disruption to Agricultural Activities
			• Work with private landowners to coordinate harvesting/planting schedules with the schedule for construction activities to limit disturbance.
			• Notify affected landowners of the construction schedule and provide construction details in advance of the activity.
			• Consult with the landowners of the agricultural fields to confirm where systematic tile drainage is present. If tile drainage is present, Imperial Oil should undertake standard mitigation during ground disturbance, including:
			  ○ Develop site specific tile plans with an independent tile Contractor.
			  ○ Conduct pre-tilling, and install header tile to maintain tile system function.
			  ○ Mark severed or crushed tile drains immediately.
			  ○ If a tile drain is severed, stop work immediately, maintain field drainage, and prevent flooding of the work and adjacent lands through temporary repairs.
			  ○ Retain a local drainage tile specialist to advise on tile repair where many tiles can be affected and the use of a header is considered.
			  ○ Cap the downstream side of severed drains that cross the excavation to prevent the entry of soil, debris and rodents, as required.
			  ○ Repair damaged and severed drains following construction.
			  ○ After repair and before backfilling, incite the landowner to inspect and approve the repair.
			• Ensure that backfill is properly compacted under repaired tiles and that backfilling is conducted carefully.
				• The residual effect is reversible and is isolated to the construction period. It is anticipated to be low magnitude, short-term in duration, and not significant.
				Disruption to Agricultural Activities
				• No residual effects are anticipated following implementation of the recommended mitigation measures.

Component	Context/Interaction	Potential Effects	Mitigation Measures	Characterization and Significance of Residual Effects
Infrastructure and Services	• The Project is proposed within a rural residential and agricultural area, and the pipeline is proposed to be constructed within the existing Imperial Oil ROW. Construction may cause traffic disruptions (e.g., congestion, or lane closures) impacting traffic flow and access to driveways. • There is potential for farming equipment to be present along Concession 5 Road East, especially during the spring when Project construction is likely to occur and agricultural activities may be commencing for the season. • The Project will result in the creation of hazardous wastes (e.g., pneumatic oils from hydraulic systems, gasoline, and other lubricants and oils) and non-hazardous wastes (e.g., packaging, spent lubricating cartridges, coffee cups) requiring proper storage and disposal.	• Traffic disruptions during construction. • Increase in wastes during construction.	**Traffic Disruptions** • Traffic access will be maintained, where possible, during construction. However, lane closures and traffic detours may be required to allow construction equipment and materials passage. Good management and best practices will be implemented during construction to minimize traffic disruption. • Appropriate signage and flag personnel will be used should detours be necessary. • Consult with City of Hamilton staff to develop an appropriate traffic management plan to assist with maintaining traffic flow. Consult with Emergency Medical Services if temporary detours are required. • Establish a common parking area for construction crews to reduce traffic and better manage parking congestion. The Contractor should be encouraged to transport construction staff to the site from a central collection point via bus or other method to reduce the potential for parking issues and traffic congestion. • Respond to construction complaints promptly. • Develop an appropriate Traffic Control Plan in accordance with Ontario Traffic Manual Book 7 – Temporary Conditions. **Waste Management** • Waste containers shall accompany each working unit. • Do not dispose of waste in excavated areas. • Collect and dispose of solid waste in accordance with applicable regulations at a licensed waste facility. • Hazardous wastes will be transported by MECP licensed waste haulers to MECP registered disposal site(s). • Use secured containers in designated sites away from sensitive areas for temporary waste storage. • Transport, handle, use, and dispose of hazardous materials in accordance with provincial and federal requirements. • Hazardous wastes should be transported by MECP licensed waste haulers to MECP registered disposal site(s). Only	**Traffic Disruptions** • The Project may result in temporary traffic disruptions during construction. • The residual effect is reversible and isolated to the construction period. It is anticipated to be low magnitude, short-term in duration, and not significant. **Waste Management** • No residual effects are anticipated following the implementation of the recommended mitigation measures.

Component	Context/Interaction	Potential Effects	Mitigation Measures	Characterization and Significance of Residual Effects
			approved hazardous waste haulers can be used to dispose of hazardous or liquid industrial waste. • Retain and submit disposal records (e.g., manifests, waybills) to Imperial Oil for any waste types which are directly disposed of from the site.	
Indigenous Community Land and Resource Use	• To date, Indigenous communities consulted on the Project have not identified any specific issues or concerns regarding the impact of the Project on Aboriginal or Treaty Rights or on their use of lands and resources in the Study Area. • Imperial Oil will continue to engage with Indigenous communities throughout the Project and will work with Indigenous communities to address issues or concerns, should they arise.	• No adverse effects on Indigenous community land and resource use are anticipated.	N/A	N/A
Cultural Environment				
Archaeology	• There are two previously registered archeological sites located within the Project footprint that have further cultural heritage value or interest (AiGx-437 and AiGx-438). Pending approval from Indigenous communities and the MCM, Imperial Oil plans to avoid interactions with these registered sites by installing the pipeline under the sites using HDD.	• Disturbance of previously undiscovered archaeological resources during construction.	• Follow the recommendations from the Stage 1 and Stage 2 AAs and any further archaeological studies (e.g., Stage 3 and 4). • Use trenchless construction methods (e.g., HDD) to avoid impacts to the two registered archaeological sites in the Project footprint. • At the two registered archaeological sites, erect temporary fencing along the edge of the 20 m protective buffer to act as a physical and obvious barrier. This area should be treated as a "no-go" zone. All work within the 50 m monitoring buffer must be monitored by a licensed archaeologist to ensure no impacts to the sites occur. • Should previously undocumented (i.e., unknown or deeply buried) archaeological resources be discovered, the person discovering the archaeological resources will notify Imperial Oil. A stop-work procedure will be implemented to immediately	• No residual effects are anticipated following implementation of the recommended mitigation measures.

Component	Context/Interaction	Potential Effects	Mitigation Measures	Characterization and Significance of Residual Effects
			cease alteration of the site, and a licensed consultant archaeologist will be engaged 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 cease all activities immediately and notify the police or coroner. If the coroner does not suspect foul play in the disposition of the remains, in accordance with O. Reg. 30/11 the coroner shall notify the Registrar, Ontario Ministry of Public and Business Service Delivery, which administers provisions of that Act that relate to burial sites. In situations where human remains are associated with archaeological resources, the MCM should be notified (at archaeology@ontario.ca) to ensure that the archaeological site is not subject to unlicensed alterations which would be a contravention of the *Ontario Heritage Act*.	

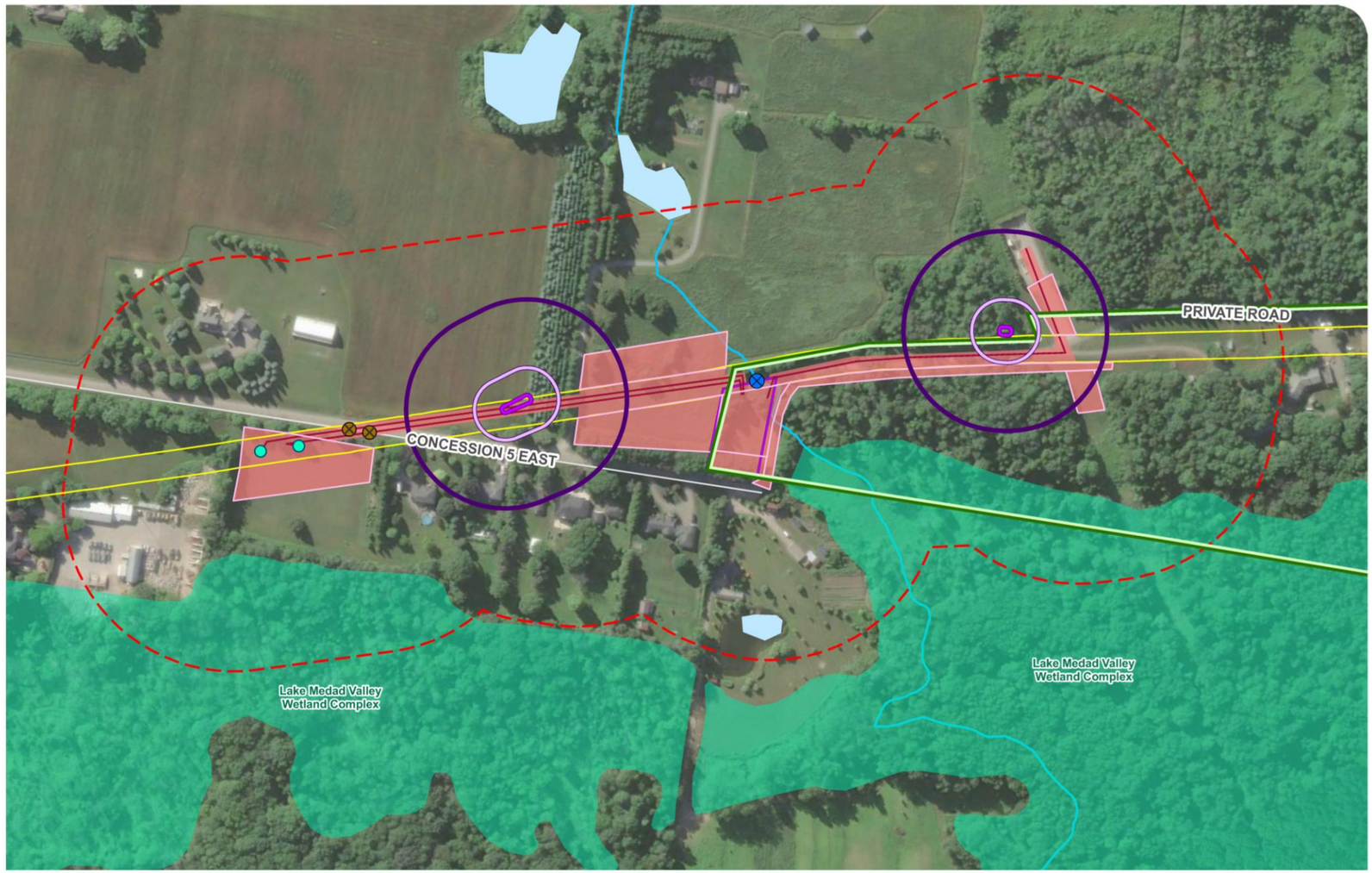
Built Heritage Resources (BHRs) and Cultural Heritage Landscapes (CHLs)	• A preliminary impact assessment was conducted in the Cultural Heritage Report (THMC, 2026b), which concluded:
	  ○ The Project will not have direct or indirect impacts on the identified potential BHRs (BHR-01, BHR-02) within the Study Area.
	  ○ There is potential for the Project to have direct and indirect impacts on one potential CHL (CHL-01) within the Study Area associated with Lake Medad and Medad Valley.
	• Project interactions with the CHL include general construction works (e.g., heavy equipment use, clearing, excavation) which may cause:
		• Disturbance of cultural heritage landscapes during construction.	• A designated construction staging area, within the limits of the identified Project work area, should be determined prior to the commencement of construction activities.
			• Minimize impacts to existing vegetation outside of the Project work area and consider planting vegetation to soften the visual transition after construction is complete.
			• Develop stormwater management plans to appropriately mitigate potential changes to drainage patterns which would adversely affect the CHL.
			• Conduct ongoing ecological monitoring and monitoring of construction activities throughout the duration of construction to ensure the setback from the identified heritage features are respected.
			• If direct and/or indirect impacts to CHL-01 persist during the detailed design phase and the above mitigation measures cannot be implemented, a Heritage Impact Assessment (HIA) should be undertaken by a qualified person as early as possible in the Project, and developed in consultation with, and submitted for review and comment to, MCM and other interested parties (e.g., Indigenous communities, municipal heritage planner and/or municipal heritage committee). The
				• No residual effects are anticipated following implementation of the recommended mitigation measures.

Component	Context/Interaction	Potential Effects	Mitigation Measures	Characterization and Significance of Residual Effects
	○ Removal and/or alteration of vegetation which has the potential to degrade the wooded character of the CHL. ○ Alteration of drainage patterns or local ecology within the CHL.		HIA will address the alternatives and will identify the alternative that best minimizes or mitigates adverse effects on the CHL.	

Figure 6-1: Mitigation Map

See legend for where to apply the following measures:

Note 1: Imperial Oil will develop a Traffic Management Plan to ensure that traffic is maintained while crossings are conducted. Flag persons will be provided as required.
Note 2: No vehicle or equipment refueling is permitted within 30 metres of a watercourse or wetland, unless otherwise approved by Imperial Oil.
Note 3: Erect temporary fencing along the edge of the 20 m protective buffer to act as a physical and obvious barrier. This area should be treated as a "no-go" zone. All work within the 50 m monitoring buffer must be monitored by a licensed archaeologist to ensure no impacts to the site occur.
Suspend work if archaeological, paleontological or heritage sites (e.g., arrowheads, modified bone, pottery fragments, fossils, etc.), and/or human remains are discovered during construction. No work at that particular location shall continue until permission is granted by the applicable provincial authority and Imperial Oil.
Note 4: Follow the mitigation recommendations in the Cultural Heritage Report (**Appendix B**).



Imperial

Tie-in Location
Proposed Pipelines
Imperial Oil Easement
Future Pump Station
Temporary Workspaces (TWS)
Project Footprint
Study Area (125 m)
Local Road
Road Crossing (Note 1)
Watercourse Crossing (Note 2)
Watercourse
Waterbody
Provincially Significant Wetland
Cultural Heritage Landscape (CHL) (Note 4)
Archaeological Site (Note 3)
Location Boundary
20m Protective Buffer
50m Monitoring Buffer

SARNIA PRODUCTS PIPELINE SEGMENTS MITIGATION PROJECT

MITIGATION MAP

FIGURE 6-1

MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR, ESRI

MAP CREATED BY: AEE
MAP CHECKED BY: JD
MAP PROJECTION: NAD 1983 UTM Zone 17N

SCALE 1:3,000

0 37.5 75 150 Metres

DATE: 2026-06-12

FILE LOCATION: K:\2026\26934\Product\Client\ER\ER.aprx: LAYOUT: F6_1_MitigationMap

7.0 Cumulative Effects Assessment

The cumulative effects assessment evaluates the significance of residual effects of the Project (i.e., effects remaining after the application of mitigation) in combination with the effects of other existing or proposed projects or developments. The cumulative effects assessment recognizes that while individual actions may not have a significant effect on the environment, multiple actions of a similar nature that occur over an extended period of time may have a significant effect.

The cumulative effects assessment methods are outlined in **Section 2.1.3**.

7.1 Past, Present, and Reasonably Foreseeable Activities and Disturbances

Past and present activities and disturbances or reasonably foreseeable developments that may occur in the Project area were considered within the spatial and temporal boundaries outlined in **Section 2.1.3**. Future projects considered in the assessment do not include proposed or hypothetical projects where formal plans have not been disclosed.

7.1.1 Past and Present Activities and Disturbances

A review of past and present disturbances within the cumulative effects assessment spatial boundaries provided an understanding of the Project's contribution to the current state of the environment in the context of existing cumulative impacts from successive past and present activities.

In general, existing activities in the Study Area include the following:

- Rural settlement;
- Agricultural activities;
- Utility activities and municipal services and development (power, gas, and water/sewer lines); and
- Transportation and infrastructure development and activities (roads).

7.1.2 Reasonably Foreseeable Developments

The best practices approach described in the Cumulative Effects Assessment Practitioners' Guide (Hegmann et al., 1999) advises inclusion of certain (i.e., actions that

will proceed or have a high probability of proceeding) and reasonably foreseeable (i.e., actions that may proceed, but there is some uncertainty) activities for cumulative effects assessment. The certain and reasonably foreseeable developments and activities identified for the Project adopt this approach, using the following criteria:

- **Certain** – the activity or development will proceed or there is a high probability it will proceed (i.e., the development is either under construction or has been approved); and
- **Reasonably Foreseeable** – the activity or development is expected to proceed (i.e., the development is in the process of obtaining approval and permits, or the proponent has publicly disclosed its intention to seek the necessary approvals to proceed).

Reasonably foreseeable activities and developments included in the assessment were identified as of April 29, 2025.

Sources reviewed included the Canadian Impact Assessment Registry (Impact Assessment Agency of Canada, 2026), Natural Resources Canada Major Projects Inventory (NRCan, 2026b), Investing in Canada Plan Project Map (Infrastructure Canada, 2026), Infrastructure Ontario Projects (Infrastructure Ontario, 2026), Environmental Registry of Ontario (Government of Ontario, 2026a), Access Environment – Environmental Approvals and Registrations interactive map (Government of Ontario, 2026b), Hydro One Major Projects (Hydro One Networks Inc., 2026), Enbridge Major Projects (Enbridge, 2026), Ontario's Highways Programs Interactive Map (Ministry of Transportation, 2026), Ontario's Infrastructure Plan interactive map (Government of Ontario, 2026c), Conservation Halton website (Conservation Halton, 2026b), City of Hamilton Development Projects (City of Hamilton, 2025), City of Hamilton Construction Projects (City of Hamilton, 2026), City of Hamilton Development Applications (City of Hamilton, 2026).

No projects have been identified within the spatial and temporal boundaries for the cumulative effects assessment. Imperial Oil will coordinate construction timing with agricultural activities and any unforeseen developments in the Study Area (e.g., utility or road work) to minimize cumulative effects to the extent feasible.

7.2 Analysis of Cumulative Effects

Based on the past and present activities identified in the Study Area and the low magnitude, short duration of Project residual effects, the potential for cumulative effects is considered limited. The greatest potential interaction with existing activities would be with agricultural operations and the movement of farm equipment on Concession 5 Road East. The Project may result in temporary, isolated, short-term traffic disruptions during construction that may act cumulatively with farm equipment. Residual cumulative effects are anticipated to be negligible following the implementation of mitigation measures.

The contribution of the Project to cumulative effects on the physical, natural, socio-economic and cultural environment is considered negligible at the regional scale. Any residual cumulative effects are anticipated be short to medium-term in duration and reversible, and, therefore, not significant.

8.0 Accidents and Malfunctions

This section provides an overview of potential adverse effects that may result from accidents and malfunctions associated with the Project.

8.1 Accidents and Malfunctions Considered

Accidents and malfunctions are unplanned events that have the potential to result in adverse effects on the environment, should they occur. While the rigorous standards and practices that are in place make accidents or malfunctions unlikely for the Project, the potential consequences are evaluated so that emergency response and contingency planning can be identified to reduce the risk and the severity of the consequences.

Accidents and malfunctions have the potential to occur during all phases of the Project and may include the following:

- Equipment or machinery leaks or other spills;
- Inadvertent return (release of drilling fluid to the surface) during HDD activities; and
- Pipeline failure during operations resulting in the release of product.

Accidents and malfunctions can result from various unplanned events including equipment failure, human error, natural perils, third-party damage, or vandalism. The assessment of accidents and malfunctions takes into account the type, scale, and location of the Project, the characteristics of the product to be transported, sensitivities in the Study Area, and Imperial Oil internal preventative protocols for reducing the likelihood of such events.

Imperial Oil implements several strategies aimed at preventing potential accidents and malfunctions including:

- Maintaining the pipeline with special pipeline coatings and cathodic protection;
- Patrolling the ROW regularly using aircraft, vehicles, and foot patrols; and
- Monitoring the pipeline remotely and through in-line inspections, integrity digs, and leak surveys.

8.1.1 Equipment or Machinery Leaks or Other Spills

Hazardous materials are a component of vehicles, machinery, and construction equipment and some hazardous materials will be stored onsite during the construction period. Potential contaminants associated with the Project may include gasoline, diesel fuel, lubricants, and hydraulic fluids. If equipment is not properly maintained or if hazardous materials are not stored or handled properly, spills may occur.

8.1.2 Inadvertent Return during HDD Activities

HDD construction may be employed in the vicinity of natural or cultural features, such as watercourses or archaeological sites, or to cross under infrastructure like busy streets, railways and intersections.

HDD activities have the potential to result in an inadvertent return of drilling fluid to the surface. This is most likely to occur at the drill entry and exit locations and would likely only affect the terrestrial environment; however, there is the possibility of drilling fluid migration to aquatic ecosystems or a release within an aquatic environment. Controls will be in place to contain a potential inadvertent return and prevent migration to watercourses.

Drilling mud is typically composed of bentonite clay, which is inert and, as such, a release to land or water would be relatively benign. The activities involved in cleaning up an inadvertent return are more likely to cause an adverse effect on the environment, as clean-up may require removal of vegetation and wildlife habitat where it may not have previously been required for construction.

8.1.3 Pipeline Failure during Operations

During operations, the intent of this Project is to maintain safe and reliable operation by reducing the potential for a spill. This is accomplished with on-going monitoring and maintenance of the system as part of the commissioning and operations of the pipeline. Once in operation, the pipeline will be included in Imperial Oil's current operational plans and procedures. This includes Imperial Oil's Emergency Response Plan that will be implemented in response to the unlikely event of a pipeline leak during operation.

8.2 Effects Assessment and Significance

The assessment of potential effects and identification of key mitigation measures for accidents and malfunctions is provided in **Table 8-1.**

Table 8-1: Potential Effects, Mitigation Measures, and Potential Residual Effects of Accidents and Malfunctions

Potential Effect(s)	Project Activity	Spatial Boundary	Mitigation Measures	Potential Residual Effect(s)

Equipment or machinery leaks or other spills resulting in contamination of the surrounding environment	Construction or site-specific maintenance during operations (e.g., integrity digs)	Project footprint	• Equipment and machinery should be kept in good working order and maintained on a regular basis.
			• Follow safe work procedures when working with, or storing, chemicals. Crews should be properly trained in the handling of wastes.
			• Immediately contain and clean up spills in accordance with regulatory requirements and Imperial Oil procedures.
			• Contractor(s) and construction crews should have appropriate spill containment and hazardous material and response training.
			• Implement Imperial Oil's internal protocols for safety, pre-emergency preparedness, and emergency response actions.
			• Appropriate spill kits with absorbent spill clean-up materials must be kept on-site at all times. Any used spill clean-up materials shall be disposed of off-site at an appropriate facility that can accept the waste.
			• Depending on the type/extent and or nature of spill, the following should be contacted:
			  ○ MECP Spills Action Centre at 1-800-268-6060 (out of Province 1-416-325-3000).
			  ○ MECP Pollution 24-hour public hotline at: 1-866-MOE-TIPS (1-866-663-8477).
			  ○ Report emergencies by calling 911 (Emergency Services).
				A release of hazardous materials would be immediately contained and recovered. A release of this nature is expected to be avoided, or effectively mitigated, therefore, no residual effects are predicted.

Inadvertent return during HDD activities resulting in release of drilling fluid affecting terrestrial and/or aquatic ecosystems	Construction of trenchless crossings	Study Area (i.e., 125 m buffer from the Project footprint)	• In the event of an inadvertent return, implement drilling fluid release contingency measures.
			• Appropriate spill kits with absorbent spill clean-up materials must be kept on-site at all times. Any significant spills (spills that have an adverse impact on water or wetland features) shall be reported to the appropriate authorities, including the City of Hamilton, ECCC, DFO, MECP Spills Action Centre, Conservation Halton, and the landowner, as appropriate. All spills shall be contained, cleaned up immediately, and removed from site, wherever feasible, to prevent them from entering into any wetlands or watercourses. Any used spill clean-up materials shall be disposed of off-site at an appropriate facility that can accept the waste.
			• Maintain the minimum following equipment (or equivalent) on-site in sufficient quantities during drilling operation to contain any inadvertent drilling mud releases:
			  ○ Sandbags.
			  ○ Silt soxx.
				Depending on the size of the release, the location (terrestrial or aquatic), and the environmental and socio-economic components that are impacted, the duration of the residual effect may be immediate to long-term, and the magnitude may be low to high. The potential residual effects of a drilling fluid release are reversible with the implementation of remedial measures and residual effects are not likely to be significant.

Potential Effect(s)	Project Activity	Spatial Boundary	Mitigation Measures	Potential Residual Effect(s)
			○ Turbidity curtains. ○ Filter cloth (e.g., silt fence). ○ T-bar posts and post pounders. ○ Straw bales. ○ Numerous 5-gallon pails. ○ Floating sediment boom. ○ Squeegees. ○ Corrugated steel pipes. ○ Shovels. ○ Geotextile material (PE sheeting or equivalent). ○ Pumps complete with sufficient lengths of leak-free hose and suction heads, and cages to prevent fish entry into hoses. ● Maintain vacuum truck(s) on-site during pullback operations. ● Suspend drilling operations immediately if an excessive loss of drilling mud is noted and conduct a detailed examination of the drill path and surrounding area for evidence of a release to the surface. ● If no surface or in-water release is noted, it may be necessary to increase monitoring (terrestrial frac detection and water quality sampling) to ensure early detection while the drill continues. Measures should be taken by the Contractor to establish cause and mitigate for the drilling mud loss.	
Pipeline leak or spill	Operations	Study Area (i.e., 125 m buffer from the Project footprint)	● A Spill Prevention and Response Plan will be developed and implemented for the Project to guide the prevention of spills and response to spills during Project construction. ● Imperial Oil's Emergency Response Plan will be implemented to guide the response to the unlikely event of a pipeline leak/failure during Project operation.	Depending on the size of the leak and the environmental and socio-economic components that are impacted, the duration of the residual effect may be immediate to long-term, and the magnitude may be low to high. Generally, clean-up of a spill is completed within days, however remediation of contaminated materials follows a risk-based approach that can take notably longer. The potential residual effects of a leak are reversible with the implementation of remedial measures and residual effects are not likely to be significant.

8.3 Summary of Residual Effects

The likelihood of a significant residual effect is considered low with the implementation of appropriate preventative and mitigation measures. No significant residual effects from accidents and malfunctions are predicted for the Project.

9.0 Effects of the Environment on the Project

This section identifies the potential effects of the environment on the Project.

Potential effects of the environment on the Project are considered unlikely but may result from environmental conditions such as severe weather events and natural hazards.

Imperial Oil is aware of the range of environmental conditions that may affect the Project, and this knowledge has been incorporated into Project planning, design, and proposed mitigation measures to avoid such effects as best as possible. The pipeline will be constructed and operated in accordance with applicable industry standards (e.g., Canadian Standards Association Standard Z662) and regulatory requirements.

9.1 Environmental Conditions Considered

The following environmental conditions were identified as potentially affecting the Project in the Study Area:

- Severe weather events (heavy or persistent precipitation, extreme temperatures, high winds, or frequent/intense storms [lightning, ice]); and
- Natural hazards (seismic activity, flooding, and wildfires).

9.1.1 Severe Weather Events

Severe weather events are increasingly more common as a result of global climate change. Severe weather events may include heavy or persistent precipitation, extreme temperatures, high winds, or frequent/intense storms. These events may, in turn, lead to natural hazards such as flooding or mass wasting events, depending on the location and circumstances.

9.1.2 Natural Hazards

9.1.2.1 Seismic Activity

Shifting of large sections of the earth's crust (tectonic plates) has the ability to cause severe earthquakes and accounts for over 97% of earthquakes worldwide (NRCan, 2021a). Central and Eastern Canada have a relatively low rate of earthquake activity due

to their location in a stable continental region within the North American Plate. Rather than being caused by the shifting of earth's tectonic plates, seismic activity in this zone appears to be related to regional stress fields with earthquake activity concentrated in areas of crustal weakness (NRCan, 2026a).

The Project is located within the Southern Great Lakes Seismic Zone and is in an area with a low to moderate seismic hazard rating (NRCan, 2026a). Over the past 30 years, three magnitude 2.5 or larger earthquakes have been recorded in the region, while only three magnitude 5 earthquakes (generally the threshold of damage) have been recorded in the 250 years of European settlement in the region, all of which originated in the United States, with no resulting damage in Ontario (NRCan, 2026a).

9.1.2.2 Flooding

The effects of climate change and severe weather, such as heavy or persistent precipitation, can lead to flood events. The Project Study Area is primarily located on agricultural and rural lands (City of Hamilton, 2024b). Existing natural heritage features are distributed throughout the Study Area (see **Section 4.0**), including woodlands, watercourses, and the Lake Medad Valley Provincially Significant Wetland (PSW) Complex, which play an important role in local hydrology.

Stormwater within the City of Hamilton is managed through a combination of natural processes and engineered municipal infrastructure designed to handle runoff from rainfall and snowmelt (City of Hamilton, 2026i). In natural areas, precipitation infiltrates into the ground and replenishes aquifers and wetlands. However, in developed areas, the City utilizes an extensive drainage system to redirect water away from properties (City of Hamilton, 2026i). This infrastructure includes:

- Municipal Drains: Primarily located in rural areas, these include ditches, pipes, or buried tiles that typically discharge towards Hamilton Harbour, Lake Ontario, or the Grand River;
- Stormwater Management Ponds: Man-made infrastructure used to collect and settle runoff; and
- Separated Sewer Systems: Found in newer parts of the City, including Waterdown, these systems release collected water directly to the environment and are designed to handle excess volumes during heavy rain or rapid snowmelt.

In contrast, older parts of the City utilize a combined sewer system designed with nine large overflow tanks to store excess water during rain events (City of Hamilton, 2026h). These tanks only overflow into the harbour once capacity is reached, preventing widespread flooding in urban areas. While rural areas have fewer impervious surfaces than urban centers, they still contribute to runoff during storms that can negatively impact receiving creeks. Consequently, the management of drainage from roadways and driveways is a critical service for all property owners (City of Hamilton, 2026i). To increase transparency, the City has provided a live map of combined sewer overflow events, updated every 15 minutes, since Spring 2020 (City of Hamilton, 2026h).

Conservation Halton maintains a flood forecasting, management, and operations program to reduce risks associated with extreme rainfall and snowmelt (Conservation Halton, n.d.). This program integrates prevention, prediction, and protection by:

- Coordinating with municipal partners to support sustainable development;
- Continuously monitoring weather and watershed conditions, providing real-time data on air and water temperatures and precipitation; and
- Maintaining four major flood control dams and over 12 km of flood channels. This includes the Hager-Rambo channel, located approximately 7 km southeast of the Study Area, which is designed to move water quickly into Lake Ontario.

To further mitigate these risks, the City of Hamilton developed the Climate Change Impact Adaptation Plan. This evidence-informed, action-oriented plan aims to minimize the impacts of climate change on residents, businesses, and infrastructure, with a specific focus on protecting the most vulnerable populations (City of Hamilton, 2024a).

9.1.2.3 Wildfires

The City of Hamilton is located outside of the Fire Region (Government of Ontario, 2026b) therefore, wildfires are not common. However, wildfire season occurs between April and October each year in Canada, producing notable amounts of smoke which can be carried thousands of kilometres from the fire zone (City of Hamilton, 2026b). Although many policies, programs, and campaigns in the City have led to improved air quality, climate change can cause it to worsen by increasing the amount and size of wildfires and altering other weather patterns, leading to higher amounts of harmful pollutants (City of Hamilton, 2026b).

9.2 Effects Assessment and Significance

The assessment of effects of the environment on the Project is provided in **Table 9-1.**

Table 9-1: Potential Effects, Mitigation Measures, and Potential Residual Effects of Effects of the Environment on the Project

Potential Effect(s)	Project Activity	Spatial Boundary	Mitigation Measures	Potential Residual Effect(s)
Severe weather events (i.e., heavy, or persistent precipitation, extreme temperatures, high winds, or frequent/intense storms [lightning, ice]) and natural hazards (i.e., seismic activity, flooding, wildfires) may affect the Project in the following ways: • Delay the Project schedule. • Damage construction equipment. • Increase safety concerns for workers during construction. • Damage the operating pipeline.	Construction and Operations	Project footprint and Study Area	• Notify the Environmental Inspector in the event identified mitigation measures are ineffective at avoiding or reducing environmental effects or if alternative measures to address environmental issues are warranted due to site or weather conditions. • Postpone work during severe weather events and/or during high-risk air quality events that may pose a hazard to safety and/or result in damage to Project infrastructure and equipment. • Design and construct the pipeline in accordance with all applicable industry standards (e.g., Canadian Standards Association Standard Z662). • Conduct regular monitoring during operations and maintenance in accordance with regulatory requirements.	With the implementation of mitigation measures, no residual effects are predicted due to effects of the environment on the Project.

9.3 Summary of Residual Effects

The likelihood of a significant residual effect on the Project is considered low with the implementation of appropriate preventative and mitigation measures. No significant residual effects due to severe weather events or natural hazards are predicted for the Project.

10.0 Inspection and Monitoring Recommendations

It is Dillon's recommendation that Imperial Oil employ the services of an Environmental Inspector to be present as needed during the construction of the Project. The Environmental Inspector will provide inspection of Contractor environmental mitigation measures and respond to other environmental issues that may develop during construction. The Environmental Inspector should be familiar with pipeline construction techniques, the OEB Guidelines, and the implementation of the mitigation recommendations in this ER.

The primary objective of environmental inspection is to determine the effectiveness of mitigation measures (and modify as needed), inspect the construction site and determine compliance with applicable environmental legislation, regulations, industry standards, and Project permit conditions, including any notification requirements or conditions set by the OEB. Standard conditions of approval set by the OEB may include:

- Requirements to notify the OEB of any material changes in construction or restoration procedures;
- Notifying the OEB of the expected in-service date, actual in-service date, and completion of construction;
- Filing post-construction and final monitoring reports; and
- Applying a landowner complaint tracking system.

The primary objective of environmental monitoring during construction is to monitor the environment to identify adverse effects and to verify that the construction site is returned to pre-construction conditions as soon as possible. The purpose of post-construction monitoring is to ascertain the success of the restoration effort and mitigation measures. The knowledge gained from inspection and monitoring can be used in future projects to avoid or minimize similar problems that may arise.

10.1 Pre-Construction

A number of activities should be undertaken prior to construction, including:

- Acquisition of necessary permits and approvals;

- Environmental training for the Contractor. This usually occurs with the Construction Manager and Project Supervisor. The purpose of the training is to educate the construction crew on the key components of the Project, including the location of sensitive environmental features and associated mitigation measures including SWH, areas of ecological significance, SAR, wetlands, watercourses, and working within residential areas. Other areas of concern along the ROW are also reviewed in the field at this time; and
- A pictorial record of conditions is compiled to compare restoration efforts with pre-construction conditions.

10.2 Construction

10.2.1 Environmental Inspectors and Monitors

The Environmental Inspector's responsibilities will be to monitor construction with respect to the mitigation and monitoring recommendations outlined in this report, and monitor that construction activities are carried out in compliance with permit conditions.

Environmental Monitors (typically Qualified Professionals) should be used as needed during construction (e.g., handling wildlife).

A licensed archaeologist or heritage specialist may be required to monitor work in sensitive heritage resource areas, if identified in the archaeology and cultural heritage assessments completed for the Project.

10.2.2 Spill Contingency Plan

A contingency plan for accidental spills should be developed. At a minimum, there should be spill kits on site and a telephone number posted for the MECP Spills Action Centre (1-800-268-6060), which will be reported by Imperial Oil in the event of a spill. The Environmental Inspector will be trained in Imperial Oil's spill response protocols and should impart this training at the pre-construction meeting.

10.2.3 Restoration Plan

Areas disturbed by Project construction will be restored to pre-construction conditions. In general, successful restoration will be defined as achieving a final site condition that is similar to a representative area off the Project footprint.

The objectives of Project restoration and criteria for assessing restoration success are provided in **Table 10-1.**

Table 10-1: Project Restoration Objectives and Criteria

Restoration Objective	Restoration Criteria
Remove all garbage and construction material from the Project footprint	All materials brought to the Project footprint are removed following final site clean-up and reclamation (e.g., garbage, matting, fencing, gravel, etc.).
Return landscape to pre-construction condition	Pre-construction surface drainage is restored (e.g., no low-lying or wet areas are left on agricultural fields).
	No rutting, compaction, ponding, or subsidence is observed in areas outside the ROW (e.g., at TWS).
Achieve soil stability in areas outside of the road ROW	No large bare areas are observed.
	Species composition is consistent with the surrounding representative area.
	Average desirable vegetation density is comparable to the surrounding representative area.
	Overall vegetation health is similar to the surrounding representative area.
No increased presence of weeds and/or invasive vegetation.	Weeds and/or invasive species represent the species composition observed in the surrounding representative area.

Following the completion of site reclamation activities, Imperial Oil will conduct post-construction monitoring in accordance with the OEB Guidelines (see **Section 10.3**, below) to determine if remedial measures are warranted to meet the Project restoration objectives. It is anticipated that not all restoration criteria outlined in

Table 10-1 will be met by the time the first post-construction monitoring report is due to the OEB, and that some residual effects may be present in the short-term (e.g., vegetation loss).

10.3 Post-Construction

In order to assess the effectiveness of restoration programs within the ROW used for pipeline construction, environmental monitoring reports will be prepared as required per the Conditions of Approval. As per OEB Guidelines, a Post-Construction Monitoring Report is typically required within 3 months after the in-service date, while a Final Monitoring Report is to be prepared no later than 15 months after the in-service date, or, where the deadline falls between December 1 and May 31, the following June 1.

10.3.1 Post-Construction Report

A Post-Construction Monitoring Report for the Project would follow the outline provided below, as presented in the OEB Guidelines.

- Provide a certification, by a senior executive of the company, that the applicant constructed the facilities and restored the land in accordance with the OEB's Decision and Order;
- Describe any impacts and outstanding concerns identified during construction;
- Describe the actions taken or planned to be taken to prevent or mitigate any identified impacts of construction;
- Include a log of all complaints received by the applicant, including the date and time the complaint was received, a description of the complaint, any actions taken to address the complaint, and the rationale for taking such actions; and
- Provide a certification, by a senior executive of the company, that the company has obtained all other approvals, permits, licenses, and certificates required to construct, operate, and maintain the proposed project.

10.3.2 Final Monitoring Report

A Final Monitoring Report for the Project would follow the outline provided below, as presented in the OEB Guidelines.

- Provide a certification, by a senior executive of the company, that the applicant implemented all the recommendations of the ER filed in the proceeding, and all the recommendations and directives identified by the Ontario Pipeline Coordinating Committee review;
- Describe the condition of any rehabilitated land;
- Describe the effectiveness of any actions taken to prevent or mitigate any identified impacts of construction;
- Include the results of analyses and monitoring programs and any recommendations arising therefrom; and
- Include a log of all complaints received by the applicant, including the date and time the complaint was received; a description of the complaint; any actions taken to address the complaint; and the rationale for taking such actions.

The Final Monitoring Report would address any potential cumulative effects which may arise, such as reduced soil productivity, land use restrictions due to increased easement widths or rezoning, additional above ground facilities, or repeated construction through sensitive areas.

11.0 Summary and Conclusions

The Study involved undertaking an inventory of physical, natural, socio-economic, and cultural features within a defined Study Area. This information was used to produce maps identifying features that could be impacted by Project construction and operation. The Preferred Route is sited entirely within the existing Imperial Oil ROW, which reduces potential adverse effects to the surrounding environment.

Mitigation measures were recommended to reduce potential adverse effects to the environment. These recommendations are anticipated to effectively protect the physical, natural, socio-economic, and cultural features within the Project footprint and Study Area. The mitigation recommendations contained in this report, along with Imperial Oil's construction policies, should be included in contract specifications. Development of environmental training for the Contractor, and use of a qualified Environmental Inspector will help to increase the likelihood that the Project is constructed in an environmentally responsible manner.

Lastly, conducting post-construction monitoring and preparing Post-Construction and Final Monitoring Reports will assist with determining the success of reclamation measures and flag any areas requiring additional work to bring the area back to its pre-construction conditions.

With the implementation of the mitigation measures recommended in this report, Project construction and operation are not likely to result in significant adverse effects on the environment.

12.0 References

Access Environment. 2026. *Environmental Approvals and Registrations Interactive Map*. Retrieved from: https://www.lioapplications.lrc.gov.on.ca/Access_Environment/index.html?viewer=Access_Environment.AE&locale=en-CA. Accessed May 6, 2026.

Agriculture and Agri-Food Canada. 2013. *Overview of Classification Methodology for Determining Land Capability For Agriculture*. https://sis.agr.gc.ca/cansis/nsdb/cli/classdesc.html. Accessed March 2026.

Agriculture and Agri-Food Canada. 2021. *Interactive Maps – Canada Land Inventory*. https://sis.agr.gc.ca/cansis/publications/webmaps.html. Accessed March 2026.

Air Quality Ontario. 2026. *Burlington: Station Information*. Retrieved from: https://www.airqualityontario.com/history/station.php?stationid=44008. Accessed March 2026.

AllTrails.com. 2026. *Explore and Discover Trails Nearby*. Retrieved from: https://www.alltrails.com/explore. Accessed May 6, 2026.

Armstrong, D.K. and Carter, T.R. 2010. *The subsurface Paleozoic stratigraphy of southern Ontario*. Ontario Geological Survey, Special Volume 7, 301pp.

Armstrong, D.K. and Dodge, J.E.P. 2007. *Paleozoic Geology Map of Southern Ontario*. Ontario Geological Survey, Miscellaneous Release – Data 219.

Birds Canada. 2023. *The 123rd Christmas Bird Count*.

Cadman, M.D., D.A. Sutherland, G.G Beck, D. Lapage and A.r. Couturier. 2008. *Atlas of Breeding Birds of Ontario*. Bird Studies Canada.

Canada, Government of. 2024. *Labour Market Information - Retail Trade*. Retrieved from: https://www.on.jobbank.gc.ca/trend-analysis/job-market-reports/ontario/sectoral-profile-retail-trade. Accessed April 22, 2025.

Canada, Government of. 2025. *Greenhouse Gas Reporting Program – Facility Greenhouse Gas Data*. Retrieved from: https://climate-change.canada.ca/facility-emissions/GHGRP-G10091-2023.html

https://open.canada.ca/data/en/dataset/a8ba14b7-7f23-462a-bdbb-83b0ef629823. Accessed May 2025.

Canada, Government of. 2026a. *Retail Trade (NAICS 44-45): Ontario, 2025*. Retrieved from: https://www.jobbank.gc.ca/trend-analysis/job-market-reports/ontario/sectoral-profile-retail-trade. Accessed April 2026.

Canada, Government of. 2026b. *Natural Resources Canada Major Projects Inventory*. Retrieved from: https://natural-resources.canada.ca/science-data/data-analysis/major-energy-natural-resources-projects-inventory. Accessed May 6, 2026.

Chapman, L.J. and D.F. Putnam.t a 1984. *The Physiography of Southern Ontario, 3rd Edition*. Ontario Geological Survey, Special Volume 2. 270 pp.

Chapman, L.J. and D.F. Putnam. 2007. *Physiography of Southern Ontario*. Miscellaneous Release – Data 228. Ontario Geological Survey.

City of Hamilton. 2013. *ROW utility installation and permit manual: Appendix S - Classification of city streets*. Public Works Department, Engineering Services.

City of Hamilton. 2022. *2021 Census: Population and Occupied Private Dwellings by Community, 2001-2021*. Planning and Economic Development Department. Retrieved from: https://www.hamilton.ca/sites/default/files/2023-09/2021-census-population-occupied-private-dwellings-community-2001-2021.pdf. Accessed May 11, 2026.

City of Hamilton. 2023. *City of Hamilton Hosts Economic Summit on the Steel Industry*. Retrieved from: https://www.hamilton.ca/city-council/news-notices/news-releases/city-hamilton-hosts-economic-summit-steel-industry. Accessed April, 2026.

City of Hamilton. 2024a. *Hamilton's Climate Change Impact Adaptation Plan*. Retrieved from: https://www.hamilton.ca/home-neighbourhood/environmental-stewardship/environmental-plans-strategies/hamiltons-climate-1. Accessed May 6, 2026.

City of Hamilton. 2024b. *Rural Hamilton Official Plan*. Retrieved from: https://www.hamilton.ca/build-invest-grow/planning-development/official-plan/rural-hamilton-official-plan. Accessed May 6, 2026.

City of Hamilton. 2025. *People & programs*. Retrieved from: https://www.hamilton.ca/people-programs. Accessed May 11, 2026.

City of Hamilton. 2026a. *Adults 55+ Services*. Retrieved from: https://www.hamilton.ca/people-programs/adults-55-services. Accessed May 6, 2026.

City of Hamilton. 2026b. *Air Quality in Hamilton*. Retrieved from: https://www.hamilton.ca/people-programs/public-health/environmental-health-hazards/air-quality-hamilton. Accessed May 6, 2026.

City of Hamilton. 2026c. *Construction in Your Area*. Retrieved from: https://www.hamilton.ca/build-invest-grow/construction-renovation/construction-your-area. Accessed May 6, 2026.

City of Hamilton. 2026d. *Development Applications*. Retrieved from: https://open.hamilton.ca/datasets/development-applications-1. Accessed May 6, 2026.

City of Hamilton. 2026e. *Development Projects*. Retrieved from: https://www.hamilton.ca/people-programs/cityhousing-hamilton/development-revitalization/development-projects. Accessed May 6, 2026.

City of Hamilton. 2026f. *Home & neighbourhood*. Retrieved from: https://www.hamilton.ca/home-neighbourhood. Accessed May 11, 2026.

City of Hamilton. 2026g. *Road Classification and Right-of-Way Study*. Retrieved from: https://www.hamilton.ca/city-council/plans-strategies/master-plans-studies/road-classification-and-right-way-study. Accessed May 6, 2026.

City of Hamilton. 2026h. *Sewer systems*. Retrieved from: https://www.hamilton.ca/home-neighbourhood/water-wastewater-stormwater/wastewater-collection-treatment/sewer-systems. Accessed May 6, 2026.

City of Hamilton. 2026i. *Stormwater Management*. Retrieved from: https://www.hamilton.ca/home-neighbourhood/water-wastewater-stormwater/stormwater-management. Accessed May 6, 2026.

City of Hamilton. n.d. *Story Map Series*. Retrieved from: https://spatialsolutions.hamilton.ca/storymaps/index.html?appid=032433adab93475fb2c54a176235ceb7. Accessed May 6, 2026.

Coleman, J. 2022, February 14. *Census 2021 Hamilton: Population Growth in Downtown, Binbrook, Upper Stoney Creek, Waterdown*. TPR Hamilton. https://thepublicrecord.ca/2022/02/census-2021-hamilton-population-growth-in-downtown-binbrook-upper-stoney-creek-waterdown/.

Conservation Halton. n.d. *Natural Hazards*. Retrieved from: https://www.conservationhalton.ca/natural-hazards/. Accessed May 6, 2026.

Conservation Halton. 2026a. *Watersheds*. Retrieved from: https://www.conservationhalton.ca/watersheds/. Accessed April 2026.

Conservation Halton. 2026. *Our Projects*. Retrieved from: https://www.conservationhalton.ca/. Accessed April 2026.

Cornell Lab of Ornithology. 2025. *Species occurrence records (eBird)*. Retrieved from: https://ebird.org/home. Accessed May 2025.

Dobbyn J.S. 1994. *Atlas of the Mammals of Ontario*. Federation of Ontario Naturalist.

Doors Open Ontario. 2026. *Doors Open Ontario: Hamilton*. Retrieved from: https://www.doorsopenontario.on.ca/pages/events/hamilton. Accessed May 6, 2026.

Enbridge Gas. 2026. *Projects*. Retrieved from: https://www.enbridgegas.com/about-enbridge-gas/projects. Accessed May 6, 2026.

Environment and Climate Change Canada (ECCC). 2025a. *Canadian Climate Normals*. Retrieved from: https://climate.weather.gc.ca/climate_normals/index_e.html. Accessed April 2025.

Environment and Climate Change Canada (ECCC). 2025b. *Canadian Climate Normals – Hamilton (Airport)*. Retrieved from: https://climate.weather.gc.ca/climate_normals/results_1991_2020_e.html. Accessed March 2026.

Environmental Registry of Ontario. 2026. *Map*. Retrieved from: https://ero.ontario.ca/map. Accessed May 6, 2026.

Fisheries and Oceans Canada (DFO). 2024. *Recovery Strategy and Action Plan for the Redside Dace (Clinostomus elongatus) in Canada*. Accessed May 2025.

Flamborough Archives and Heritage Society. 2024. *The Smokey Hollow Industrial Site, Waterdown.* Retrieved from: https://www.flamboroughhistory.com/the-smokey-hollow-industrial-site-waterdown/. Accessed April 2026.

Flamborough Connects. 2024. *Flamborough community guide 2024-2025*. [Brochure]. Retrieved from: https://flamboroughconnects.ca/resources/flamborough-community-guide/.

Flamborough Connects. n.d. *Health Care Options*. Retrieved from: https://flamboroughconnects.ca/resources/health-care-options/. Accessed May 6, 2026.

Gao, C., Shirota, J., Kelly, R.I., Brunton, F.R. and van Haaften, S. 2006. *Bedrock topography and overburden thickness mapping, southern Ontario*. Ontario Geological Survey, Miscellaneous Release—Data 207.

Great Canadian Entertainment. 2026. *Flamboro Downs*. Retrieved from: https://greatcanadian.com/racing/flamboro-downs/. Accessed May 6, 2026.

Government of Ontario. 2026a. *Environmental assessment projects by category*. Retrieved from: http://www.ontario.ca/page/environmental-assessment-projects-category. Accessed May 6, 2026.

Government of Ontario. 2026b. *Forest fires*. https://www.ontario.ca/page/forest-fires

Hegmann, G., et al. 1999. *Cumulative Effects Assessment Practitioners Guide*. Prepared for the Canadian Environmental Assessment Agency. Hull, QC.

Henson and Brodribb. 2005. *Great Lakes Conservation Blueprint for Terrestrial Biodiversity Volume 2: Ecodistrict Summaries*. Accessed May 2025.

Housing, Infrastructure and Communities Canada. 2026. *Housing and Infrastructure Project Map*. Retrieved from: https://housing-infrastructure.canada.ca/gmap-gcarte/index-eng.html. Accessed May 6, 2026.

Hydro One Networks Inc. 2026. *Major Projects*. Retrieved from: https://www.hydroone.com/about/corporate-information/major-projects. Accessed May 6, 2026.

Impact Assessment Agency of Canada. 2026. *Canadian Impact Assessment Registry Search*. Retrieved from: https://iaac-aeic.gc.ca/050/evaluations/exploration?active=true&showMap=true&document_type=project. Accessed May 6, 2026.

iNaturalist. 2025. *Species occurrence records*. Retrieved from: https://www.inaturalist.org/. Accessed May 2025.

Infrastructure Ontario. 2026. *Project Search*. Retrieved from: https://www.infrastructureontario.ca/en/what-we-do/projectssearch/. Accessed May 6, 2026.

Invest in Hamilton. 2026a. *Insights & data: Economy*. Retrieved May 6, 2026, from https://investinhamilton.ca/insights-data#economy

Invest in Hamilton. 2026b. *Educational Institutions*. Retrieved from: https://investinhamilton.ca/workforce/educational-institutions. Accessed May 6, 2026.

Lawrence, D.P. 2007. Impact significance determination – Back to basics. *Environmental Impact Assessment Review* 27: 755-769.

Lee, H., et al. 1998. *Ecological Land Classification for Southern Ontario: First Approximation and Its Application*. SCSS Field Guide FG-02. Accessed May 2025.

Lee, H. 2008. *Ecological Land Classification for Southern Ontario: Second Approximation*.

Metrolinx. 2026, February 12. *CPG (rapid transit) state of the network: FY 2025/26 Q3*. [Report]. Andrew Hope, Chief Capital Officer (Rapid Transit).

Ministry of Citizenship and Multiculturalism. 2011. *Standards and Guidelines for Consultant Archaeologists*. Toronto.

Ministry of the Environment, Conservation and Parks (MECP). 2023. *2021 Technical Rules Under the Clean Water Act*. Accessed May 2025.

Ministry of Municipal Affairs and Housing (MMAH). 2017. *Greenbelt Plan*. Accessed May 2025.

Ministry of Municipal Affairs and Housing (MMAH). 2024. *Provincial Planning Statement*. Accessed April 2025.

Ministry of Natural Resources (MNR). 2000. *Significant Wildlife Habitat – Technical Guide*. Accessed April 2025.

Ministry of Natural Resources (MNR). 2023. *Aquatic Resource Area Survey Point*. Accessed May 2025.

Ministry of Natural Resources (MNR). 2024a. *Natural Heritage Information Centre database*. Accessed May 2025.

Ministry of Natural Resources (MNR). 2024b. *Geospatial Ontario*. Accessed May 2025.

Ministry of Natural Resources (MNR). 2025a. *Ontario Hydro Network – Watercourse*. Accessed April 24, 2025.

Ministry of Natural Resources (MNR). 2025b. *Significant Wildlife Habitat ecoregional criteria schedules: Ecoregion 6E*.

Ministry of the Environment, Conservation and Parks (MECP). 2024. *Environmental Site Registry*. Retrieved from: https://www.lioapplications.lrc.gov.on.ca/Access_Environment/index.html?viewer=Access_Environment.AE&locale=en-CA. Accessed April 2026.

Ministry of the Environment, Conservation and Parks (MECP). 2025a. *Air Quality in Ontario 2023 Report*. Accessed March 2026.

Ministry of the Environment, Conservation and Parks (MECP). 2025b. *National Air Quality Management System*. Accessed April 2025.

Ministry of the Environment, Conservation and Parks (MECP). 2025c. *Well Records Database*. Accessed March 2026.

Ministry of the Environment, Conservation and Parks (MECP). 2026. *Source Protection Information Atlas*. Retrieved from: https://www.lioapplications.lrc.gov.on.ca/SourceWaterProtection/index.html?locale=en-CA&viewer=SourceWaterProtection.SWPViewer. Accessed March 2026.

Ministry of Transportation (MTO). 2026. *Ontario's highway programs*. Retrieved from: http://www.ontario.ca/page/ontarios-highway-programs. Accessed May 6, 2026.

Ministry of Tourism and Culture (MTC; now Ministry of Citizenship and Multiculturalism). 2011. *Standards and Guidelines for Consultant Archaeologists*. Toronto: Queen's Printer for Ontario.

Municipal511. 2026. *Municipal511*. Retrieved from: https://www.municipal511.ca/?installationIndex=0. Accessed May 6, 2026.

Natural Resources Canada (NRCan). 2026. *Earthquake zones in Eastern Canada*. Natural Resources Canada. Retrieved from: https://www.seismescanada.rncan.gc.ca/zones/eastcan-en.php#SGLSZ. Accessed May 6, 2026.

Natural Resources Canada (NRCan). 2026a. *Natural Resources Canada Major Projects Inventory*. Retrieved from: https://www.nrcan.gc.ca/science-and-data/data-and-analysis/major-projects-inventory/22218. Accessed April 2026.

Nature Serve. 2007. *Mammals of the Western Hemisphere v.3.0*.

Ontario Builds. 2026. *Ontario's Infrastructure Plan interactive map*. Retrieved from: http://www.ontario.ca/page/building-ontario. Accessed May 6, 2026.

Ontario Energy Board (OEB). 2023. *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition*.

Ontario Geological Survey (OGS). 2010. *Surficial geology of southern Ontario*. Miscellaneous Release— Data 128 – Revised.

Ontario Geological Survey (OGS). 2011. *1:250 000 scale bedrock geology of Ontario*. Miscellaneous Release–Data 126 - Revision 1.

Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA). 2022. *Agricultural Land Evaluation System (ALES) methodology*. Accessed March 2026.

Ontario Nature. 2024a. *Ontario Reptile and Amphibian Atlas*. Accessed May 2025.

Ontario Nature. 2024b. *Dragonfly and Damselfly Guide*. Accessed May 2025.

Prange, S., et al. 2004c. Influences of anthropogenic resources on raccoon movements and spatial distribution. *Journal of Mammalogy* 85:483-490.

Statistics Canada. 2025. (table). *Hamilton, City (C), Ontario [Census subdivision], Census Profile*. 2021 Census of Population. Statistics Canada Catalogue no. 98-316-X2021001. Ottawa. Released November 15, 2023. https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/page.cfm?Lang=E&Dguid=2021S0503537. Accessed May 6, 2026.

Swift, T. L. and Hannon, S. J. 2010. Critical thresholds associated with habitat loss: a review of the concepts, evidence, and applications. *Biological Reviews*, 85: 35-53.

TMHC Inc. 2026a. *Stage 1 Archaeological Assessment SPPL Segments Mitigation Project, Segment 2, City of Hamilton.* PIF No: P324-1047-2026.

TMHC Inc. 2026b. *Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment Sarnia Products Pipeline Segment Mitigations Project, Segment 2, City of Hamilton.* Project No: 2025-630.

Toronto Entomologists Association. 2024. *Ontario Butterfly Atlas Online*. Accessed May 2025.

Treasury Board of Canada Secretariat. 2025. *Federal Contaminated Sites Inventory – Map Navigator*. Accessed March 2026.

Waterdown Village. 2026. *About*. Retrieved from: https://waterdownvillage.ca/about/. Accessed May 6, 2026.

Ontario Ministry of the Environment, Conservation and Parks. 2014. *Ontario's parks and protected areas*. Government of Ontario. https://www.ontario.ca/page/ontarios-parks-and-protected-areas. Accessed.

Appendix A

Stage 1 and 2 Archaeological Assessment Reports

Stage 1 Archaeological Assessment
SPPL Segments Mitigation Project
Segment 2
City of Hamilton
Part of Lots 2 and 3, Concession 5 and Lots 2 and 3, Concession 4
Geographic Township of East Flamborough
Wentworth County, Ontario

Original Report

Submitted to:
Ministry of Citizenship and Multiculturalism

Prepared for:
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PIF No:	P324-1047-2026
Project No:	2025-655
Dated:	June 4, 2026

EXECUTIVE SUMMARY

In 2026, TMHC Inc. (TMHC) was contracted by Dillon Consulting Limited (Dillon) on behalf of Imperial Oil Limited (Imperial) to conduct a Stage 1 archaeological assessment for Segment 2 of the Sarnia Products Pipeline (SPPL) Segments Mitigation Project in the City of Hamilton, Ontario. The SPPL Segments Mitigation Project consists of three segments, including Segment 2, the new Millgrove Pump Station.

The Stage 1 archaeological assessment of the Project Area will include a 50 m buffer around the pumping station footprint (including construction, gravel containment, access, and service work areas) and the associated tie-in pipelines. The archaeological assessment was required in partial fulfillment of leave-to-Construct (LTC) heritage requirements under the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Projects and Facilities in Ontario,* 8th ed. 2023. The purpose of the assessment was to determine whether there was potential for archaeological resources to be present 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. According to the map-based review and background research, the majority of the Project Area exhibits potential for the discovery of archaeological sites due to proximity (within 300 m) to:

- a water source (tributary of Grindstone Creek and associated wetlands);
- previously registered archaeological sites (AiGx-437, AiGx-438, and AiGx-440);
- 19th-century thoroughfares (Concession 5 East, Beeforth/Robson Road, and Milburough Line); and,
- a mapped 19th-century structure (David Charp homestead).

The Stage 1 background research determined that portions of the Project Area have been previously assessed and do not require further assessment, while also indicating that portions of the Project Area have witnessed prior disturbance and lack integrity. This disturbance primarily relates to the construction of Concession 5 East, built structures fronting the roadway and associated driveways, a paved yard, and the existing gas main. Other areas of low archaeological potential, based on mapping, are low lying and wet lands associated with Grindstone Creek and its tributary. The remainder of the Project Area is comprised of manicured lawns, grassed lands that are lightly treed, woodlot, and portions of agricultural fields, all of which appear to retain archaeological potential and require further assessment. Two previously registered archaeological sites are present within the Project Area, and will require further archaeological assessment, should impacts be proposed for the site location.

Based on the Stage 1 background research and map review, the following recommendations apply:

- Previously Assessed Areas:
    - For the lands within the Project Area that were previously subject to Stage 2 assessment using methodologies in keeping with the 2011 *Standards and Guidelines for Consultant Archaeologists* ("*Standards and Guidelines*") and for which there are no outstanding archaeological concerns, no further assessment is required (3.01 ha; 22.8%).
- Areas of Low Archaeological Potential:

  - Areas of previous disturbance (e.g., building footprints and existing roads or laneways; 0.8 ha; 6.1%), as well as low-lying and wet areas (0.73 ha; 5.5%) are considered to have low archaeological potential.
  - As a field inspection was not conducted as part of this study, areas of low archaeological potential within the Project Area will need to be confirmed and photo-documented at the time of Stage 2 survey (MTC 2011:28; Section 2.1.2).
- Stage 2 Methodologies:
  - in keeping with the provincial standards, the ploughable areas (1.64 ha; 12.4%) must be subject to a pedestrian survey at a 5 m interval following Section 2.1.1 of the *Standards and Guidelines* (MTC 2011). The field must be ploughed to achieve 80% visibility and weathered prior to assessment.
  - in keeping with the provincial standards, the non-ploughable areas (e.g., manicured lawn, grassed, meadow and wooded areas; 6.34 ha; 48.0%) must be subject to test pit assessment at a 5 m transect interval following Section 2.1.2 of the *Standards and Guidelines* (MTC 2011).
- There are two previously registered archaeological sites located within the Project Area that have further cultural heritage value or interest (CHVI) (0.7 ha; 5.3%). It is recommended that these areas be avoided, if possible. If this is not possible, further archaeological assessment is required. Should impacts be proposed at the location of these sites, the following site-specific recommendations apply:
  - AiGx-437 is a small Woodland period site consisting of three artifacts recovered during pedestrian survey. If AiGx-437 is anticipated to be impacted by construction, the methodology for the Stage 3 assessment should follow Section 3.2.2 of the 2011 *Standards and Guidelines*. Any work for Stage 3 investigations should be prepared in consultation with Indigenous communities with an interest in this area;
  - AiGx-438 is a small Indigenous site, consisting of 14 artifacts recovered during test pit survey. If AiGx-438 is anticipated to be impacted by construction, the methodology for the Stage 3 assessment should follow Section 3.2.2 of the 2011 *Standards and Guidelines*. Any work for Stage 3 investigations should be prepared in consultation with Indigenous communities with an interest in this area;
- Changes to Extent of Project Area:
  - If the extent of the Project Area changes to incorporate lands not addressed in this study, further assessment will be required.

These recommendations are subject to the conditions laid out in Section 6.0 of this report, and to the review of this report by the Ministry of Citizenship and Multiculturalism (MCM) and its acceptance into the provincial register of archaeological reports.

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PROJECT PERSONNEL

Project Managers	Matthew Beaudoin, PhD (P324)
	Hillary Schwering, BA (R1064)
Project Administrators	Victoria Bohdanowicz, MA, MLIS
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Senior Reviewer	Matthew Beaudoin, PhD (P324)

ACKNOWLEDGEMENTS

Tristan Lefler	Dillon Consulting Limited
Robert von Bitter	Archaeological Data Coordinator, MCM

TERRITORIAL ACKNOWLEDGEMENT

The Project Area is located on the traditional lands of the Anishinaabek (specifically the Mississaugas of the Credit First Nation) and Haudenosaunee peoples on lands connected with the Between the Lakes Treaty (Treaty 3) with the Mississaugas of the Credit First Nation. This land continues to be home to diverse Indigenous peoples (e.g., First Nations, Métis and Inuit) whom we recognize as contemporary stewards of the land.

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 PhD 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.

Hillary Schwering, BA – Unit Manager - Pipeline Archaeological Projects

Hillary brings to her role at TMHC over twenty years of Stage 1-4 archaeological expertise specializing in the identification, documentation, excavation, and reporting of archaeological sites across a wide range of sectors including Oil and Gas, Renewable Energy, Transmission Corridors and Transportation.

Hillary earned a BA in Anthropology from Trent University where her commitment to Indigenous engagement was fostered through Trent's Indigenous Studies Program. She holds an Applied Research license in Ontario and is a current member of the Ontario Archaeological Society and Canadian Archaeological Association. At TMHC, Hillary is involved in archaeological project management including client communications and Indigenous engagement, report writing, fieldwork management and support on complicated or specialized archaeological sites. Hillary is known for her effective collaboration with clients, community stakeholders and Indigenous rightsholders, which ensures respectful engagement and regulatory compliance.

STATEMENT OF QUALIFICATIONS AND LIMITATIONS

The attached Report (the "Report") has been prepared by TMHC 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 sections thereof should not be read out of such context; and
- was prepared for the specific purposes described in the Report and the Agreement.

TMHC shall be entitled to rely upon the accuracy and completeness of information that was provided to it and has no obligation to update such information. TMHC accepts no responsibility for any events or circumstances that may have occurred since the date on which the Report was prepared and, in the case of subsurface, environmental, or geotechnical conditions, is not responsible for any variability in such conditions, geographically or over time.

TMHC agrees that the Report represents its professional judgement as described above and that the Information has been prepared for the specific purpose and use described in the Report and the Agreement, but TMHC makes no other representations, or any guarantees or warranties whatsoever, whether express or implied, with respect to the Report, the Information, or any part thereof.

Except (1) as agreed to in writing by TMHC and Client; (2) as required by-law; or (3) to the extent used by governmental reviewing agencies for the purpose of obtaining permits or approvals, the Report and the Information may be used and relied upon only by Client.

TMHC accepts no responsibility, and denies any liability whatsoever, to parties other than Client who may obtain access to the Report or the Information for any injury, loss or damage suffered by such parties arising from their use of, reliance upon, or decisions or actions based on the Report or any of the Information ("improper use of the Report"), except to the extent those parties have obtained the prior written consent of TMHC to use and rely upon the Report and the Information. Any injury, loss or damages arising from improper use of the Report shall be borne by the party making such use.

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, MA (R443)

Lead - Archaeological Report Writing

Project managed by: _____

Hillary Schwering, BA (R1064)

Unit Manager - Pipeline Archaeological Projects

Report reviewed by: _____

Matthew Beaudoin, PhD (P324)

Principal/Manager of Archaeological Assessment

1 PROJECT CONTEXT

1.1 Development Context

1.1.1 Introduction

In 2026, TMHC Inc. (TMHC) was contracted by Dillon Consulting Limited (Dillon) on behalf of Imperial Oil Limited (Imperial) to conduct a Stage 1 archaeological assessment for Segment 2 of the Sarnia Products Pipeline (SPPL) Segments Mitigation Project in the City of Hamilton, Ontario. The SPPL Segments Mitigation Project consists of three segments, including Segment 2, the new Millgrove Pump Station. The Millgrove Pump Station facility will include:

- A new pumphouse and ~1000HP centrifugal pump;
- Connecting piping including 2 new 12" inspection "smart pig" launchers;
- Remote Block Valves (RBV's) and a pressure control valve and associated instrument loop (PCV);
- Remote pump and block valve motor controls;
- New 27.6kV (Alectra utilities fence line service) to 4.16kV transformer (for pump power);
- New 4.16kV to 600V transformer (for remote block valve power);
- New 600V to 120V transformer (for pump station service power, e.g. lighting, surveillance, communications equipment);
- Telecommunications equipment (for remote station operation);
- Electrical/communications building with HVAC system;
- Hydrocarbon collection sump (for maintenance operations); and
- Bermed gravel containment and service work area.

The pipeline scope required to integrate the pumpstation into the Waterdown to Finch pipeline also includes the following:

- A ~200m of 12" buried (open trench construction) pipeline within the existing ROW from the Enbridge valve station to the new pumpstation; and
- From the new pumpstation to the Waterdown to Finch pipeline tie-points to the east, two (2) new ~400m sections of 12" pipelines will be constructed within the existing Imperial ROW.

The Stage 1 archaeological assessment of the Project Area will include a 50 m buffer around the pumping station footprint (including construction, gravel containment, access, and service work areas) and the associated tie-in pipelines. The archaeological assessment was required in partial fulfillment of leave-to-Construct (LTC) heritage requirements under the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Projects and Facilities in Ontario,* 8th ed. 2023. The purpose of the assessment was to determine whether there was potential for archaeological resources to be present within the Project Area.

All archaeological consulting activities were performed under the professional archaeological license of Matthew Beaudoin, PhD (P324) and in accordance with the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011, "*Standards and Guidelines*"). Permission to commence the study was given by Tristan Lefler of Dillon Consulting Limited.

1.1.2 Purpose and Legislative Context

1.1.2.1 Ontario Heritage Act

The *Ontario Heritage Act* (R.S.O. 1990) (OHA) provides legislative oversight for the conservation, protection, and preservation of heritage resources in the Province of Ontario, including archaeological resources. The *OHA* assigns responsibility for doing so to a provincial ministry, now the Ministry of Citizenship and Multiculturalism (MCM). The MCM regulates how archaeological sites are dealt with by:

- Establishing a system to license individuals permitted to identify and investigate archaeological sites;
- Creating technical standards and guidelines for archaeological fieldwork and reporting;
- Maintaining a list of registered archaeological sites; and
- Overseeing transfers of archaeological collections.

The *OHA* does not speak to the need for undertaking archaeological assessments prior to land development. Instead, it regulates how such work must be undertaken and how archaeological sites are dealt with when the need for an archaeological assessment is prompted by other pieces of legislation.

In 2011, the Province of Ontario implemented the *Standards and Guidelines* which must be followed by licensed archaeologists when undertaking archaeological assessments. In addition, the MCM provides further guidance through technical bulletins, the periodic issuance of answers to frequently answered questions (FAQ), and informal communications as a response to requests for advice and archaeological assessment report review.

1.1.2.2 OEB (Hydrocarbon Projects and Facilities)

The Stage 1 archaeological assessment work was conducted in accordance with Section 5.4 Cultural Heritage Resources in the *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Projects and Facilities in Ontario* (OEB 2023). 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.

2 BACKGROUND REVIEW

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 MCM's PastPortal system 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;
- historical settlement maps (e.g., historical atlas, survey);
- 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 MCM's PastPortal system that compiled a list of registered archaeological sites within 1 km of each route alternatives (completed February 17, 2026);
- a review of known prior archaeological reports for the Project Area, adjacent lands, or areas of interest related to the route alternatives;
- Ontario Base Mapping (1:10,000) was reviewed through ArcGIS and mapping layers provided by geographynetwork.ca;
- detailed mapping provided by the client was also reviewed; and,
- a series of historic maps and photographs was reviewed related to the post-1800 land settlement.

Additional sources of information were also consulted, including modern aerial photographs, local history accounts, cemetery and burial databases, soils and physiographic 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.

When compiled, background information was used to create a summary of the characteristics of the Project Area, in an effort to evaluate its archaeological potential. The Province of Ontario (MTC 2011; Section 1.3.1) has defined the criteria that identify archaeological potential as:

- previously identified archaeological sites;
- water sources;
    - primary water sources (e.g., lakes, rivers, streams, creeks);
    - secondary water sources (e.g., intermittent streams and creeks, springs, marshes, swamps);
    - features indicating past water sources (e.g., glacial lake shorelines, relic river or stream channels, shorelines of drained lakes or marshes, cobble beaches);
    - accessible or inaccessible shorelines (e.g., high bluffs, sandbars stretching into a marsh);
- elevated topography (e.g., eskers, drumlins, large knolls, plateau);
- pockets of well-drained sandy soils;
- distinctive land formations that might have been special or spiritual places (e.g., waterfalls, rock outcrops, caverns, mounds, promontories, and their bases);

- resource areas, including:
    - food or medicinal plants (e.g., migratory routes, spawning areas, prairies);
    - scarce raw materials (e.g., quartz, copper, ochre, or chert outcrops);
    - early industry (e.g., fur trade, logging, prospecting, mining);
- areas of early 19th-century settlement, including:
    - early military locations;
    - pioneer settlement (e.g., homesteads, isolated cabins, farmstead complexes);
    - wharf or dock complexes;
    - pioneer churches;
    - early cemeteries;
- early transportation routes (e.g., trails, passes, roads, railways, portage routes);
- a property listed on a municipal register, designated under the *Ontario Heritage Act*, or that is a federal, provincial, or municipal historic landmark or site; and,
- a property that local histories or informants have identified with possible archaeological sites, historical event, activities, or occupations.

In Southern Ontario (south of the Canadian Shield), any lands within 300 m of any of the features listed above are considered to have potential for the discovery of archaeological resources.

Typically, a Stage 1 assessment will determine potential for Indigenous and 19th-century sites independently. This is due to the fact that lifeways varied considerably during these eras, so the 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. The *Standards and Guidelines* (MTC 2011; Section 1.3.2) 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 located northeast of Beeforth/Robson Road, in the City of Hamilton, Ontario. It is roughly 13.22 ha (32.67 ac) in size and comprises part of Lots 2 and 3, Concession 4, and Lots 2 and 3, Concession 5, in the Geographic Township of East Flamborough, Wentworth County (Maps 1 and 2). The Project Area encompasses a portion of Concession 5 East, farm laneways, residential properties, agricultural field as well as grassed, wooded and meadow lands. The surrounding area is rural, with a mixture of agricultural and wooded lands, as well as residential properties.

2.2.1.1 Physiographic Region

The Project Area falls within the Norfolk Sand Plain, as defined by Chapman and Putnam (1984:154; Map 3). The Norfolk Sand Plain is comprised of flat and gently rolling lands associated with vestigial riverine deltas of glacial lakes Whittlesey and Warren (Chapman and Putnam 1984:154). During the Lake Whittlesey occupation of the Lake Erie basin the Norfolk Sand Plain sands and silts began to be transported to areas east and south of Brantford. Glacial melt water from the north and east was admitted by the Grand River past the retreating Lake Ontario ice lobe producing a large delta. This process continued during the later replacement of Lake Whittlesey with glacial Lake Warren and an expansion of riverine deposits from west to east following the retreat of the Ontario ice lobe (Chapman and Putnam 1984:153-154). Specifically, the Project Area falls within a till moraine, bordered on both sides by sand plains. A minor moraine runs roughly 300 m to the west.

2.2.1.2 Soils

Soil surveys for Wentworth County indicate that the soils in the Project Area consist of Chinguacousy loam, Farmington Loam, Springvale sandy loam, and muck (Map 4). Chinguacousy loam is imperfectly draining and developed on a gray-brown clay loam parent material, while Springvale sandy loam is well draining, and characterised by sand overlaying coarse gravel (Presant et al. 1965:32, 41). Farmington loam soils are well-drained, shallow soils, comprising loam till overlying dolomitic limestone (Presant et al. 1965:43). Muck soils are poorly drained deposits of organic materials.

2.2.1.3 Drainage

The Project Area is located roughly 650 from the western shore of Lake Medad. Lake Medad is drained by Grindstone Creek which flows out of the southwestern end of the lake. A small unnamed partially channelized tributary of Grindstone Creek flows through the Project Area (Map 1). Grindstone Creek and its tributaries are surrounded by wetlands.

2.2.2 *Summary of Registered or Known Archaeological Sites*

According to PastPortal (accessed February 17, 2026), there are nine registered archaeological sites within 1 km of the Project Area (Table 1). Two of these sites (AiGx-437 and AiGx-438) fall within the Project Area, while a third site is within 100 m of the Project Area (AiGx-440). Nearly all of these sites are Indigenous sites, including findspots, camp sites, and one village site, speaking to the importance of the Lake Medad area for past peoples in the region. These sites are discussed further in Section 2.2.3 below.

Table 1: Registered Archaeological Sites within 1 km of the Project Area

Borden Number	Site Name	Time Period	Affinity	Site Type	Development Status
AiGx-3	Lake Medad	Post-Contact	Neutral	village	
AiGx-14	Harrison	Post-Contact	Euro-Canadian	Othercamp/campsite	
AiGx-15	Garret	Archaic	Aboriginal	Othercamp/campsite	
AiGx-437	Op 1 FS 10	Woodland	Aboriginal	Unknown	Further CHVI
AiGx-438		Pre-Contact	Aboriginal	Unknown	Further CHVI
AiGx-439	OP 1 FS 13	Woodland, Woodland, Late	Aboriginal	Unknown	Further CHVI
AiGx-440	OP 1 FS 1	Other		Unknown	No Further CHVI
AiGx-441		Pre-Contact	Aboriginal	Unknown	Further CHVI
AiGx-442		Post-Contact, Pre-Contact	Aboriginal, Unknown	Unknown	Further CHVI

2.2.3 Summary of Past Archaeological Investigations within 50 m

During the course of this study records of nine archaeological investigations within 50 m of the Project Area were found. However, it should be noted that the MCM currently does not provide an inventory of archaeological assessments to assist in this determination.

2.2.3.1 Stage 1 & 2 Archaeological Assessment – Proposed Temporary Access (CWP 1433s), Enbridge Line 8 (Map 5)

In 2014, Stantec Consulting Ltd. (Stantec) was retained by Enbridge Pipelines Inc. (Enbridge) to complete a Stage 1 and 2 archaeological assessment for a proposed temporary access road associated with Enbridge's Line 8 Integrity Dig program. The Integrity Dig was located within Lot 2, Concession 5, and overlaps with the eastern section of the current Project Area. The Stage 1 background research determined that the study area retained archaeological potential and Stage 2 assessment was recommended. The Stage 2 survey consisted of a test pit survey at 5 m intervals and photo documentation of previously disturbed areas. No archaeological materials or sites were identified during the Stage 2 archaeological assessment. The results of this assessment are presented in a report entitled *Stage 1-2 Archaeological Assessment: Proposed Temporary Access in East Flamborough Township (CWP 1433S), Enbridge Line 8, Lot 2, Concession 5, Geographic Township of East Flamborough, former Wentworth County, now City of Hamilton, Ontario* (Stantec 2015; Licensee, Parker Dickson, PIF P256-0301-2014).

2.2.3.2 Stage 1 & 2 Archaeological Assessment – Enbridge's Line 9 Integrity Dig Program (Map 6)

In 2017 and 2018, Stantec was retained by Enbridge to complete a Stage 1 and 2 archaeological assessment for proposed temporary access roads and workspaces associated with Enbridge's Line 9 Integrity Dig program. One of the Integrity Digs was located within Lot 2, Concession 5, and overlaps with the eastern section of the current Project Area. The Stage 1 background research determined that the study area retained archaeological potential and Stage 2 assessment was recommended. The Stage 2 survey consisted of a test pit survey at 10 m intervals and photo documentation of previously disturbed areas. No archaeological materials or sites were identified during the Stage 2 archaeological assessment. The results of this assessment are presented in a report entitled *Stage 1-2 Archaeological Assessment: Proposed Temporary Access and Workspaces in Various Townships, Various Integrity Digs (CWP 138), Enbridge Line 9, Parts of Various Lots and Concessions, Northumberland County, Halton County, Durham Region, City of Hamilton, and City of Toronto, Ontario* (Stantec 2020; Licensee, Thanos Webb, PIFs P400-0083-2017, P400-0084-2017, P400-0085-2017, P400-0086-2017, and P400-0101-2018).

2.2.3.3 Stage 1 Archaeological Assessment – Waterdown to Finch Project (SD Map 1)

Past Recovery Archaeological Services Inc. (PRASI) conducted a Stage 1 assessment for the proposed replacement of the Imperial Sarnia Products Pipe Line (SPPL) running approximately 61.5 km from Waterdown Station to Finch Terminal. Stage 2 archaeological assessment was recommended for all areas of archaeological potential. The Stage 1 study area overlaps with a large portion of the current Project Area. Concession 5 East and the existing gas main were deemed disturbed and determined to not retain archaeological potential. The remainder of the study area where it overlaps with the current Project Area was found to retain archaeological potential and Stage 2 archaeological assessment was recommended. The results of the assessment are presented in the report entitled *Stage 1 Archaeological Assessment for the Proposed Waterdown to Finch Project, Various Lots and Concessions, Geographic Townships of East Flamborough, Nelson,*

Trafalgar, Toronto, Etobicoke & York, Now City of Hamilton, City of Burlington, Town of Milton, Town of Oakville, City of Mississauga & City of Toronto, Ontario (PRASI 2019; Licensee Adam Pollock, PIF P336-0194-2017).

2.2.3.4 Stage 1 & 2 Archaeological Assessment – Integrity Dig Location 102-3970-2018 (Dig 102) (Map 7)

In 2019, Wood Environment & Infrastructure Solutions (Wood) conducted a Stage 1 and 2 archaeological assessment for Integrity Dig Location 102-3970-2018 (Dig 102) along the Imperial SPPL NPS 12 (Waterdown to Finch) Corridor, in the City of Hamilton, Ontario. Integrity Dig Location 102-3970-2018 (Dig 102) was partially located within Lot 2, Concession 5, and overlaps with the eastern section of the current Project Area. The Stage 1 background research determined that the property retained archaeological potential and Stage 2 assessment was recommended. The Stage 2 survey consisted of a test pit survey at 5 m intervals and photo documentation of previously disturbed areas. Archaeological materials were identified during the Stage 2 archaeological assessment and registered as AiGx-439. The site assemblage comprised 18 lithic artifacts, which were in close proximity to material recovered by PRASI in 2018 (reported on in 2020). PRASI had identified 39 artifacts, including both lithics and Late Woodland period ceramics. Therefore, the site was recommended for further Stage 3 and 4 assessments. The results of this assessment are presented in a report entitled *Revised Report: Stage 1 & 2 Archaeological Assessment, Integrity Dig Location 102-3970-2018 (Dig 102) Along the Imperial Oil Limited SPPL NPS 12 (Waterdown to Finch) Corridor, Parts of Lots 23 and 24 Concession 2 in the Geographic Township of Nelson, County of Halton, Now in the City of Burlington, and Parts of Lots 1 and 2 Concession 5 in the Geographic Township of East Flamborough, County of Wentworth, Now in the City of Hamilton, Ontario* (Wood 2019a; Licensee, Shaun Austin, PIF P141-0334-2019).

2.2.3.5 Stage 1 & 2 Archaeological Assessment – Integrity Dig Location 93-3040-2016 (Dig 93) (Map 8)

Also in 2019, Wood conducted a Stage 1 and 2 archaeological assessment for Integrity Dig Location 93-3040-2016 (Dig 93) along the Imperial SPPL NPS 12 (Waterdown to Finch) Corridor, in the City of Hamilton, Ontario. Integrity Dig Location 93-3040-2016 (Dig 93) was partially located within Lot 3, Concession 5, and overlaps with the western section of the current Project Area. The Stage 1 background research determined that the property retained archaeological potential and Stage 2 assessment was recommended. The Stage 2 survey consisted of a pedestrian survey at 5 m intervals and photo documentation of areas of low archaeological potential. No archaeological materials or sites were identified during the Stage 2 archaeological assessment. The results of this assessment are presented in a report entitled *Stage 1 & 2 Archaeological Assessment. Integrity Dig Location 93-3040-2016 (Dig 93) Along the Imperial Oil Limited SPPL NPS 12 (Waterdown to Finch) Corridor, Lot 3, Concession 5, Former Township of East Flamborough, County of Wentworth, now in the City of Hamilton, Ontario* (Wood 2019b; Licensee, Shaun Austin, PIF P141-0313-2018).

2.2.3.6 Stage 3 Archaeological Assessment – Avoidance and Protection of AiGx-437 (Map 9 and SD Map 2)

Later in 2019, Wood conducted protective mat usage monitoring to avoid impacts to AiGx-437, as part of Integrity Dig Location 93-3040-2016 (Dig 93) on the Imperial SPPL NPS12 (Waterdown to Finch) Corridor. During the 2018 fieldwork conducted by PRASI (reported on in 2020), archaeological materials were recovered immediately east of the Dig 93 study area, consisting of a chert biface and two pieces of Indigenous pottery, which were registered as AiGx-437. Impacts to the site were successfully avoided through the use of rig matting underlain by geotextile fabric placed around the site, and monitoring of the excavation directly above the existing pipeline by a licensed archaeologist. The excavation, and the installation and later removal of protective matting were monitored by a licensed archaeologist. No impacts were observed at the site location. The results of this assessment are presented in a report entitled *Stage 3 Archaeological Assessment, Protective Mat Usage Monitoring to Avoid Impacts to Site AiGx-437, Integrity Dig Location 93-3040-2016 (Dig 93) On*

the Imperial Oil Limited SPPL NPS12 (Waterdown to Finch) Corridor, Lot 3, Concession 5, North of Dundas Street (NDS), Geographic Township of East Flamborough, County of Wentworth, now in the City of Hamilton, Ontario (Wood 2019c; Licensee, Shaun Austin, PIF P141-0340-2019).

2.2.3.7 Stage 2 Archaeological Assessment – Waterdown to Finch Project 2018 & 2019 Fieldwork (Maps 10-12 and SD Maps 3-5)

PRASI was retained by Dillon on behalf of Imperial to undertake the Stage 2 assessment for the Waterdown to Finch Project. The current Project Area overlaps with parcels WTFN0025-30. In 2018 and 2019 PRASI completed Stage 2 work on these parcels. WTFN0025 and WTFN0027 were subject to test pit assessment and a small scatter comprising two 19th century artifacts and four Indigenous lithics were recovered and registered as AiGx-0440. No further work was recommended for AiGx-0440 due to the small and diffuse nature of the site. WTFN0026 was subject to test pit survey and visual assessment of disturbed areas; one Indigenous lithic artifact was recovered which was recorded as Findspot OP1FS011 (NDFS-0106). WTFN0028 was subject to pedestrian and test pit surveys, which resulted in the identification of two sherds of Indigenous pottery and a fragment of a nondiagnostic chert biface, registered as AiGx-0437. The site has outstanding CHVI as the parcel was later removed from the project boundary and was avoided via WFP HDD-3 (Waterdown to Finch Project horizontal directional drilling path 3). WTFN0029 and WTFN0030 were subject to a test pit assessment that resulted in the identification of one Indigenous findspot (OP1FS003 [NDFS-0105]) and two Indigenous sites (OP1FS012 [AiGx-0438] and OP1FS013 [AiGx-0439]). AiGx-0438 and AiGx-0439 have outstanding CHVI as the parcels were later removed from the project boundary and were avoided via WFP HDD-3. The results of the assessment are summarized in the report entitled *Stage 1 Archaeological Assessment for the Proposed Waterdown to Finch Project, 2018 & 2019 Fieldwork – City of Hamilton, Lots 3 To 11, Concession 4 & Lots 1 To 3, Concession 5, Geographic Township of East Flamborough, Wentworth County, Now City of Hamilton* (PRASI 2020; Licensee Adam Pollock, PIF P336-0235-2018).

2.2.3.8 Stage 2 Archaeological Assessment – Waterdown to Finch Project – Additional TWS (Map 13)

TMHC was retained by Dillon on behalf of Imperial to undertake the outstanding Stage 2 assessment for portions of the Waterdown to Finch Project Area. Two additional areas, consisting of temporary workspace (TWS) were added to the Project Area in late 2020, including within WTFN0030 (in the City of Hamilton). The TWS requiring assessment consisted of a small portion of a grassed lawn in between gravel laneways to accommodate the location of a proposed borehole to confirm the depth of existing infrastructure. One test pit was excavated within the grassed lawn; the soil consisted of 13 cm of brown clay loam with brick and gravel intrusions over 2 cm of grey gravel over 65 cm of reddish-brown clay loam over impenetrable rock. The remainder of the area was deemed to be of low archaeological potential due to the presence of a gravel laneway and was photo-documented and not surveyed. The results of the assessment are summarized in the report entitled *Stage 2 Archaeological Assessment, Imperial Oil Limited, Waterdown to Finch Project, Deep Fill Testing - City of Mississauga, Spread 1, Lots 2-4, Concession 2 NDS, Geographic Township of Trafalgar, Former Halton County and Lots 34-35, Concession 2 NDS, Geographic Township of Toronto, Former Peel County, Now City of Mississauga, Additional TWS, Lot 2, Concession 5, Geographic Township of East Flamborough, Wentworth County, Now City of Hamilton, Lot 15, Concession 2 North of Dundas Street, Geographic Township of Nelson, Halton County, Now City of Burlington* (TMHC 2021; Licensee Matthew Beaudoin, PIF P324-0507-2020).

2.2.3.9 Stage 2 Archaeological Assessment – Waterdown to Finch Project 2021-2022 Fieldwork - HDD Paths (Maps 14 and 15)

TMHC was retained by Dillon on behalf of Imperial to undertake the outstanding Stage 2 assessment for portions of the Waterdown to Finch Project Area. Imperial proposed the use of horizontal directional drilling (HDD) as an avoidance strategy for several locations with archaeological concerns within the Waterdown to Finch Project Area. In 2021-2022 TMHC completed the Stage 2 work; 9.63 ha were subject to assessment. Several of the parcels subject to Stage 2 assessment overlap with the current Project Area: WTFN0025, WTFN0026, WTFN0028, WTFN0029 and WTFN0030. The HDD path through this area was subject to test pit survey at 5 m intervals, judgmental (10 m) test pit survey when disturbed fill soils were encountered during the survey, and photo documentation of disturbed areas. No archaeological sites or materials were found during the assessment of these parcels. The results of the assessment are summarized in the report entitled *Stage 2 Archaeological Assessment, Imperial Oil Limited, Waterdown to Finch Project, 2021-2022 Fieldwork - HDD Paths, Various Lots and Concessions, Geographic Townships of East Flamborough, Nelson, Trafalgar, Toronto, Toronto Gore, Etobicoke, and York, Counties of Wentworth, Halton, Peel, and York, Now the Cities of Hamilton, Burlington, Milton, Oakville, Mississauga, and Toronto* (TMHC 2023; Licensee Matthew Beaudoin, PIF P324-0628-2021).

2.3 Project Context: Historical Context

2.3.1 Indigenous Settlement in the City of Hamilton

Previous archaeological research has indicated that the Niagara Escarpment and lands now within the City of Hamilton were areas of resource abundance that were significant to Indigenous peoples in the past, continuing today, encouraging past Indigenous land use and settlement that is reflected in a rich archaeological record in this area. Using existing data and regional syntheses, it is possible to propose a generalized model of Indigenous settlement for the City of Hamilton. The general themes, time periods, and cultural traditions of Indigenous peoples, based on archaeological evidence, are provided below and in Table 2.

Table 2: Chronology of Indigenous Settlement in the City of Hamilton

Period	Time Range	Diagnostic Features	Archaeological Complexes
Early Paleo	9000-8400 BCE	fluted projectile points	Gainey, Barnes, Crowfield
Late Paleo	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, Vinette 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	Glen Meyer
Late Woodland	1300-1400 CE	large villages and houses	Uren, Middleport
Late Woodland	1400-1650 CE	tribal emergence, territoriality	
Contact Period	1600 CE-present	treaties, mixture of Indigenous & European items	
Municipal Settlement Period	1796 CE-present	industrial goods, homesteads	municipal settlement

2.3.1.1 Paleo Period

During the Last Glacial Maximum (LGM), massive ice sheets, up to a mile thick, covered Canada and parts of the northern U.S., including all of Ontario. As the ice retreated 10,000–12,000 years ago, mobile hunting groups from what is now New York through the Niagara peninsula into southern Ontario and the newly exposed and harsh landscapes dominated by marshes and flood-prone terrain (Bergman 2016). Gradual climate and environmental changes created new ecological opportunities, supporting migratory game like caribou, supplemented by wild plants, small game, and fish. Early populations would have crossed the landscape in small groups (i.e., bands or family units) following migratory game species while searching for food as part of a seasonal round.

Due to low population density and mobility, sites dating to the Paleo period are small and ephemeral, often identified by distinctive lanceolate or fluted projectile points made from high-quality cherts, such as Onondaga chert from the north shore of Lake Erie and Fossil Hill chert from the Blue Mountains. These sites are commonly found in association with relic glacial lakeshores.

2.3.1.2 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, populations during the early Archaic period 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 utilized 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.

Since the large cold weather mammal species that formed the basis of the subsistence pattern during the Paleo period became extinct or moved northward with the onset of warmer climate conditions, populations during the Archaic period had a more varied diet, exploiting a range of plant, bird, mammal and fish species. Reliance on specific food resources like fish, deer and nuts becomes more pronounced through time and the presence of more hospitable environments and resource abundance led to the expansion of band and family sizes. In the archaeological record, this is evident in the presence 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, sites dating to the Archaic period 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.

2.3.1.3 Early, Middle and Transitional Woodland Periods

Significant changes in cultural and environmental patterns are witnessed during the Woodland period (c. 950 BCE-1700 CE). By this time, the coniferous forests of earlier times were replaced by stands of mixed and deciduous species. Occupations became increasingly more substantial during this period, culminating in major semi-permanent villages by 1,000 years ago. Archaeologically, the most significant changes during the Woodland period includes the appearance of artifacts manufactured from modeled clay and the construction of house structures. The Woodland period is often defined by the occurrence of pottery, storage facilities and more sedentary residential areas. The earliest pottery was 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.

2.3.1.4 Late Woodland Period

During the Late Woodland period, the archaeological record documents the emergence of more substantial, semi-permanent settlements and the adoption of corn horticulture. Villages incorporated a number of longhouses which were multi-family dwellings that contained several families related through the female line. Sites dating to the Late Woodland are characterized by the occurrence of well-decorated and high-quality ceramic pipes and vessels, as well as a diversity of chipped stone and bone implements and decorative items. With the arrival of Europeans in the late-15th and early 16th centuries, items of European manufacture also occur on such sites (e.g., glass beads, copper/brass kettles, iron axes, knives and other metal implements) and are materials acquired by trade.

2.3.1.5 Contact Period Indigenous Settlement

The developments documented during the Late Woodland period 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. The areas south and west of Lake Ontario once housed numerous villages of the Attawandaron, also referred to as the "Neutral," for their seemingly neutral position in hostile relations between the Wendat in the north and the Five Nations of Iroquois in the south during the 17th century. As early as 1626, the French Recollet missionary La Roche Daillon visited the region and documented 28 Attawandaron villages (Waldie 1984:7). By 1640, the Attawandaron numbered between twenty and thirty thousand people (Reville 1920:17). However, their populations would be significantly decimated by European-introduced epidemic disease and warfare with many remnant communities being directly absorbed and adopted into various Five Nations groups.

During the 17th century, Five Nations Iroquois had come to dominate the fur trade in the Northeast, in part due to their control of the Mohawk Valley, one of two important access routes for the transportation of furs to the west (Tooker 1978:418). The other route was the St. Lawrence River and its source in Lake Ontario. Control of the lake forced other groups to take longer, more northerly routes to French trading posts (Tooker 1978:418). In the late 17th century, a conflict known as the Beaver Wars, saw the French and Anishinaabe fight a series of pitched battles against the Haudenosaunee across multiple fronts. The Haudenosaunee eventually pulled back from their northwesternmost outposts.

Beginning in the late 1600s and following the earlier population displacements and absorption of Attawandaron communities into Haudenosaunee settlements in the mid-17th century, much of the land surrounding Lake Ontario was occupied by the Mississaugas (Anishinaabeg–Ojibway). The Mississaugas were seasonally migrant converging on fishing grounds in the spring and fall. Water, in particular, was regarded as "a living spiritual being that flowed through all aspects of life" and "a vital part of a larger system whose components worked together harmoniously for the benefit of all" (Wybenga 2022). By the 19th century, there was a substantial Mississauga settlement along the Grand River and further east along the Credit River.

The Five Nations Iroquois had allied themselves with Britain during the fur trade era, and when the latter went to war with France (1756-1763), the Iroquois fought alongside them, as they did during the American Revolution and the War of 1812. For compensation of losses and recognition of their loyalty to the British Crown during the American War of Independence, the Six Nations (the Oneida, Onondaga, Seneca, Cayuga, Mohawk and newly allied Tuscarora) were granted a large tract of land along both banks of the Grand River, south of Hamilton.

2.3.2 Indigenous Landscapes

The Hamilton area, including its lakefront, escarpment, and valleys, has constituted an important Indigenous environment since time immemorial. Archaeologically, evidence of Indigenous presence in the area dates back at least 13,000 years. At this time, the lands were recovering from the last ice age and still populated with mammoth and mastodon alongside watersheds that little resembled anything seen today. The lower portions of Hamilton were covered by Glacial Lake Iroquois, a much larger version of Lake Ontario which drained to the southeast through the Mohawk and Hudson Rivers valleys. As the millennia passed, the landscape transformed from tundra into forests and meadows. The lakes, rivers, and creeks gradually stabilized as the icesheets melted and retreated. Indigenous inhabitants adapted alongside these changes, shifting from a reliance on big game hunting to utilizing the more diverse ecosystems of the developing forests and navigating stabilizing waters. This included hunting relatively smaller game animals, fishing, and gathering food, medicines, and materials from plants and trees. Over thousands of years, the systems and relationships between Indigenous inhabitants and the lands they depended on grew more refined and structured. Active land management such as varying intensities of agriculture and forest and meadow management also became more common (MCIK n.d.).

Since time immemorial, Indigenous peoples' use and management of land differed greatly from the much more recent era of colonial development. Instead of roads and highways cutting through the landscape, Indigenous travel focused on waterways and the portages between them. The Hamilton area was particularly important for the presence of Hamilton Harbour (formerly Burlington Bay). Indigenous peoples have lived around and utilized the waterfront for over 10,000 years as demonstrated by archaeological excavations and sites in the Cootes Paradise Nature Sanctuary (Haines et al. 2011). These locations included significant agricultural villages at Princess Point dating to 500-1,000 CE, on the south side of the harbour, west of what is now Highway 403. By the late 17th century, the area was part of the Mississaugas' domain who named the waterbody *Wequatetong*, simply meaning "a bay" (Jones 1796). The French referred to the area as "Le fond du lac" or "Head of the Lake". In the late 18th and early 19th centuries, the Head of the Lake became a significant transportation hub for Indigenous and colonial communities. Various trails and lakeshore routes traversed the region and in the 1790s, Governor Simcoe arranged for the first colonial corridor into the interior of Southwestern Ontario, Dundas Street, to start here. Significant Indigenous figures would reside in the area, including Mohawk leader Joseph Brant's family and the future chief of the Mississaugas of the Credit, Peter Jones (*Kahkewaquonaby*).

2.3.2 Indigenous Community-Shared Histories

There is no single, monolithic version of Indigenous or Ontario history. In the past, the histories of Indigenous communities, of Ontario and of Canada, have been presented through a single colonial perspective with inherent biases. Although its focus is reconstructing the past through material remains, archaeology has inherited many of the cultural prejudices and perspectives of the colonial histories that have shaped current understanding of the origins, movements, and activities of contemporary Indigenous communities. The archaeological chronology and summary presented earlier in this report presents only one version of the past.

Indigenous communities have long contested elements of both colonial and archaeological histories. As a means to combat these colonial versions of their past, Indigenous communities have been sharing their own histories shaped by oral history, community memory, culturally-informed readings of historical events and documents, language, and tradition. These histories survive in traditional knowledge, stories, and the remembrances of elders; they persist despite the long-term effects of residential schools and government programs aimed to erase Indigenous culture. In the spirit of the Truth and Reconciliation Commission Calls to Action, community-based histories are included here as a way for Indigenous groups to share their own versions of the past.

Each Indigenous community maintains its own histories. These may represent not only the historical narratives of particular interest to a community (such as reserve histories and treaty negotiations), but also their unique perspectives on shared stories, events, places, and people (such as conflicts and migration stories). As such, different Indigenous community histories may approach the same subject in different, and sometimes contradicting, ways. Individual communities may not agree on the same series of events, the use of territories, or on various impetus for change, for example. Some draw on archaeological knowledge and some do not. These differences do not diminish the value of these histories. Instead, they emphasize the distinct languages, experiences, and priorities of different Indigenous communities and nations. Together, they offer a multitude of perspectives on Ontario's first peoples and offer important counterpoints to colonial stories.

The following section includes project-relevant community histories and historical statements provided by the Mississaugas of the Credit First Nation (MCFN), Six Nations of the Grand River (SNGR), and the Wendat Nation. It should be acknowledged that each community has their own unique perspective on their shared past.

2.3.2.1 Community History of the Mississaugas of the Credit First Nation

The Mississaugas of the Credit First Nation are members of the Algonquian linguistic group and are a sub-group of the larger Ojibway Nation. In their own language, the Mississaugas refer to themselves as Anishinaabe meaning "human beings or people".

The oral tradition of the Anishinaabe tells of their migration from the East Coast of North America, down the St. Lawrence River valley, and eventually into the lands of the Great Lakes Region. In a journey thought to span some 500 years, the founding peoples of the Three Fires Confederacy- the Ojibway, the Pottawatomie, and the Odawa Nations, stopped for extended periods near Montreal, Niagara Falls, the Detroit River, Manitoulin Island, and Spirit Island (Duluth, MN) before ending their journey at Madeline Island in Lake Superior. Ancestors of the Mississaugas of the Credit First Nation broke from the main body of the migratory group and settled along the north shore of Lake Huron and Georgian Bay where they were first encountered by the French in 1634.

The people, who came to be known as the Mississaugas, lived lightly on the land as they harvested its gifts. During the spring, the Mississaugas converged on the flats of rivers and creeks where they erected their wigwams and engaged in fishing. Berries, mushrooms, and other wild foods were gathered throughout the summer months with the harvest of wild rice occurring in the early autumn. After the harvest of rice, the people then again gathered at their fishing grounds to catch and preserve the fish they would consume over the winter months. Breaking into smaller family groups, the people would then move into winter camps where they would engage in trapping and await the yearly cycle of seasonal migration to begin anew. The arrival of the French into the lands of the people was welcomed as pelts could be exchanged for European trade goods that made life easier. Iron axes, copper kettles, cloth, and even fish hooks proved beneficial as the Mississaugas no longer had to craft comparable objects solely from the resources of the land. Unfortunately, participation in the trans-Atlantic fur trade meant the Mississaugas would be caught up in the conflicts of the 17th century known as the Beaver Wars.

The Beaver Wars were a period of intermittent warfare that engulfed much of the St. Lawrence and the Great Lakes Regions, and saw the occupancy of Southwestern Ontario change hands three times. The Haudenosaunee from south of Lake Ontario, in their efforts to monopolize the fur trade with the Europeans, invaded Southwestern Ontario dispersing the Neutrals, Petun and the Wendat Nations, and making the region their beaver hunting grounds. By the end of the 17th century, the combined efforts of Algonquian nations, including the Mississaugas, and French forces succeeded in driving the Haudenosaunee back into their homelands south of Lake Ontario. A treaty, brokered by the French in 1701, restored peace in the region and found the Anishinaabe in control of Southwestern Ontario. Mississaugas of the Credit ancestors, who had driven the Haudenosaunee from the head of Lake Ontario, now occupied approximately four million acres of lands, water, and resources in Southern Ontario.

The territory of the Mississaugas extended from the Rouge River Valley westward across to the headwaters of the Thames River, down to Long Point on Lake Erie and then followed along the shoreline of Lake Erie, the Niagara River, and Lake Ontario until arriving at the Rouge River Valley. One creek in particular, the Missinnihe, was a favourite of the people who used it and the surrounding area for hunting, fishing, gathering, healing and spiritual purposes. A trading post established in the vicinity by the French circa 1720, enabled MCFN ancestors to trade the pelts they had gathered over the winter for European trade goods. The Missinnihe was later named the Credit River due to the traders' practice of extending credit to MCFN ancestors and then being repaid the following spring with the winter's catch of furs. The people became known to the Europeans as the Mississaugas of the Credit.

The outbreak of the American Revolution (1775-1783) and its aftermath placed pressure on the British Crown to acquire lands for the settlement of Loyalists. Recognizing that Mississaugas of the Credit ancestors had lands desirable for that purpose, the Crown actively pursued the acquisition of their territory. Between 1781 and 1820, Mississaugas of the Credit First Nation ancestors negotiated eight treaties with the British Crown that saw their territory of approximately 4 million acres reduced to 200 acres on the Credit River. These pre-confederation treaties include:

- The Mississauga Treaty at Niagara, No. 381 (1781)
- The Between the Lakes Treaty, No. 3 (1792)
- The Brant Tract Treaty, No. 8 (1797)
- The Toronto Purchase, No. 13 (1805)
- The Head of the Lake Treaty, No. 14 (1806)
- The Ajetance Treaty, No. 19 (1818)

- Treaty 22 (1820)
- Treaty 23 (1820)

Entering into the early treaties, neither the Crown nor the Mississaugas fully understood what the agreements meant to the other. For the British, treaty making meant that they were outright purchasing the land- they were the sole proprietors and they could use the entirety of the land as they saw fit. The Mississaugas entered the early treaties with the understanding they would be sharing the lands with the settlers- the settlers would establish their farms and villages while the Mississaugas would carry out their hunting, fishing and gathering activities as they had always done. To their dismay, the Mississauga belatedly realized that the settlers were not sharing the land but regarded it as their own. Endeavoring to move about their lands as they had always done, the Mississaugas found their paths blocked by fences, the fish and game depleted, the forests cleared, and themselves driven away from their camping spots by angry farmers. Strangers in their own lands, the Mississaugas' traditional economy collapsed and their population plummeted as the settlers brought diseases for which the Mississaugas had no cure. In 1787, the Credit Mississaugas had over five hundred members; in 1798, there were approximately three hundred members; in 1811, there were two hundred and eight members; and in 1820, there existed slightly less than two hundred members. It seemed to appear that the Mississaugas of the Credit would inevitably disappear as a first nation.

Averting extinction was accomplished by transitioning from their traditional ways to an agrarian lifestyle. Converting to Methodism during the mid-1820s, the Mississaugas established a Christian mission village at the Credit River in 1826. During their time at the village, the Mississaugas were able to build successful farms and a village that included a school, hospital, chapel, mechanics' shops, and forty settler style homes. Learning about business as well, the Mississaugas were the major shareholders of the Credit River Harbour Company and the owners of their own schooner. Despite their successful adoption of a new world and life view, continued encroachment by settlers, diminishing resources, and the inability to gain title to their lands, eventually caused the Mississaugas to relocate their settlement.

Leaving their mission village in 1847, the Mississaugas of the Credit moved to their present location on 6000 acres of land in Brant and Haldimand Counties. Today the Mississaugas of the Credit population has a population of 2600 with two-thirds of the membership living off reserve.

2.3.2.2 Six Nations of the Grand River

From time immemorial, the Six Nations (sometimes then referred to as the Five Nations) possessed very large territories in what is today the United States of America and the provinces of Ontario and Quebec. The original five nations unified under the Great Tree of Peace and became the Haudenosaunee Confederacy.

Starting in 1613, the Haudenosaunee entered into several Two Row Wampum agreements with European Powers that formed the basis for subsequent treaties: "We will not be like Father and Son, but like Brothers. [Our treaties] symbolize two paths or two vessels, travelling down the same river together. One, a birchbark canoe, will be for the Indian People, their laws, their customs, and their ways. The other, a ship, will be for the white people and their laws, their customs, and their ways. We shall each travel the river together, side by side, but in our own boat. Neither of us will make compulsory laws nor interfere in the internal affairs of the other. Neither of us will try to steer the other's vessel."

Southern Ontario was always Iroquois land. Occupied by the Huron-Wendat and Neutral Nations prior to colonialism, both were defeated by Haudenosaunee in the Beaver Wars and a majority of their members were absorbed into Six Nations. The Crown later recognized this vast expanse of Haudenosaunee land in the 1701

Fort Albany/Nanfan Treaty and continued to recognize it and honour its terms. That same year, the Haudenosaunee and a number of Anishinaabeg Nations agreed to share a portion of those lands in their Dish with One Spoon Treaty.

In the late 1600s, the Anishinaabe, as allies of the French, expanded their territory westward into Fort Albany/Nanfan lands as Six Nations was preoccupied fighting alongside their Imperial Crown allies elsewhere. The Anishinaabe attempted to exclude the Haudenosaunee from their northern lands, but failed, as the Haudenosaunee continued to use those lands for hunting, trapping, trade, transit and settlement. While the Haudenosaunee had their rights to those lands enshrined in treaties, the Anishnaabe forfeited any rights they may have had in a series of quit claims, despite being told they had no right to sell the land.

Throughout the American War of Independence, the Six Nations continued their alliance with the Imperial Crown. During an American raid on Onondaga, Cayuga and Seneca villages in the late summer of 1779, an estimated 9 million pounds of corn were destroyed, attesting that the Haudenosaunee were prolific farmers as well as hunters and fishers. Because of the Crown's defeat in that war, many Haudenosaunee left the United States and, at the invitation of the Crown, settled on a portion of their Fort Albany/Nanfan lands, known today as the Haldimand Tract. The 1784 Haldimand Treaty emphasized the land was for the exclusive possession and settlement of the Six Nations and that those lands would be enjoyed by their descendants forever.

As more settlers moved onto Six Nations of the Grand River territory, the land became unsuitable for hunting and the Six Nations were forced to find alternate means of support. The Haudenosaunee placed some of their lands in trust with the Crown to raise funds, via leases for the perpetual care and maintenance of Six Nations. But those leases were never properly honoured. Monies resulting from such leases, and illegal sales, were administered by the Crown, but instead of benefitting Six Nations, these funds were frequently used to pay down Crown debts and build public infrastructure. These actions are subject to ongoing litigation between Six Nations of the Grand River and the provincial and federal Crowns.

2.3.2.3 History of the Wendat Nation

As an ancient people, traditionally, the Wendat, a great Iroquoian civilization of farmers and fishermen-hunter-gatherers and also the masters of trade and diplomacy, represented several thousand individuals. They lived in a territory stretching from the Gaspé Peninsula in the Gulf of Saint Lawrence and up along the Saint Lawrence Valley on both sides of the Saint Lawrence River all the way to the Great Lakes. Huronia, included in Wendake South, represents a part of the ancestral territory of the Wendat Nation in Ontario. It extends from Lake Nipissing in the North to Lake Ontario in the South and Île Perrot in the East to around Owen Sound in the West. This territory is today marked by several hundred archaeological sites, testifying to this strong occupation of the territory by the Nation. It is an invaluable heritage for the Wendat Nation and the largest archaeological heritage related to a First Nation in Canada.

According to our own traditions and customs, the Wendat are intimately linked to the Saint Lawrence River and its estuary, which is the main route of its activities and way of life. The Wendat formed alliances and traded goods with other First Nations among the networks that stretched across the continent.

Today, the population of the Wendat Nation is composed of more than 4000 members distributed on-reserve and off-reserve.

The Wendat Nation band council is headquartered in Wendake, the oldest First Nations community in Canada, located on the outskirts of Quebec City (20 km north of the city) on the banks of the Saint Charles

River. There is only one Wendat community, whose ancestral territory is called the Nionwentsïo, which translates to "our beautiful land" in the Wendat language.

The Wendat Nation is also the only authority that have the authority and rights to protect and take care of their ancestral sites in Wendake South.

2.3.3 Treaty History

The Project Area is encompassed by the Between the Lakes Treaty (Treaty No. 3). The Mississauga people reached a provisional agreement with the Crown in 1784, but it proved to be unclear. Consequently, the treaty was redrafted to provide a better description of the affected lands and signed on December 7, 1792. The area covered by the treaty extended from Mapleton Township in the northwest to Elgin County in the southwest to the edge of a tract of land ceded earlier along the Niagara River in the east. The stated purpose of Treaty No. 3 (MCFN 2020; Surtees 1984) was the Crown acquisition of land for the resettling of British allies from the American Revolutionary War, most notably allies from the Haudenosaunee Confederacy (Six Nations). Of these groups, Thayendanegea (Joseph Brant) and some 1,843 members of the Six Nations and their allies settled along the Grand River in what would become known as the Haldimand Tract (Surtees 1984:25).

In 1701, the Fort Albany/Nanfan Treaty was signed between the Haudenosaunee Confederacy and the acting governor of New York, on behalf of the British Crown. That agreement covered a vast territory encompassing most of the lower Great Lakes, claimed as the Haudenosaunee's Beaver Hunting Grounds. Much of the same territory also falls within the Dish with One Spoon Wampum. The wampum represents an agreement between the Haudenosaunee and the Anishinaabeg to protect their respective territories but share the natural resources around the Great Lakes through diplomacy and permissions (Glover 2020; Jacobs and Lytwyn 2020).

2.3.4 Nineteenth-Century and Municipal Settlement

Historically the Project Area falls within Lots 2 and 3, Concession 4 and Lots 2 and 3, Concession 5, in the Geographic Township of East Flamborough, former Wentworth County, now the City of Hamilton, Ontario. A brief discussion of 19th-century settlement and land use in the township is provided below in an effort to identify features signaling archaeological potential.

2.3.4.1 Wentworth County

The townships in Wentworth County were surveyed beginning in the late 1700s (Town of Stoney Creek 1975:4). Many of the earliest settlers were United Empire Loyalists from various American colonies including New York, New Jersey and Pennsylvania, arriving sometime in the late 1780s (Dundas Historical Society 1973; Town of Stoney Creek 1975:15). Early on, settlement within the county was restricted to the more accessible locales, particularly along the lakeshore and streams below the escarpment (Presant et al. 1965:9).

The first saw and grist mill were built in the town of present-day Ancaster in 1791 (Mika and Mika 1983:624). The first paper mill was established in 1836 at Crooks Hollow, within an industrial complex of mills in West Flamborough (Mika and Mika 1983:625). The first public works endeavour in the county was the Burlington Bay Canal, which was completed in 1832 and "was said to have 'made' the City of Hamilton" (Page and Smith 1875:5). It was not until 1853 when the counties of Halton and Wentworth were officially separated and have remained separated since.

Wentworth County was a site of importance during the War of 1812. The battle of Stoney Creek was a turning point in the war that prevented Upper Canada from an American takeover (Mika and Mika 1983:625). In the early hours of June 5, 1838, 700 British soldiers staged a surprise attack on 3,000 American forces and were successful. The British soldiers had come from Burlington Heights, a strategic defense position for British and Canadian forces.

2.3.4.2 East Flamborough

East Flamborough Township was first settled in 1797, and United Empire Loyalists were among the first to settle in this area (Page and Smith 1875:11). Once settlement began, the township developed fairly rapidly. By 1850, a grist mill, saw mill, distillery, paper mill, woolen factory and tannery were in full operation. In 1823 Ebenezer Griffin purchased land in the emerging village, and became a catalyst for the community's growth, building a grist mill on Grindstone Creek. The saw and grist mills on Grindstone Creek led to the founding of the Village of Waterdown, the largest settlement in East Flamborough officially incorporating in 1879 (Flamborough Historical Society 2017:108).

2.3.4.3 City of Hamilton

The first colonial settler within the later-named City of Hamilton was Robert Land, who settled on 300 acres of land in 1778 (Page and Smith 1875). After this period, the neighbouring towns of Ancaster, Stoney Creek and Barton were preferable for agriculture and settlement, so Hamilton remained relatively sparse until the very late 18th century (Page and Smith 1875). Namesake members of the city did not settle in the area until after 1812, and included Mr. Charlton of Charlton Vinegar works, Peter Ferguson, Nathaniel Hughson, Captain Durand, Daniel Kirkendall, and Edward Jackson (Page and Smith 1875:XV).

The City of Hamilton was named after George Hamilton, who in 1815 purchased a house and 257 acres in a small village that was known as the Head of the Lake (Weaver 1982). Hamilton sold parcels of his estate to

Loyalists and newcomers and delineated roadways, and in doing so laid out the town. Hamilton was designated as the administrative seat of the newly created Gore District and was named after its founder (Weaver 1982).

The City of Hamilton developed as the centre of the County of Wentworth, with a number of industrious companies being established and incorporated throughout the 19th century. The building of the Great Western Railway increased the availability of produce and trade goods within the city, and this sparked the development of the city throughout the 19th century in the 1830's (Page and Smith 1875). The Hamilton Water Works Company was incorporated in April 1836, resulting in the construction of a large reservoir, and by 1847, the Burlington Dry Dock and Ship-Building Company was established (Page and Smith 1875). The City of Hamilton was also an educational centre, with school construction and attendance increasing rapidly from 1812; by 1875, the city boasted the best schools and education system in the province (Page and Smith 1875:7). The first Board of Police was established in 1833, and by 1875 the Barton Street penitentiary was established.

Hamilton's history of industry and expansion was turbulent. Two housing crises, a cholera epidemic, debt accrued by the City Council, and rapid expansion and industry resulted in times of growth and prosperity being punctuated by periods of poverty and disease (Page and Smith 1875). However, Hamilton established itself at the Head of the Lakes as a locus for trade, industry, and community development.

2.3.5 Review of Historic Maps

Early maps illustrate and describe 19th-century features within the Project Area that reflect archaeological potential. No structures were depicted within on near the Project Area on the 1859 *Map of the County of Wentworth, Canada West* (Map 16). The map shows the lots listed under the following names:

- James Thompson (Lot 3, Concession 4);
- Duncan MacNab (Lot 2, Concession 4);
- Hugh Green (Lot 3, Concession 5); and
- Thomas Evans (Lot 2, Concession 4).

Beeforth Road, Milburough Line, and Concession 5 East are all depicted as open at this time. Milburough Line marks the division between the counties of Wentworth and Halton.

A house structure is shown immediately to the north of the Project Area within the southern portion of Lot 2, Concession 4 associated with David Charp on the map of *East Flamborough Township* contained within Page and Smith's 1875 *Illustrated Historical Atlas of the County of Wentworth, Ontario* (Map 17). Lot 3, Concession 5 was associated with Mrs. Patten, Lot 2, Concession 4 by J. Green and Alex Thompson, while Lot 3, Concession 4 was associated with James Thompson and Alex Thompson. Beeforth Road, Milburough Line, and Concession 5 East all remain open.

2.3.6 Review of Heritage Properties

There are no designated heritage properties or plaques within 50 m of the Project Area.

3 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, 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. According to the map-based review and background research, the majority of the Project Area exhibits potential for the discovery of archaeological sites due to proximity (within 300 m) to:

- a water source (tributary of Grindstone Creek and associated wetlands);
- previously registered archaeological sites (AiGx-437, AiGx-438, and AiGx-440);
- 19th-century thoroughfares (Concession 5 East, Beeforth/Robson Road, and Milburough Line); and,
- a mapped 19th-century structure (David Charp homestead).

The Stage 1 background research determined that portions of the Project Area have been previously assessed and do not require further assessment, while also indicating that portions of the Project Area have witnessed prior disturbance and lack integrity. This disturbance primarily relates to the construction of Concession 5 East, built structures fronting the roadway and associated driveways, a paved yard, and the existing gas main. Other areas of low archaeological potential, based on mapping, are low lying and wet lands associated with Grindstone Creek and its tributary.

Based on a detailed map-review, the remainder of the Project Area is comprised of manicured lawns, grassed lands that are lightly treed, woodlot, and portions of agricultural fields, all of which appear to retain archaeological potential and require further assessment.

Further to the sites identified within 100 metres of the project area, several sites are mapped in PastPortal as within or within 50 m of the Project Area (AiGx-437, AiGx-438, NDFS-0105, NDFS-0106 and AiGx-440). As such, their presence is not only indicative of archaeological potential but could require mitigation as part of this project. The current status of each of these sites is reviewed below:

- AiGx-437 – an Indigenous site consisting of a chert biface and two pieces of Indigenous pottery (PRASI 2020). Previous avoidance and protection measures at the site were utilized as part of Integrity Dig Location 93-3040-2016 (Dig 93; Wood 2019c). As the site retains CHVI under the provincial framework, the implementation of an avoidance and protection strategy is required if impacts are proposed within 10 m of the known site location.
- AiGx-438 – an Indigenous site comprising 14 pieces of chipping detritus recovered from one test pit and two test units (PRASI 2020). The site retains CHVI as the parcels were later removed from the project boundary and were avoided via WFP HDD-3. The implementation of an avoidance and protection strategy is required if impacts are proposed within 10 m of the known site location.
- NDFS-0105 – a findspot consisting of two undiagnostic Indigenous lithic artifacts; no further work was required (PRASI 2020).
- NDFS-0106 – a findspot consisting of one undiagnostic Indigenous lithic artifact; no further work was required (PRASI 2020).

- AiGx-440 – a multi-component site comprised of four Indigenous lithic artifacts and two 19th-century items (PRASI 2020). Due to the diffuse nature of the finds, the site did not meet the criteria for Stage 3 assessment, and no further work was recommended.

Maps 18 to 20 present the results of the assessment on an aerial photograph. Supplementary Documentation (SD) Maps 5 to 7 illustrate the results of the assessment in relation to registered archaeological sites. Apart from the illustration of the Project Area shown in Maps 1 and 2, no detailed proponent mapping was provided for this study. Instead, the information was provided as a GIS shape file. For that reason, our Stage 1 findings are not illustrated on a proponent map per se.

4 RECOMMENDATIONS

A Stage 1 archaeological assessment has been completed for Segment 2 of the SPPL Segments Mitigation Project in the City of Hamilton, Ontario. Based on the Stage 1 background research and map review, the following recommendations apply:

- Previously Assessed Areas:
  - For the lands within the Project Area that were previously subject to Stage 2 assessment using methodologies in keeping with the 2011 *Standards and Guidelines* and for which there are no outstanding archaeological concerns, no further assessment is required (3.01 ha; 22.8%).
- Areas of Low Archaeological Potential:
  - Areas of previous disturbance (e.g., building footprints and existing roads or laneways; 0.8 ha; 6.1%), as well as low-lying and wet areas (0.73 ha; 5.5%) are considered to have low archaeological potential.
  - As a field inspection was not conducted as part of this study, areas of low archaeological potential within the Project Area will need to be confirmed and photo-documented at the time of Stage 2 survey (MTC 2011:28; Section 2.1.2).
- Stage 2 Methodologies:
  - in keeping with the provincial standards, the ploughable areas (1.64 ha; 12.4%) must be subject to a pedestrian survey at a 5 m interval following Section 2.1.1 of the *Standards and Guidelines* (MTC 2011). The field must be ploughed to achieve 80% visibility and weathered prior to assessment.
  - in keeping with the provincial standards, the non-ploughable areas (e.g., manicured lawn, grassed, meadow and wooded areas; 6.34 ha; 48.0%) must be subject to test pit assessment at a 5 m transect interval following Section 2.1.2 of the *Standards and Guidelines* (MTC 2011).
- There are two previously registered archaeological sites located within the Project Area that have further CHVI (0.7 ha; 5.3%). It is recommended that these areas be avoided, if possible. If this is not possible, further archaeological assessment is required. Should impacts be proposed at the location of these sites, the following site-specific recommendations apply:
  - AiGx-437 is a small Woodland period site consisting of three artifacts recovered during pedestrian survey. If AiGx-437 is anticipated to be impacted by construction, the methodology for the Stage 3 assessment should follow Section 3.2.2 of the 2011 *Standards and Guidelines*. Any work for Stage 3 investigations should be prepared in consultation with Indigenous communities with an interest in this area;
  - AiGx-438 is a small Indigenous site, consisting of 14 artifacts recovered during test pit survey. If AiGx-438 is anticipated to be impacted by construction, the methodology for the Stage 3 assessment should follow Section 3.2.2 of the 2011 *Standards and Guidelines*. Any work for Stage 3 investigations should be prepared in consultation with Indigenous communities with an interest in this area;
- Changes to Extent of Project Area:
  - If the extent of the Project Area changes to incorporate lands not addressed in this study, further assessment will be required.

These recommendations are subject to the conditions laid out in Section 6.0 of this report, and to the review of this report by the MCM and its acceptance into the provincial register of archaeological reports.

5 SUMMARY

A Stage 1 archaeological assessment was conducted for Segment 2 of the SPPL Segments Mitigation Project in the City of Hamilton, Ontario. The Stage 1 background research determined that portions of the Project Area have been previously assessed and do not require further assessment, while also indicating that portions of the Project Area have witnessed prior disturbance and lack integrity. This disturbance primarily relates to the roadway construction, built structures, paved surfaces, and the existing gas main. Other areas of low archaeological potentials were identified in the form of low lying and wet lands. The remainder of the Project Area is comprised of manicured lawns that are lightly treed, grassed areas, and agricultural field, all of which appear to retain archaeological potential and require Stage 2 assessment. Two previously registered archaeological sites are present within the Project Area, and will require further archaeological assessment, should impacts be proposed for the site location.

6 ADVICE ON COMPLIANCE WITH LEGISLATION

This report is submitted to the MCM 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 MCM, 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 Archaeological Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the *Ontario Heritage Act*. 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 (when proclaimed in force) requires that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Public and Business Service Delivery and Procurement.

Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48(1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.

7 BIBLIOGRAPHY

Bergman, N.

2016 *Channel Form and Processes in a Formerly Glaciated Terrain*. Unpublished PhD Thesis. The University of Western Ontario: Department of Geography. Website Link. Accessed June 6, 2024.

Chapman, L.J. and D.F. Putnam

1984 *The Physiography of Southern Ontario.* Two Volumes. Third Edition. Ontario Geological Survey. Toronto: Ontario Ministry of Natural Resources.

2007 Physiography of Southern Ontario, *Ontario Geological Survey, Ministry of Northern Development and Mines*, Miscellaneous Release-Data 228.

Dundas Historical Society (and the County of Wentworth)

1973 *The County of Wentworth 1853-1973: A Pictorial Parade.* Hamilton: Wentworth Books.

Glover, F.

2020 A Dish with One Spoon. *Canadian Encyclopedia*. Website Link. Accessed February 2, 2024.

Government of Ontario

1990 *Ontario Heritage Act, R.S.O. 1990*. (c. O.18). Queen's Printer for Ontario. Website Link. Accessed February 16, 2021.

2002 *Funeral, Burial and Cremation Services Act, 2002, S.O. 2002*. (c. 33). Queen's Printer for Ontario. Website Link. Accessed April 7, 2022.

Haines, H., D.G. Smith, D.A. Galbraith and T. Theysmeyer

2011 The Point of Popularity: A Summary of 10,000 years of Human Activity at the Princess Point Promontory, Cootes Paradise Marsh, Hamilton, Ontario. *Canadian Journal of Archaeology* 35:232-257.

Jacobs, D.M. and V.P. Lytwyn

2020 Naagan ge bezhig emkwaan: A Dish with One Spoon Reconsidered. *Ontario History* 112(2): 191-210.

J.D. Barnes and First Base Solutions

2020 Southwestern Ontario Ortho Imagery Project (SWOOP) – Imagery for Southwestern Ontario.

Jones, A.

1796 Names of the rivers and creeks, as they are called by the Messissagues… Ontario Ministry of Natural Resources, *Letters received* 6: 1882-1883.

Microsoft

2019 Computer generated building footprints for Canada, *Microsoft Open Source*. Website Link. Accessed November 3, 2021.

Mika, N. and Mika, H.

1983 *Places in Ontario: Their Name origins and history, Part III, N-Z.* Belleville, ON: Mika Publishing.

Ministry of Citizenship and Multiculturalism (MCM)

2026 Ontario's Past Portal, Online Database. King's Printer for Ontario. Website Link. Accessed February 17, 2026.

Ministry of Tourism and Culture (MTC; now Ministry of Citizenship and Multiculturalism)

2011 *Standards and Guidelines for Consultant Archaeologists*. Toronto: Queen's Printer for Ontario.

Mishkodeh Centre for Indigenous Knowledge (MCIK)

n.d. History. Website Link. Accessed October 27, 2022.

Mississaugas of the Credit First Nation (MCFN)

2020 *Between the Lakes Treaty No. 3 (1792).* Culture and History; Historical Tidbit. Mississaugas of the Credit First Nation. Website Link. Last accessed December 21, 2022.

Ontario Energy Board (OEB)

2023 *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Projects and Facilities in Ontario*. 8th Edition. Toronto: King's Printer for Ontario.

Ontario Geological Survey

2010 Surficial Geology of Southern Ontario. *Ontario Geological Survey, Ministry of Northern Development, Mines and Forestry*, Miscellaneous Release-Data 128-REV.

Ontario Ministry of Agricultural, Food and Rural Affairs (OMAFRA)

2019 Soil Survey Complex. Website Link. Accessed June 1, 2023.

OpenStreetMap

2021 Geofabrik Extract. Website Link. Accessed December 10, 2021.

Page and Smith

1875 *Illustrated Historical Atlas of the County of Wentworth, Ontario*. Reprinted in 1971.

Past Recovery Archaeological Services Inc. (PRASI)

2019 *Stage 1 Archaeological Assessment for the Proposed Waterdown to Finch Project, Various Lots and Concessions, Geographic Townships of East Flamborough, Nelson, Trafalgar, Toronto, Toronto Gore, Etobicoke & York, Now City of Hamilton, City of Burlington, Town of Milton, Town of Oakville, City of Mississauga & City of Toronto, Ontario* Licensee Adam Pollock; PIF P336-0194-2017. Report on file with the MCM.

2020 *Stage 1 Archaeological Assessment for the Proposed Waterdown to Finch Project, 2018 & 2019 Fieldwork – City of Hamilton, Lots 3 To 11, Concession 4 & Lots 1 To 3, Concession 5, Geographic Township of East Flamborough, Wentworth County, Now City of Hamilton.* Licensee Adam Pollock, PIF P336-0235-2018. Report on file with the MCM.

Presant, E.W., R.E. Wicklund and B.C. Matthews

1965 *The Soils of Wentworth County*. Report No. 32 of the Ontario Soil Survey. Canada Department of Agriculture and the Ontario Department of Agriculture.

Reville, F.D.

1920 *History of the County of Brant*. Brantford: Hurley Printing Company.

Stantec Consulting Ltd. (Stantec)

2015 *Stage 1-2 Archaeological Assessment: Proposed Temporary Access in East Flamborough Township (CWP 1433S), Enbridge Line 8, Lot 2, Concession 5, Geographic Township of East Flamborough, former Wentworth County, now City of Hamilton, Ontario.* Licensee, Parker Dickson, PIF P256-0301-2014. Report on file with the MCM.

2020 *Stage 1-2 Archaeological Assessment: Proposed Temporary Access and Workspaces in Various Townships, Various Integrity Digs (CWP 138), Enbridge Line 9, Parts of Various Lots and Concessions, Northumberland County, Halton County, Durham Region, City of Hamilton, and City of Toronto, Ontario.* Licensee, Thanos Webb, PIFs P400-0083-2017, P400-0084-2017, P400-0085-2017, P400-0086-2017, and P400-0101-2018. Report on file with the MCM.

Surtees, R.

1859 *Map of the County of Wentworth, Canada West*. Hamilton: Hardy Gregory.

Surtees, R.J.

1984 *Indian Land Surrenders in Ontario 1763-1867*. Ottawa: Indian Affairs and Northern Development, Government of Canada.

TMHC Inc. (TMHC)

2021 *Stage 2 Archaeological Assessment, Imperial Oil Limited, Waterdown to Finch Project, Deep Fill Testing - City of Mississauga, Spread 1, Lots 2-4, Concession 2 NDS, Geographic Township of Trafalgar, Former Halton County and Lots 34-35, Concession 2 NDS, Geographic Township of Toronto, Former Peel County, Now City of Mississauga, Additional TWS, Lot 2, Concession 5, Geographic Township of East Flamborough, Wentworth County, Now City of Hamilton, Lot 15, Concession 2 North of Dundas Street, Geographic Township of Nelson, Halton County, Now City of* Burlington. Licensee Matthew Beaudoin, PIF P324-0507-2020. Report on file with the MCM.

2023 *Stage 2 Archaeological Assessment, Imperial Oil Limited, Waterdown to Finch Project, 2021-2022 Fieldwork - HDD Paths, Various Lots and Concessions, Geographic Townships of East Flamborough, Nelson, Trafalgar, Toronto, Toronto Gore, Etobicoke, and York, Counties of Wentworth, Halton, Peel, and York, Now the Cities of Hamilton, Burlington, Milton, Oakville, Mississauga, and Toronto.* Licensee Matthew Beaudoin, PIF P324-0628-2021. Report on file with the MCM.

Tooker, E.

1978 Iroquois Since 1820. In Trigger, B.G. (ed), *Handbook of North American Indians*, Volume 15, Northeast. Washington: Smithsonian Institute.

Town of Stoney Creek

1975 *Saltfleet Then and Now 1792-1973*. Hamilton: D.G. Seldon Printing.

Tremaine, G.R.

1858 *Tremaine's Map of the County of Halton, Canada West*. Scale 1:31,680. Oakville: Geo. C. Tremaine.

Waldie, J.

1984 *Brant County: The Story of its People*, Volume I. Brantford: Brant Historical Society.

Walker & Miles

1877 *Illustrated Historical Atlas of the County of Halton, Ontario*. Toronto: Walker & Miles.

Waterdown-East Flamborough Heritage Society.

2017 *Connecting the Dots: Snapshots of Flamborough Communities*. Canada: Waterdown-East Flamborough Heritage Society.

Weaver, J.C.

1982 *Hamilton: An Illustrated History*. Toronto: James Lorimer Limited.

Wood Environment & Infrastructure Solutions (Wood)

2019a *Revised Report: Stage 1 & 2 Archaeological Assessment, Integrity Dig Location 102-3970-2018 (Dig 102) Along the Imperial Oil Limited SPPL NPS 12 (Waterdown to Finch) Corridor, Parts of Lots 23 and 24 Concession 2 in the Geographic Township of Nelson, County of Halton, Now in the City of Burlington, and Parts of Lots 1 and 2 Concession 5 in the Geographic Township of East Flamborough, County of Wentworth, Now in the City of Hamilton, Ontario.* Licensee, Shaun Austin, PIF P141-0334-2019. Report on file with the MCM.

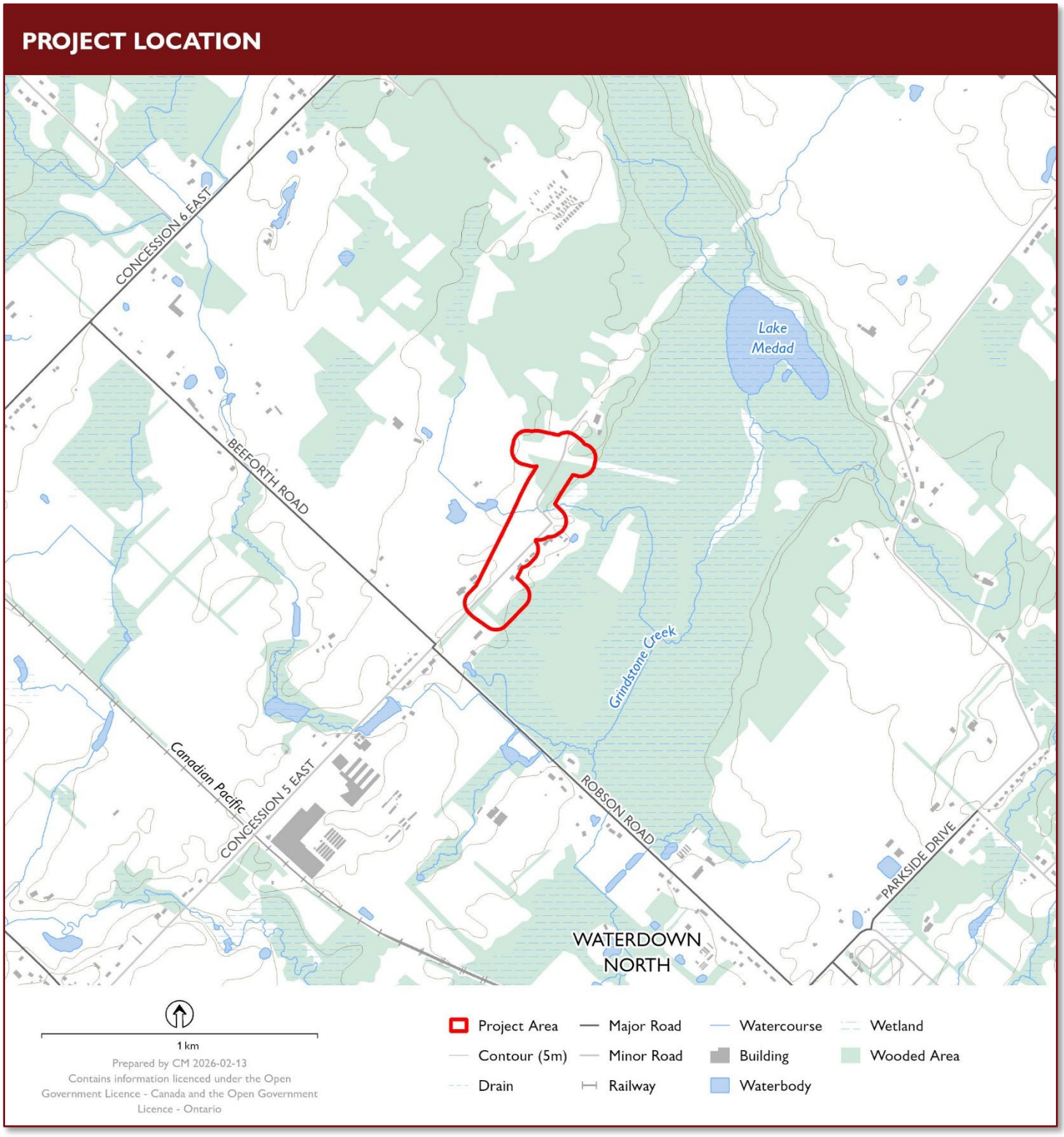
2019b *Stage 1 & 2 Archaeological Assessment. Integrity Dig Location 93-3040-2016 (Dig 93) Along the Imperial Oil Limited SPPL NPS 12 (Waterdown to Finch) Corridor, Lot 3, Concession 5, Former Township of East Flamborough, County of Wentworth, now in the City of Hamilton, Ontario.* Licensee, Shaun Austin, PIF P141-0313-2018. Report on file with the MCM.

2019c *Stage 3 Archaeological Assessment, Protective Mat Usage Monitoring to Avoid Impacts to Site AiGx-437, Integrity Dig Location 93-3040-2016 (Dig 93) On the Imperial Oil Limited SPPL NPS12 (Waterdown to Finch) Corridor, Lot 3, Concession 5, North of Dundas Street (NDS), Geographic Township of East Flamborough, County of Wentworth, now in the City of Hamilton, Ontario.* Licensee, Shaun Austin, PIF P141-0340-2019. Report on file with the MCM.

Wybenga, D.

2022 *Mississaugas were a people of the waters*. Mississaugas of the Credit First Nation. Website Link. Last accessed April 30, 2025

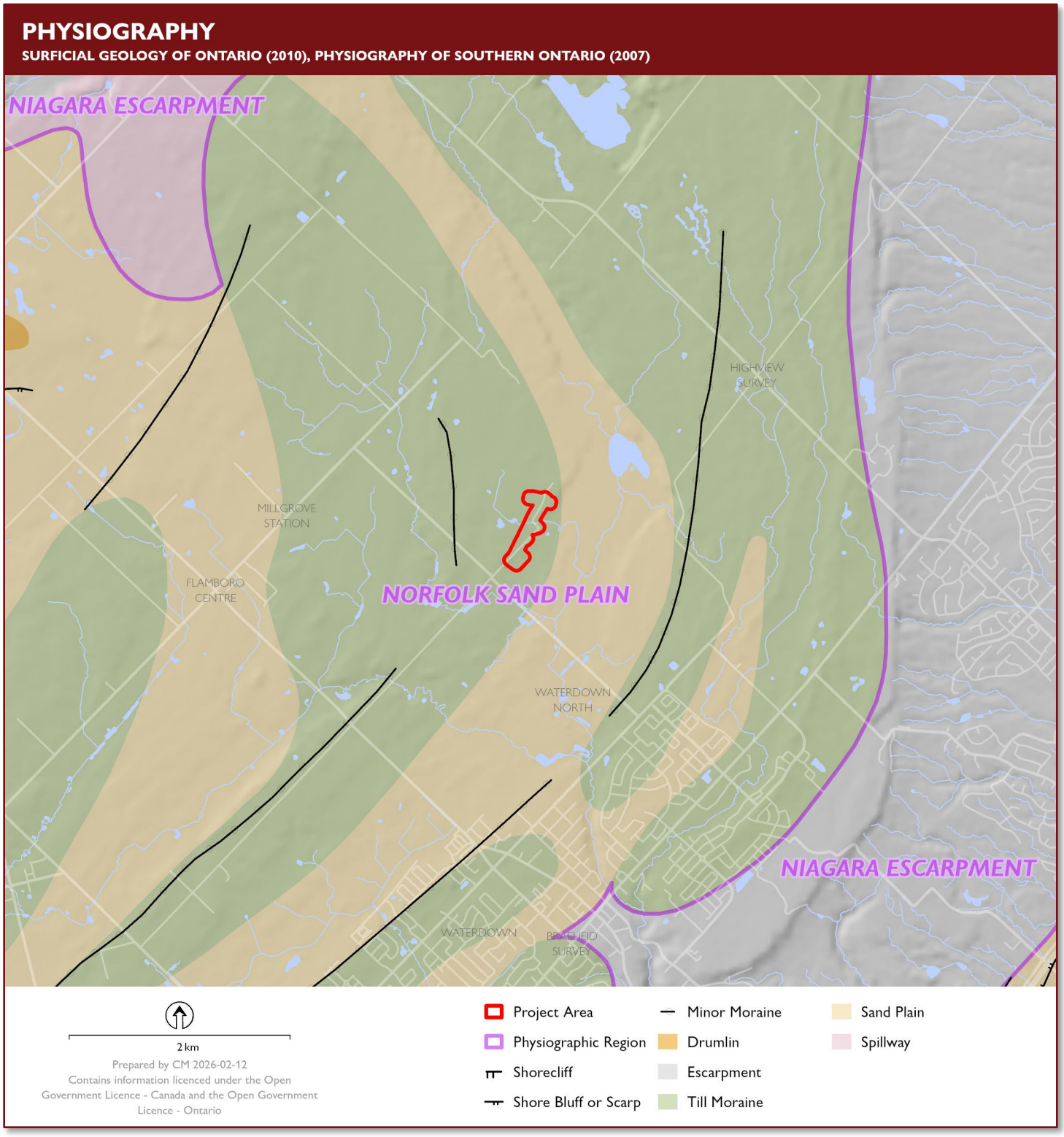
8 MAPS



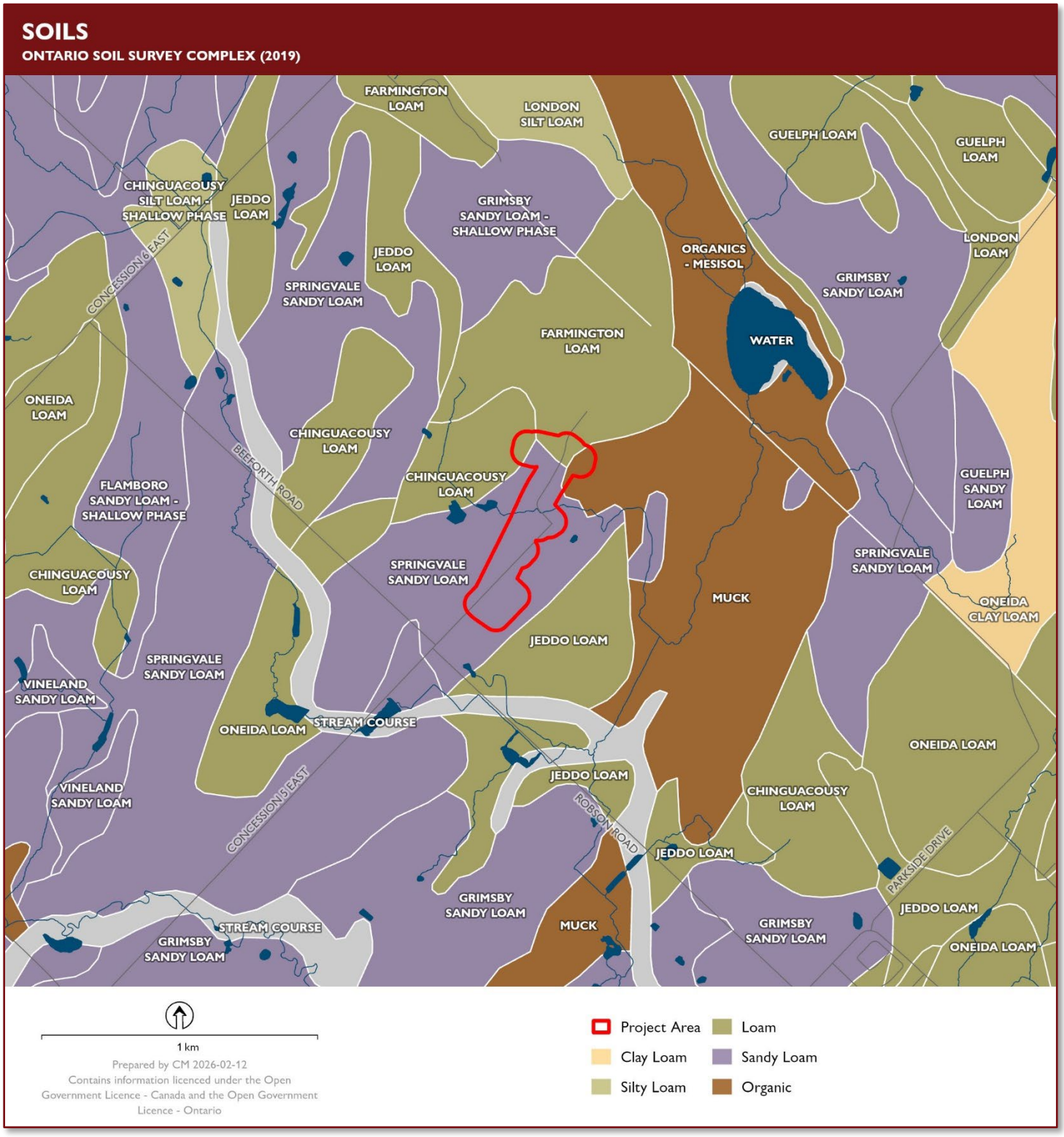
Map 1: Location of the Project Area in the City of Hamilton, Ontario



Map 2: Aerial Photograph Showing the Location of the Project Area



Map 3: Physiography Within the Vicinity of the Project Area



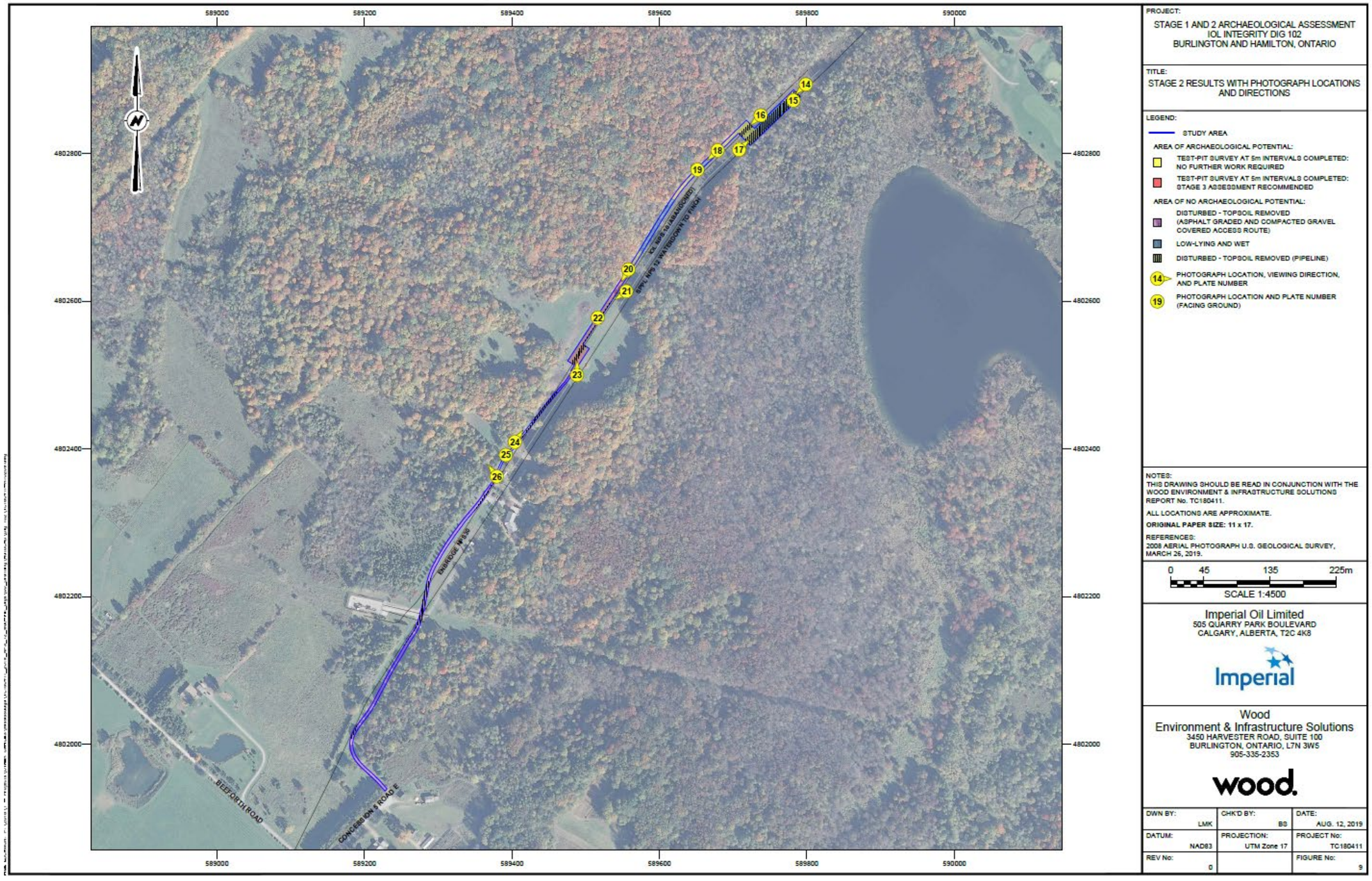
Map 4: Soils Within the Vicinity of the Project Area



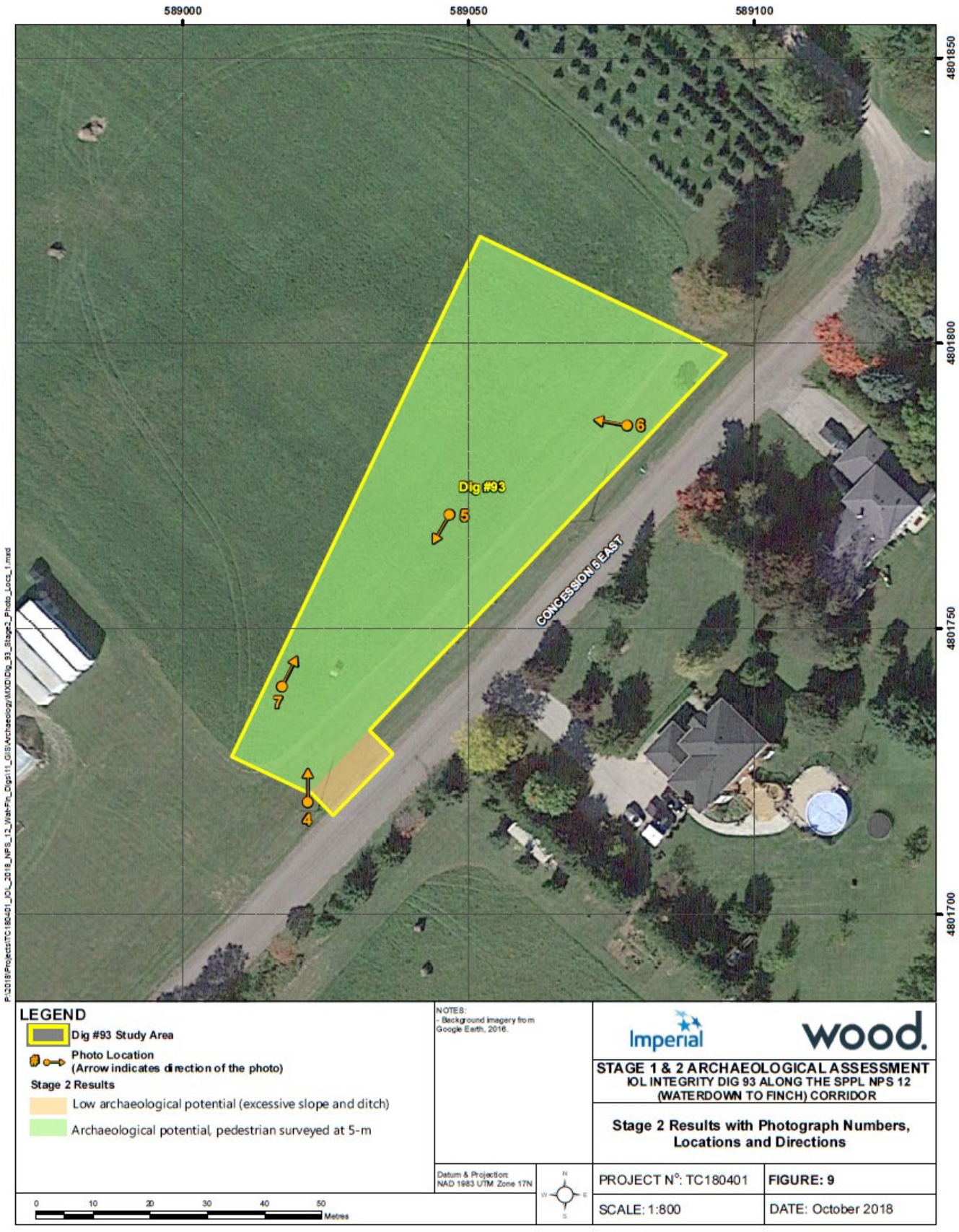
Map 5: Stantec (2015) Stage 1 & 2 Archaeological Assessment – Proposed Temporary Access (CWP 1433s), Enbridge Line 8



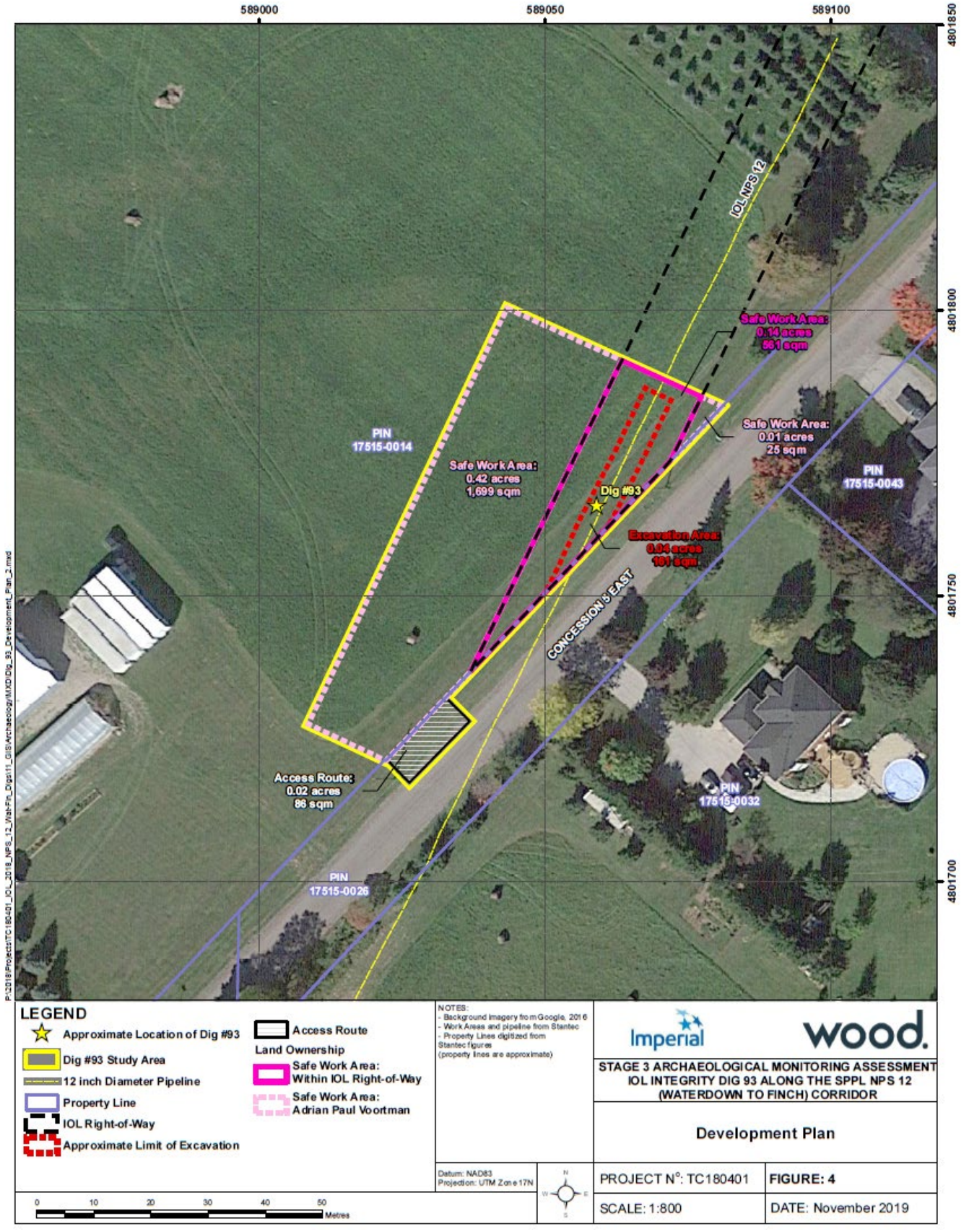
Map 6: Stantec (2020) Stage 1 & 2 Archaeological Assessment – Enbridge's Line 9 Integrity Dig Program



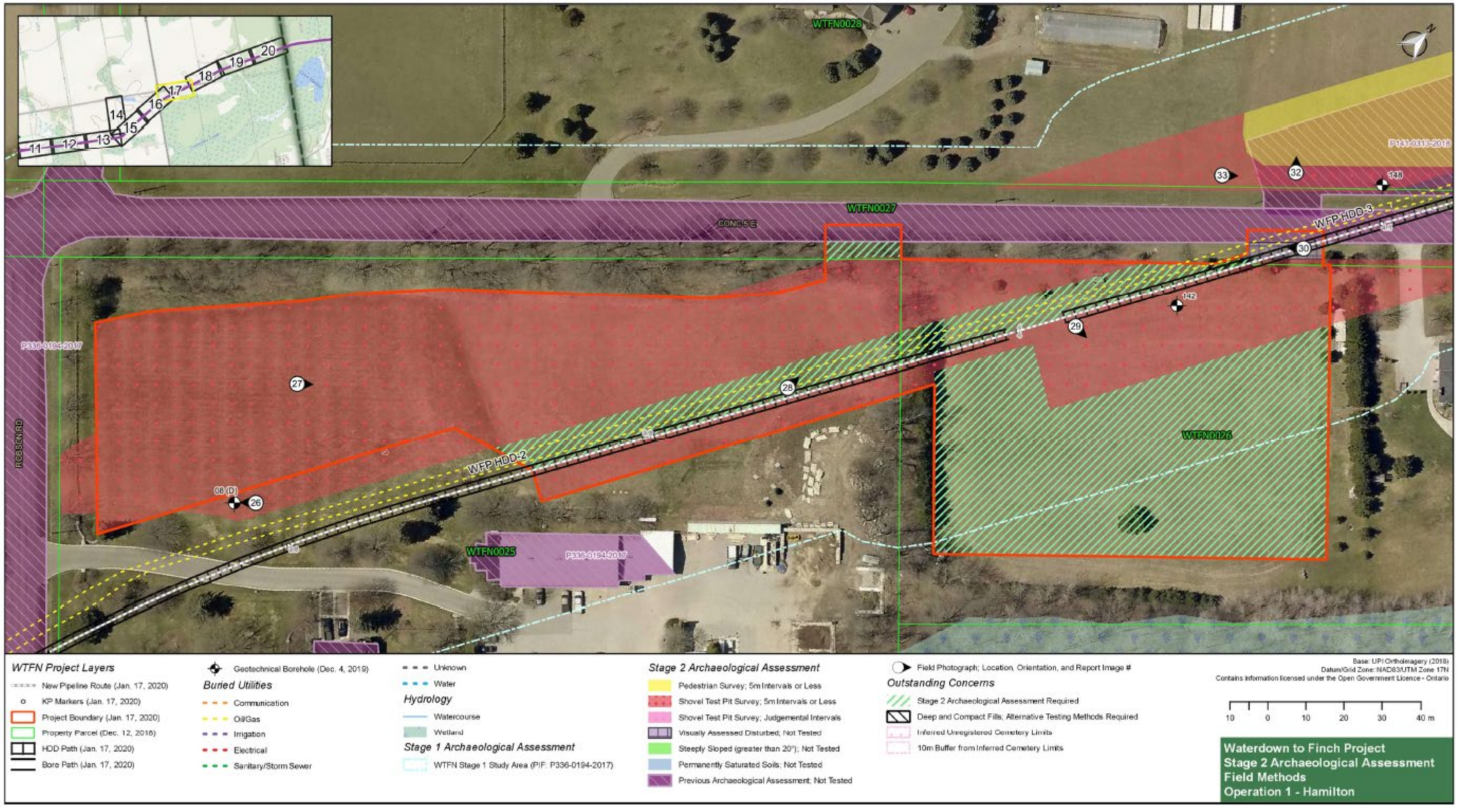
Map 7: Wood (2019a) Stage 1 & 2 Archaeological Assessment – Integrity Dig Location 102-3970-2018 (Dig 102)



Map 8: Wood (2019b) Stage 1 & 2 Archaeological Assessment – Integrity Dig Location 93-3040-2016 (Dig 93)



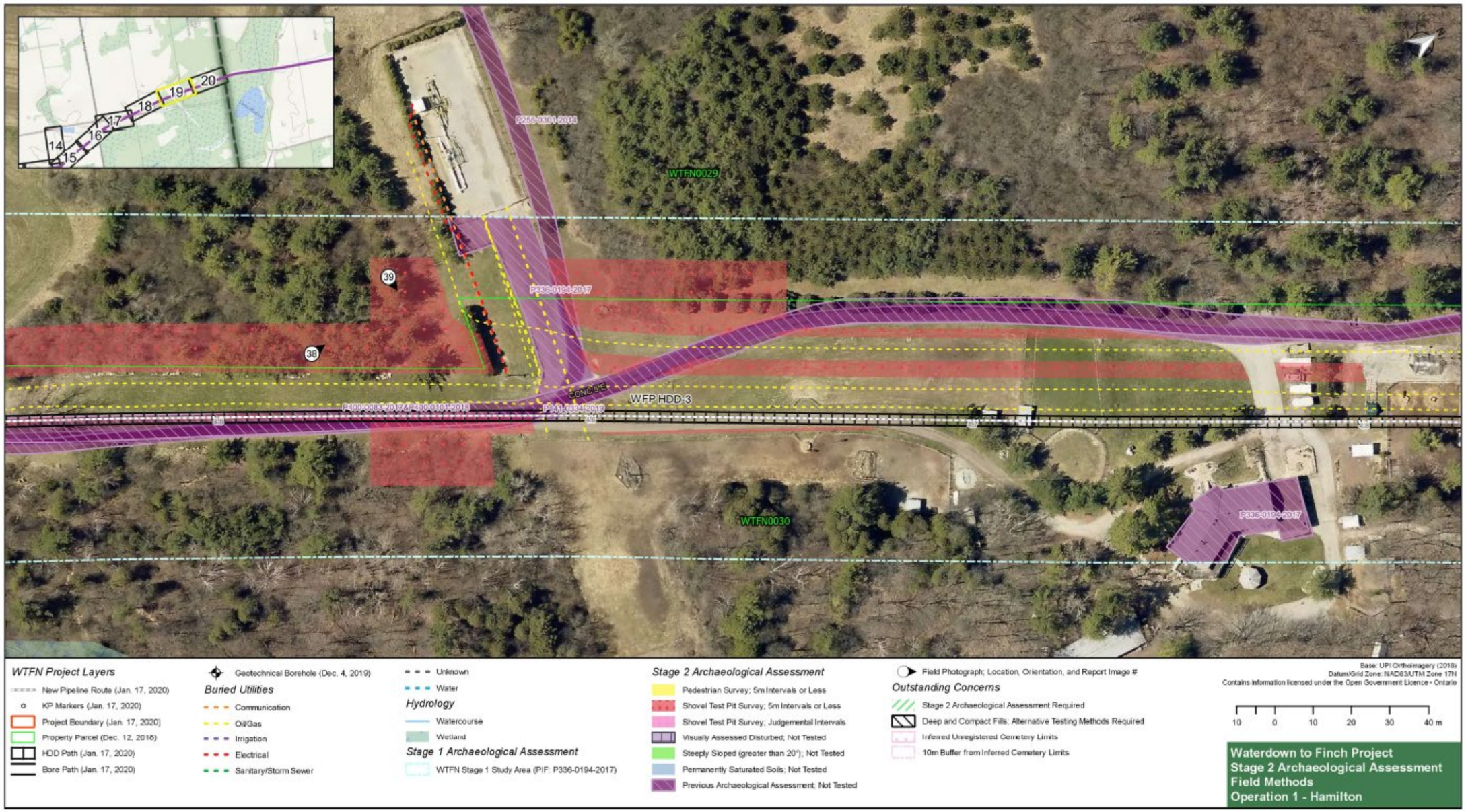
Map 9: Wood (2019c) Stage 3 Archaeological Assessment – Avoidance and Protection of AiGx-437



Map 10: PRASI (2020) Stage 2 Archaeological Assessment – Waterdown to Finch Project 2018 & 2019 Fieldwork



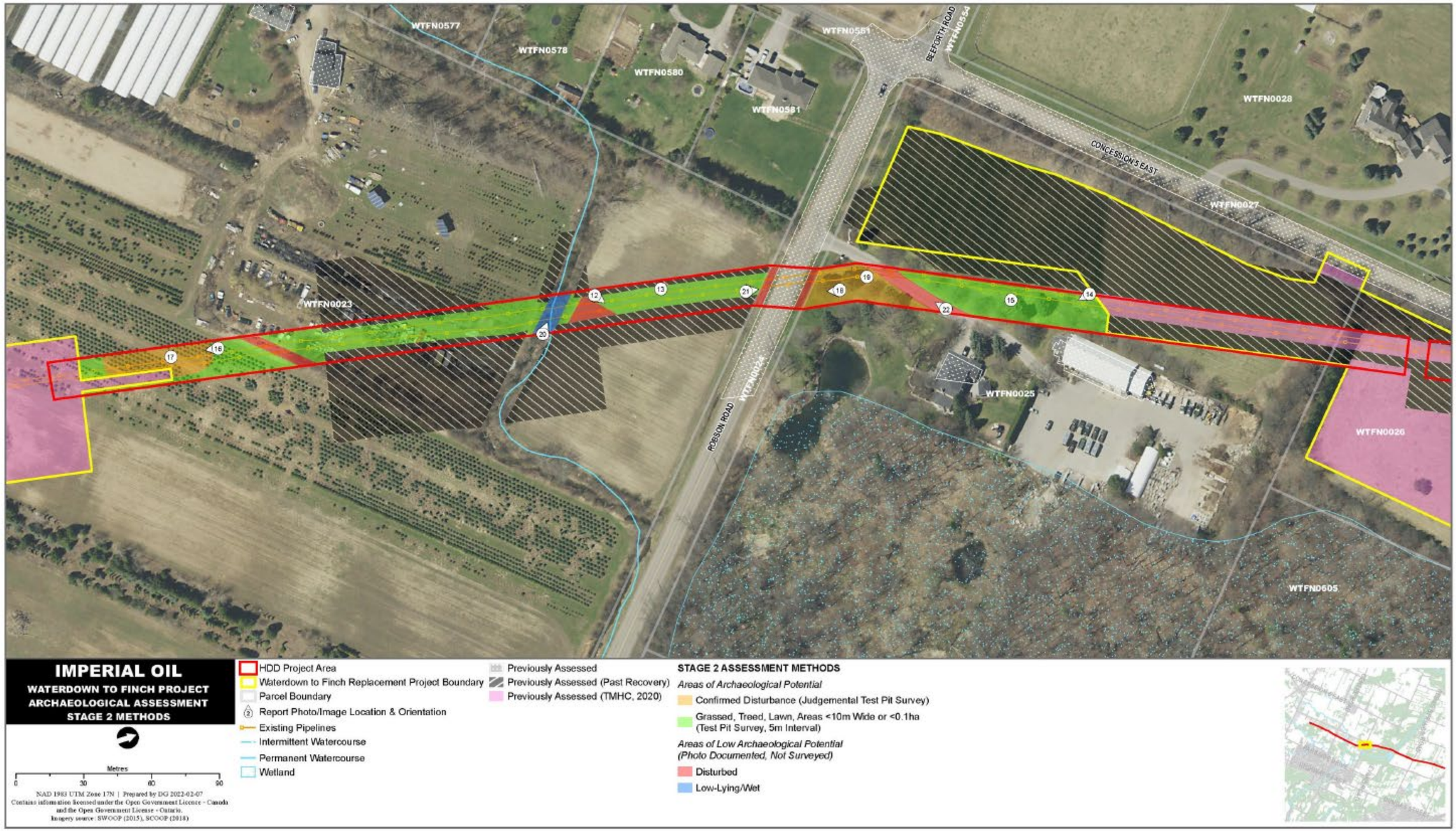
Map 11: PRASI (2020) Stage 2 Archaeological Assessment – Waterdown to Finch Project 2018 & 2019 Fieldwork



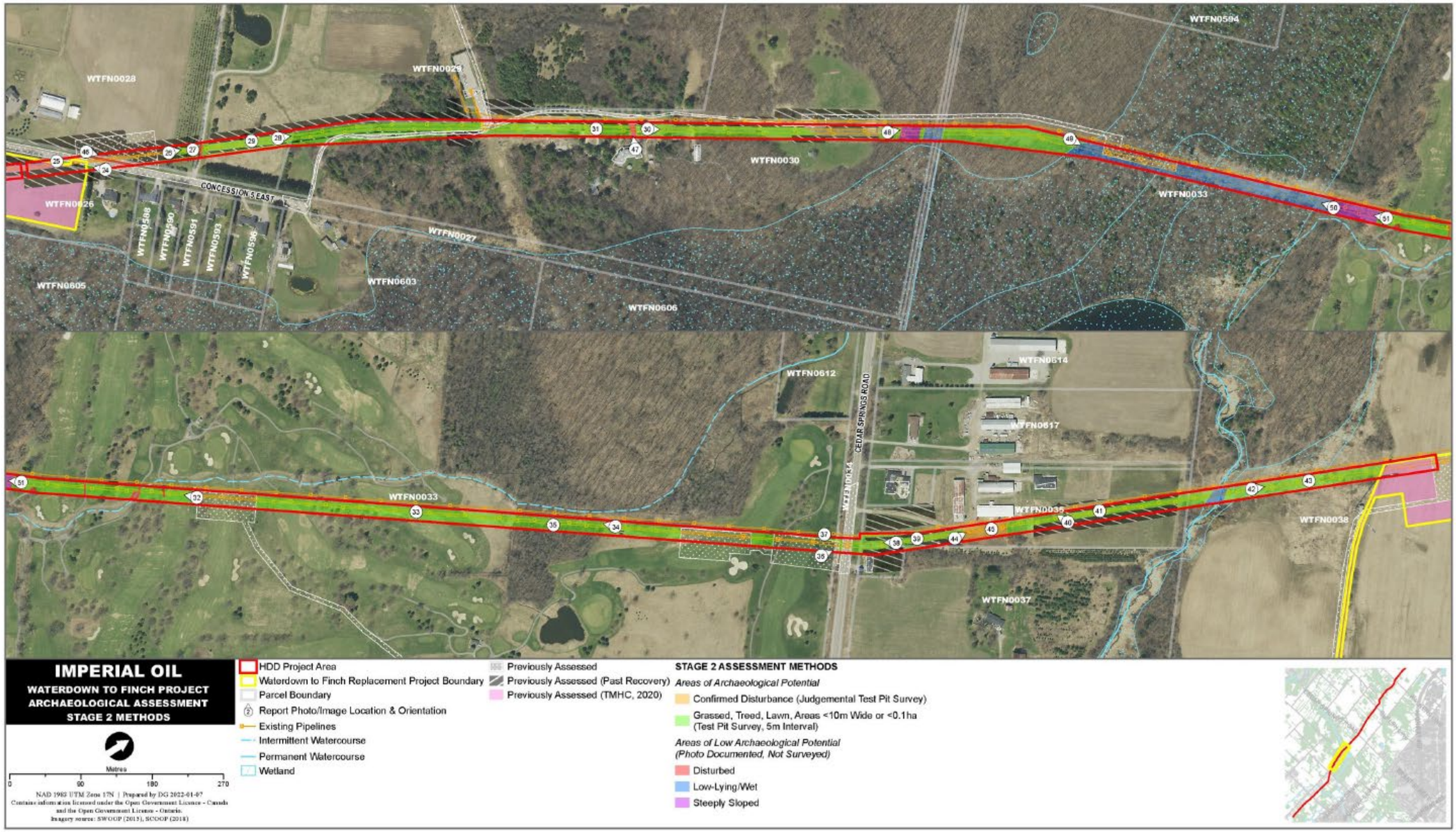
Map 12: PRASI (2020) Stage 2 Archaeological Assessment – Waterdown to Finch Project 2018 & 2019 Fieldwork



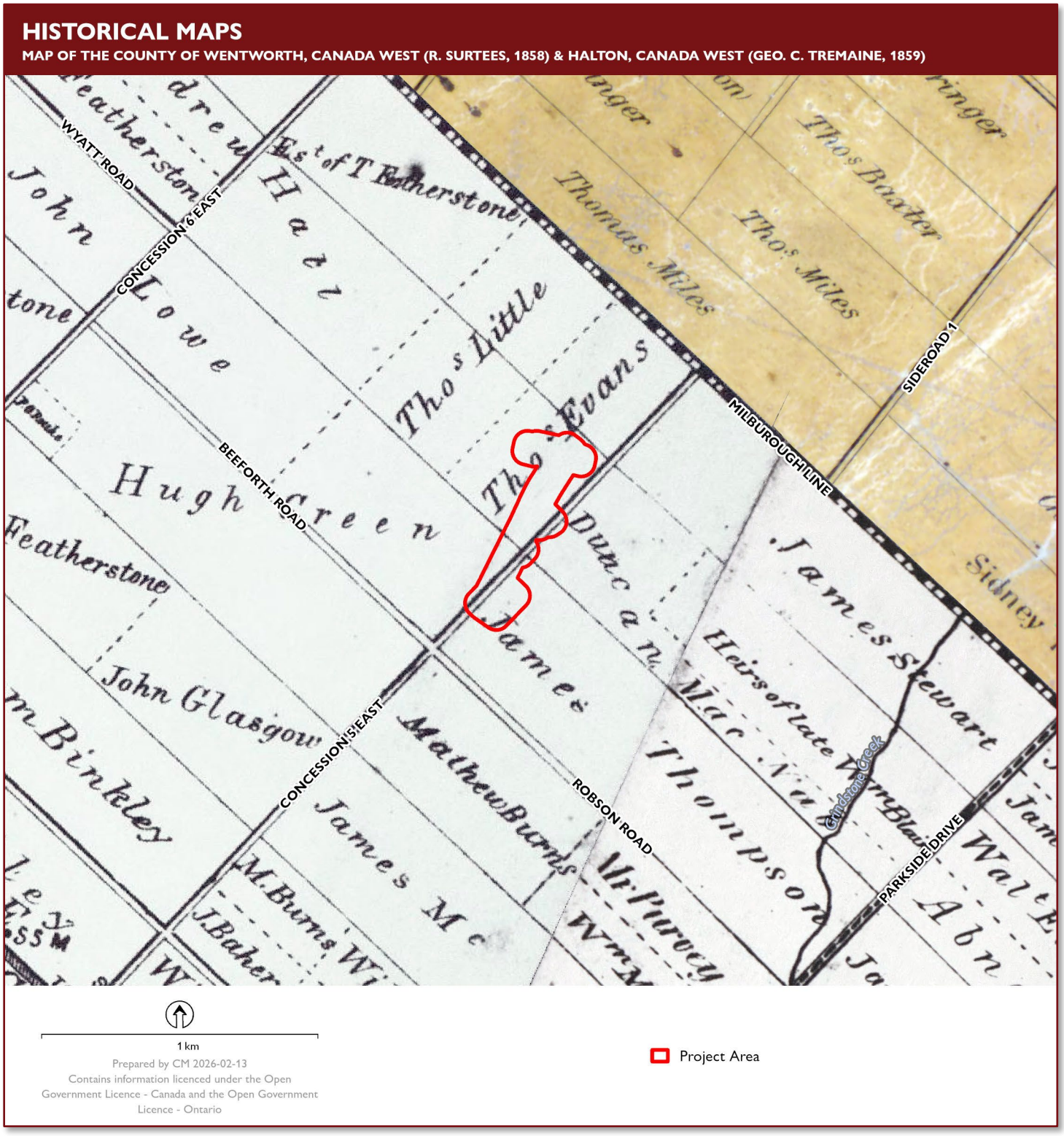
Map 13: TMHC (2021) Stage 2 Archaeological Assessment – Waterdown to Finch Project – Additional TWS WTFN0030



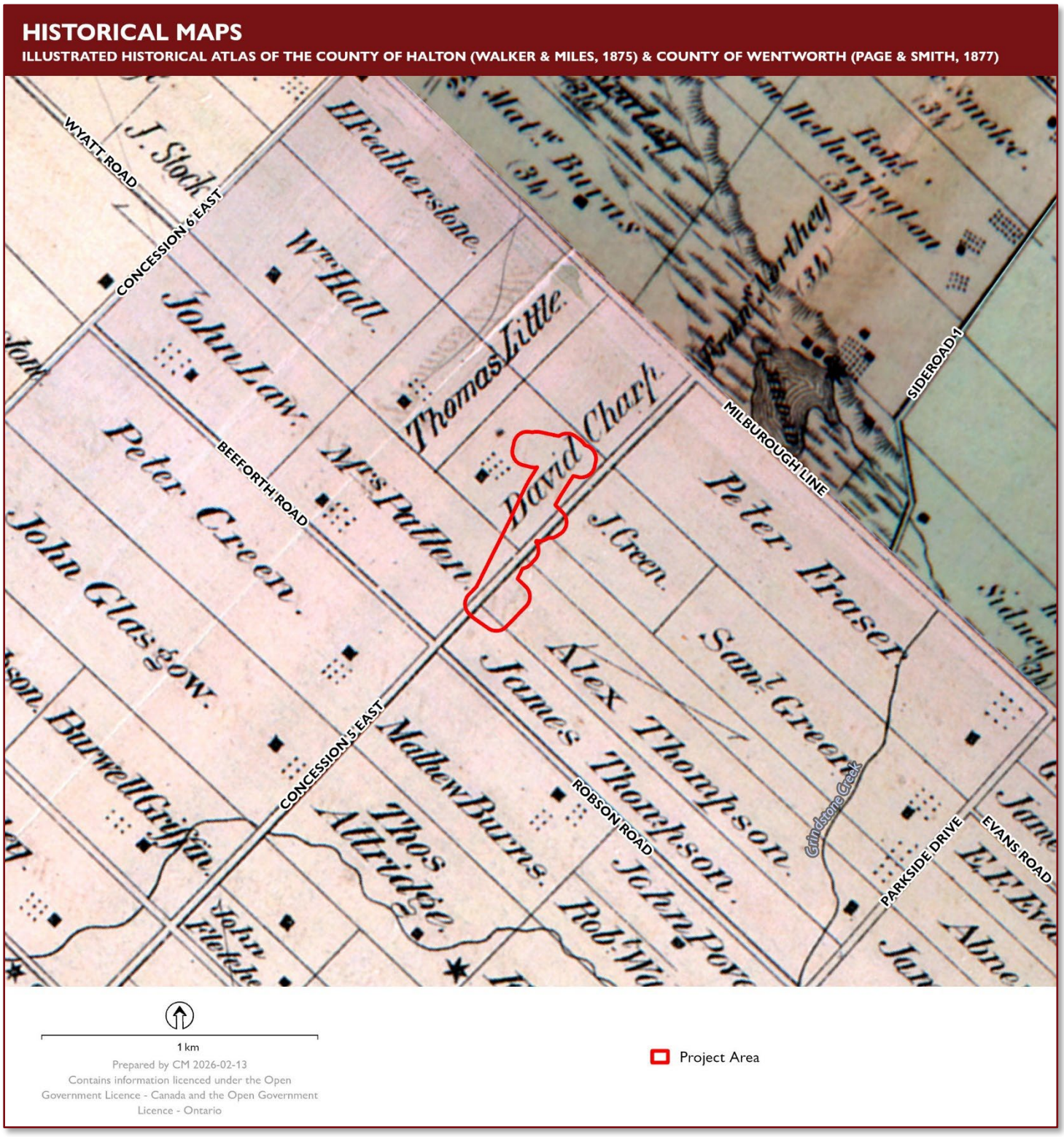
Map 14: TMHC (2023) Stage 2 Archaeological Assessment – Waterdown to Finch Project 2021-2022 Fieldwork - HDD Paths



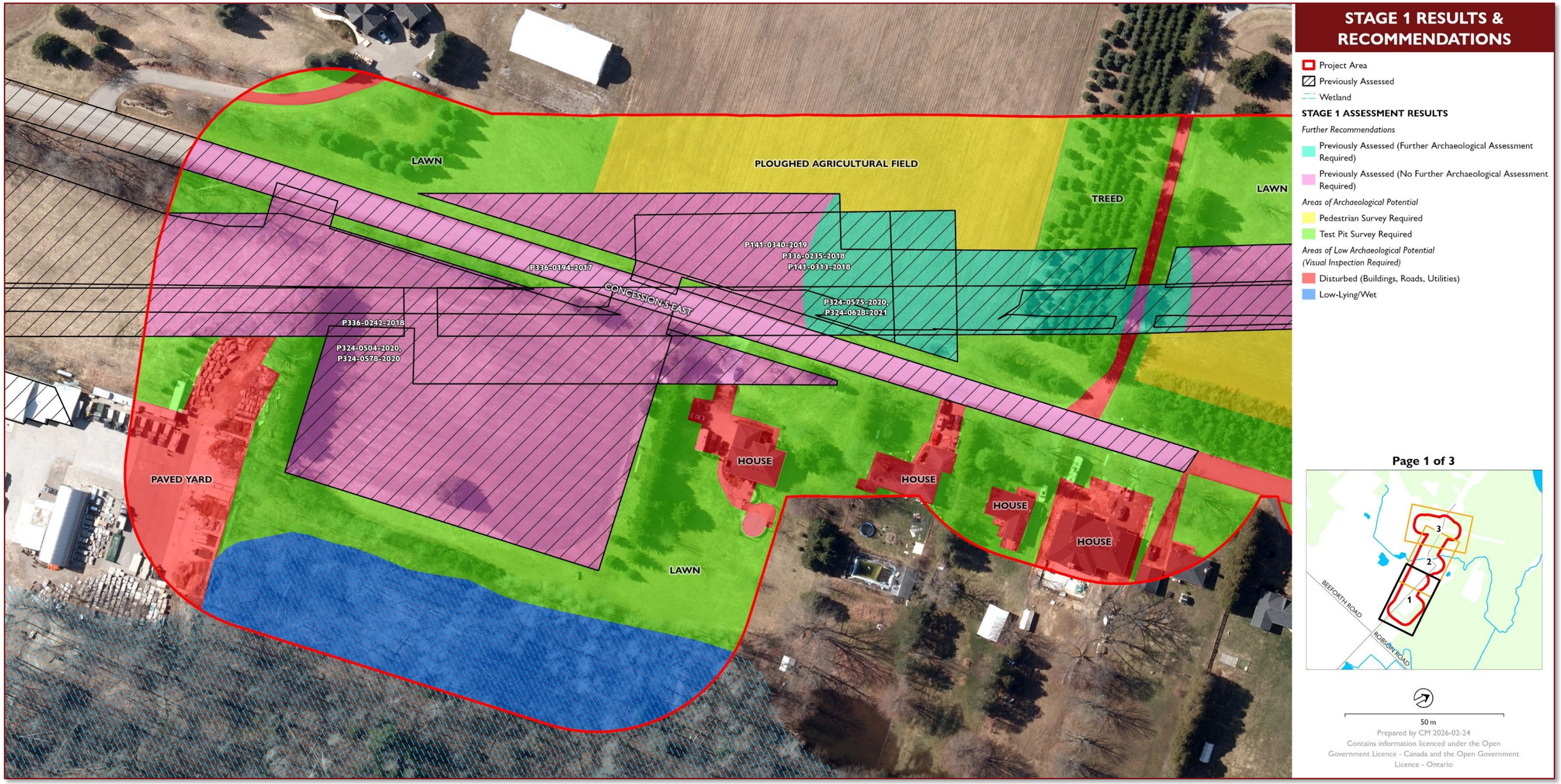
Map 15: TMHC (2023) Stage 2 Archaeological Assessment – Waterdown to Finch Project 2021-2022 Fieldwork - HDD Paths



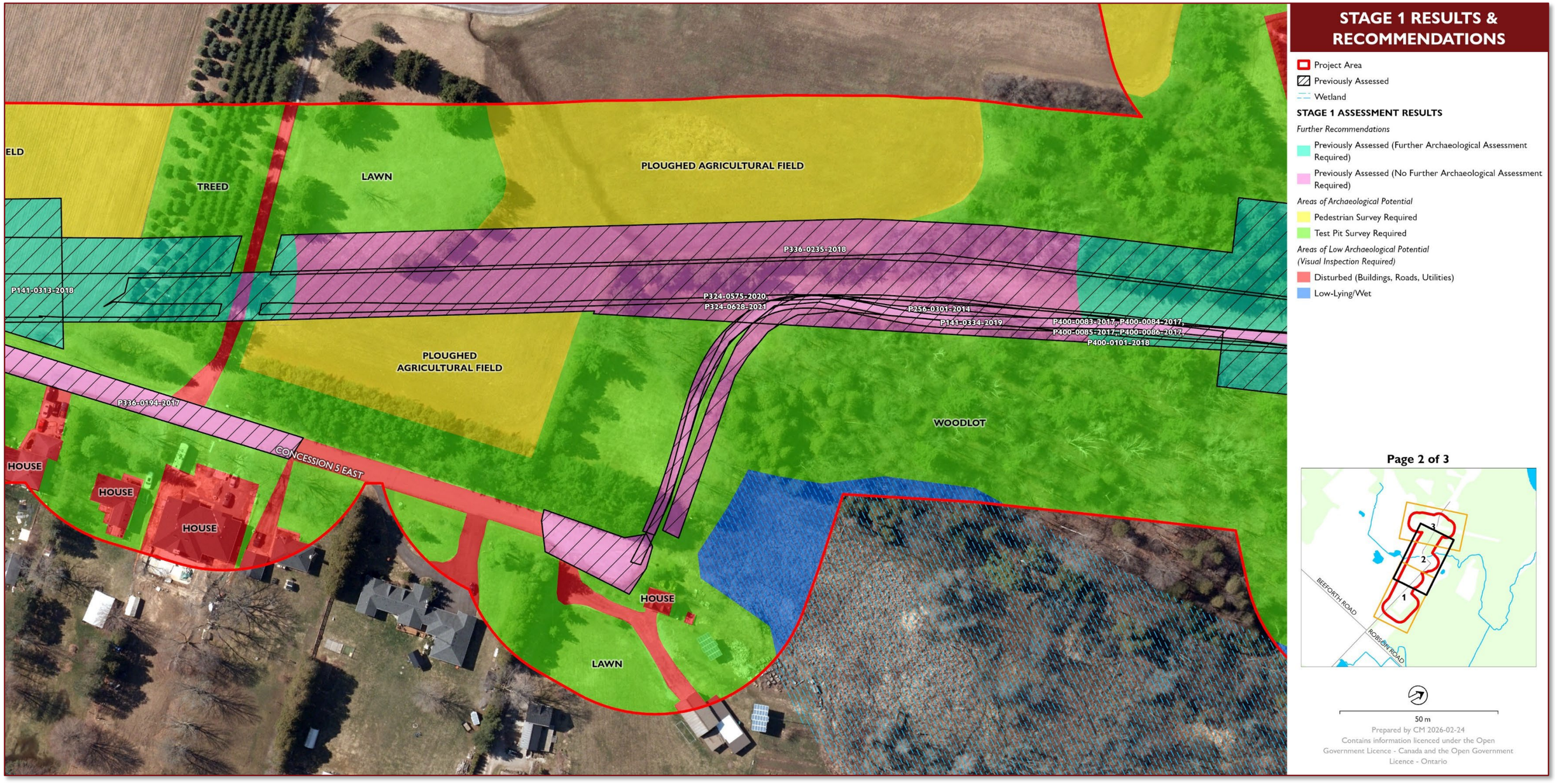
Map 16: Location of the Project Area Shown on the 1859 Map of Wentworth County



Map 17: Location of the Project Area Shown on the 1877 Map of East Flamborough Township



Map 18: Stage 1 Assessment Results and Recommendations – Map 1 of 3



Map 19: Stage 1 Assessment Results and Recommendations – Map 2 of 3



Map 20: Stage 1 Assessment Results and Recommendations – Map 3 of 3

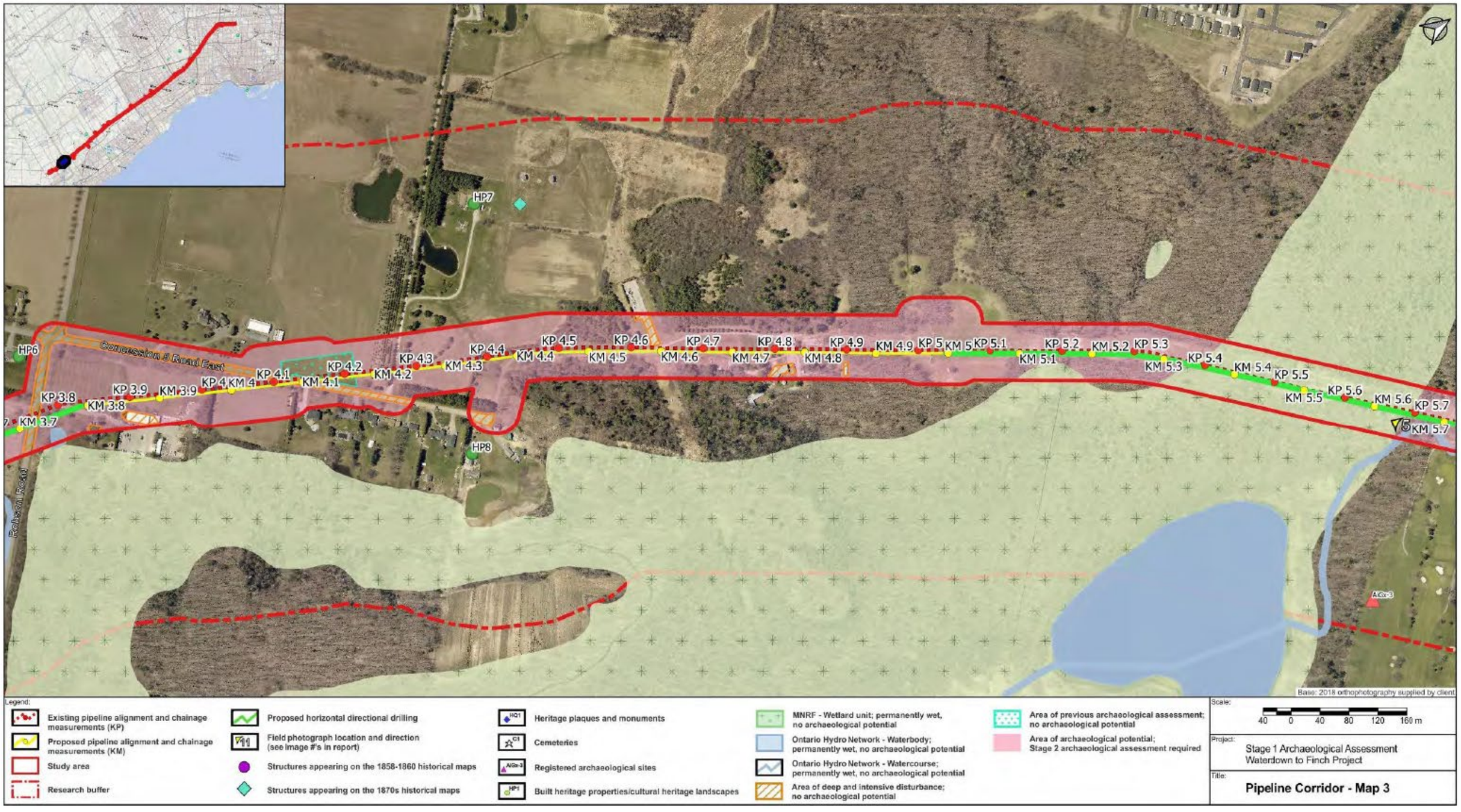
Stage 1 Archaeological Assessment
SPPL Segments Mitigation Project
Segment 2
City of Hamilton
Part of Lots 2 and 3, Concession 5 and
Lots 2 and 3, Concession 4
Geographic Township of East Flamborough
Wentworth County, Ontario

SUPPLEMENTARY DOCUMENTATION

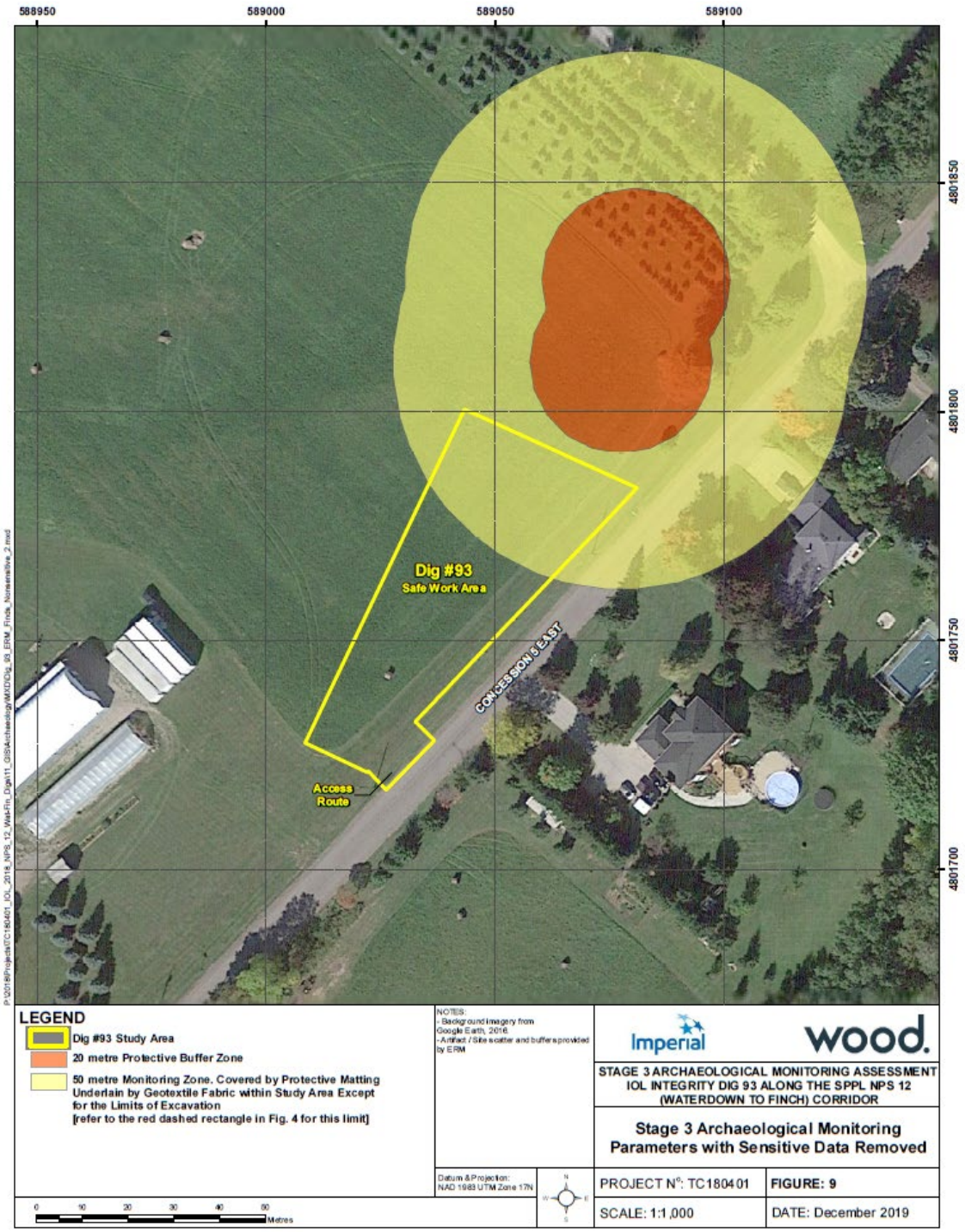
NOT FOR PUBLIC CIRCULATION

Licensee: Matthew Beaudoin, PhD, P324

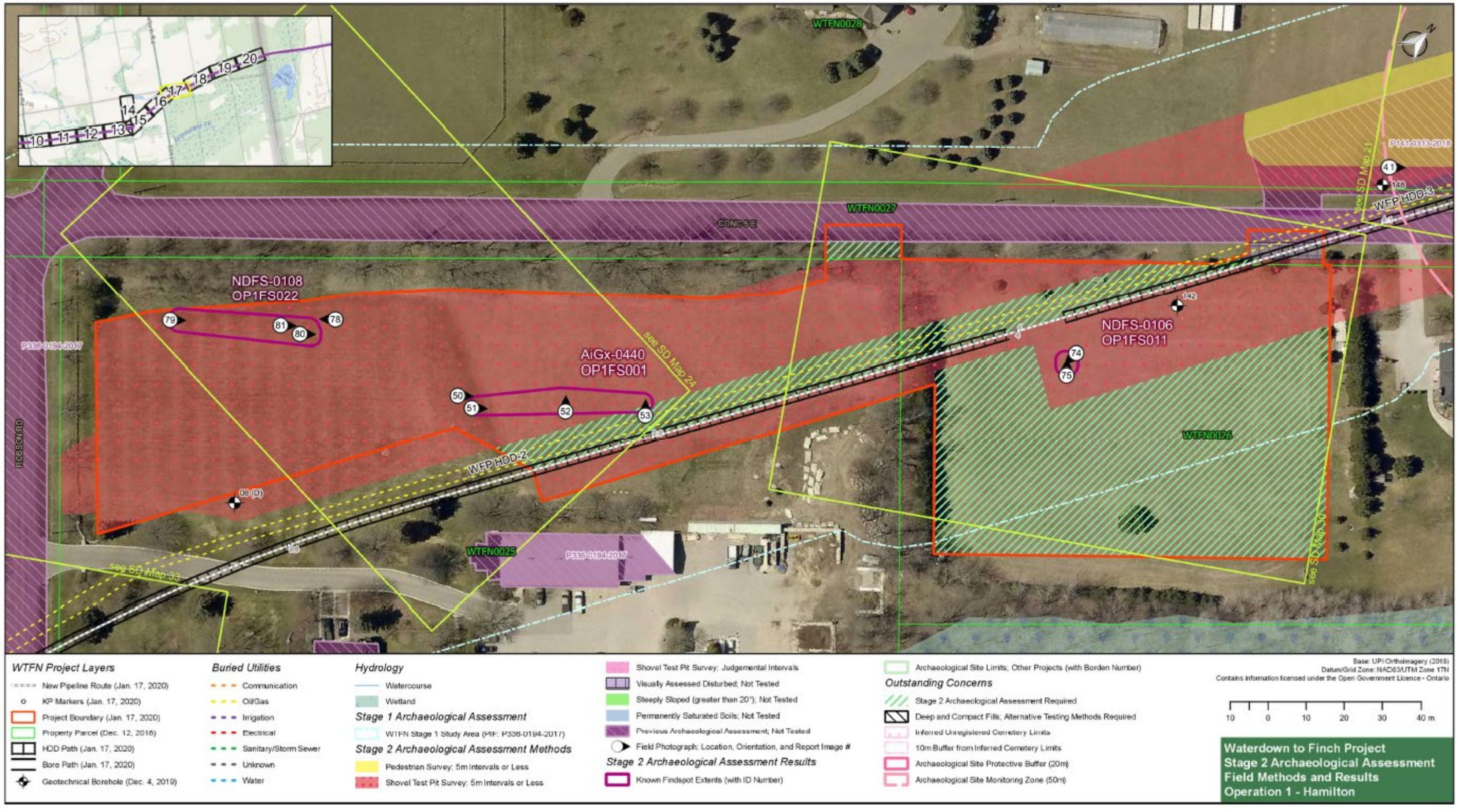
PIF No: P324-1047-2026
Project No: 2025-655
Dated: June 4, 2026



SD Map 1: PRASI (2019) Stage 1 Assessment Results



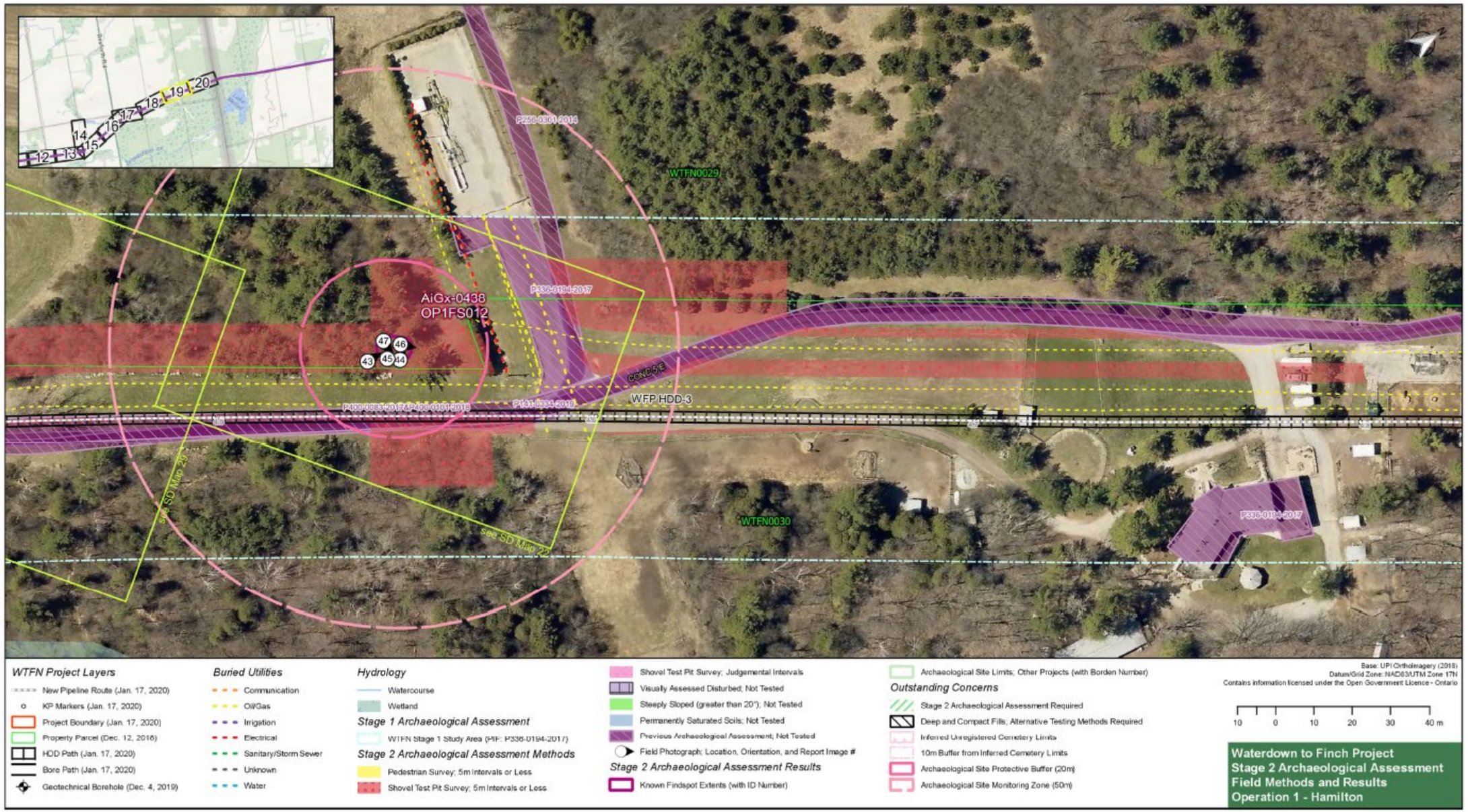
SD Map 2: Wood (2019c) Stage 3 Archaeological Assessment – Avoidance and Protection of AiGx-437



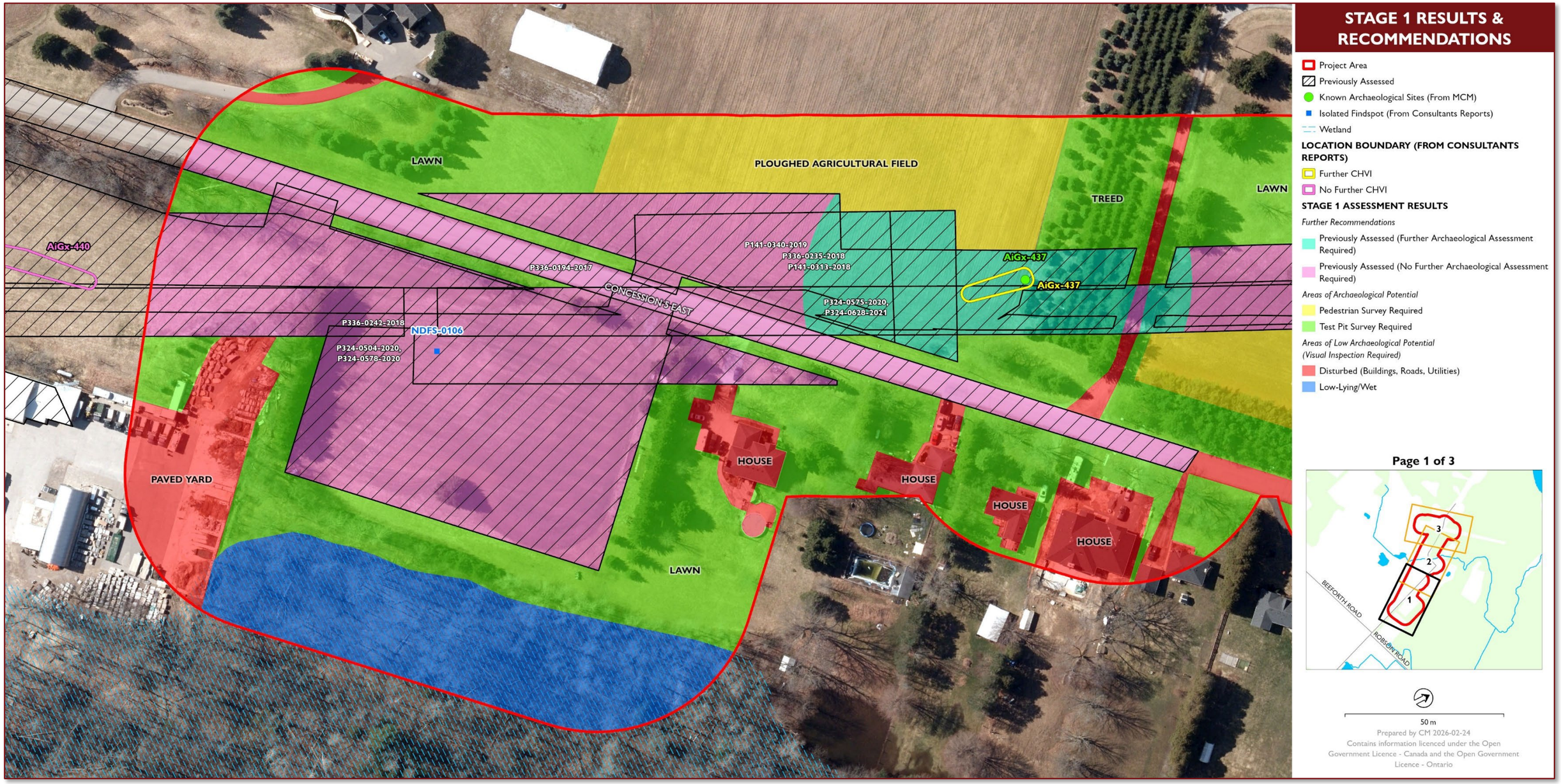
SD Map 3: PRASI (2020) Stage 2 Assessment Results and AiGx-440 and NDFS-0106



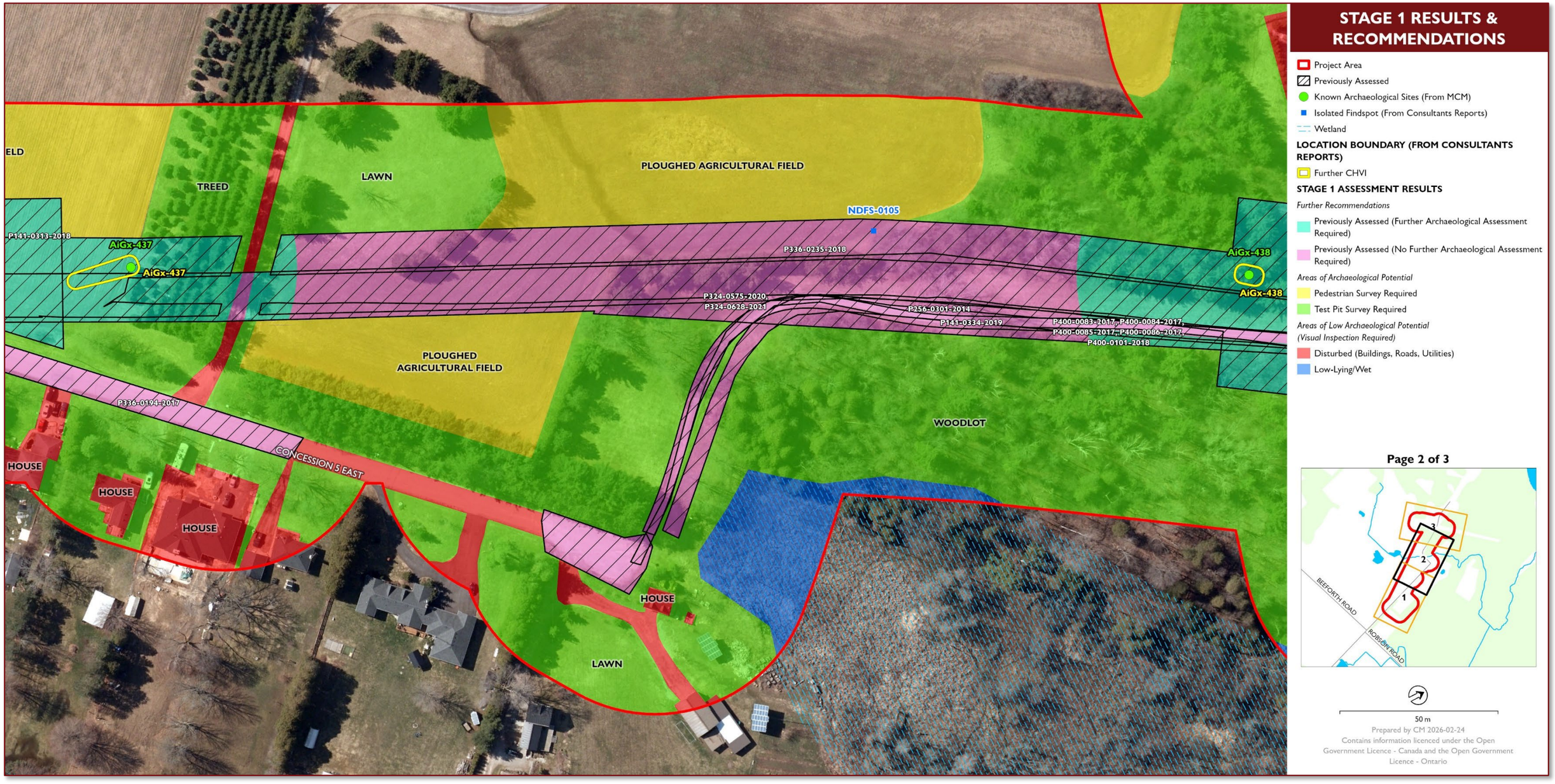
SD Map 4: PRASI (2020) Stage 2 Assessment Results and AiGx-437 and NDFS-0105



SD Map 5: PRASI (2020) Stage 2 Assessment Results and AiGx-438



SD Map 6: Stage 1 Assessment Results and Recommendations Shown in Relation to Previously Registered Archaeological Sites – Map 1 of 3



SD Map 7: Stage 1 Assessment Results and Recommendations Shown in Relation to Previously Registered Archaeological Sites – Map 2 of 3



SD Map 8: Stage 1 Assessment Results and Recommendations Shown in Relation to Previously Registered Archaeological Sites – Map 3 of 3

Summary of Indigenous Engagement

Imperial has undertaken Indigenous community engagement for this project. The communities contacted to date include the Haudenosaunee Confederacy Chiefs Council (through the Haudenosaunee Development Institute – HDI) Mississaugas of the Credit First Nation (through the Department of Consultation and Accommodation – DOCA), Six Nations of the Grand River, and the Wendat Nation. A record of the communications coordinated by TMHC is provided in the Record of Indigenous Engagement – Project Communications Table.

Record of Indigenous Engagement – Project Communications

	Details			Indigenous Communities			
	Sent From	**Date Sent**	**Content**	**Haudenosaunee Confederacy Chiefs Council (HCCC)**	**Mississaugas of the Credit First Nation**	**Six Nations of the Grand River**	**Wendat Nation**
Communication 1 - Project deployment information.	Hillary Schwering hschwering@tmhc.ca	April 15, 2026	Sent overview of fieldwork plan for both Segment 1 and Segment 2; Planning fieldwork for Segment 2 on April 22-24 (weather permitting), and letting them know that Segment 1 requires ploughing before we can do test pitting.	Raechelle Williams raechellewilliams@hdi.land Danton Miller dantonmiller@hdi.land John Miller john@hdi.land	Adam LaForme adam.laforme@mncfn.ca Megan DeVries megan.devries@mncfn.ca	Tanya Hill-Montour tanyahill-montour@sixnations.ca	Marie-Sophie Gendron Marie-Sophie.Gendron@wendake.ca General Contact consultations@wendake.ca
Response 1				Yes - Sent email asking about deployment details for April 22.	NO	NO	Yes - Sent list of project questions; Said who to notify if there is a change.
Communication 2 - Sent specific deployment details.	Hillary Schwering hschwering@tmhc.ca	April 21, 2026	Sent specific deployment details for Wednesday, April 22. Sent deployment details for Segment 2 on: April 22, May 5.	Raechelle Williams raechellewilliams@hdi.land Danton Miller dantonmiller@hdi.land John Miller john@hdi.land	Adam LaForme adam.laforme@mncfn.ca Megan DeVries megan.devries@mncfn.ca Joelle Sinclair Field.Coordinator@mncfn.ca	Tanya Hill-Montour tanyahill-montour@sixnations.ca	Dominique Lesage Dominique.Lesage@wendake.ca
Response 2				Yes- Raechelle responded about deployment.	Yes - Joelle responded about deployment. Note: MCFN's # for this project is: DOCA # 2025-0133	NO	Yes- dominique responded about deployment.
Communication 3 - Sent Segment 2 Stage 1 Report for review.	Hillary Schwering hschwering@tmhc.ca	April 28, 2026	Sent Segment 2 Stage 1 Report for review. Reminder email sent May 28, 2026. Second reminder email sent June 1, 2026.	Todd Williams toddwilliams@hdi.land Emma Kameka emma@hdito.com Raechelle Williams raechellewilliams@hdi.land	Adam LaForme adam.laforme@mncfn.ca Megan DeVries megan.devries@mncfn.ca	Tanya Hill-Montour tanyahill-montour@sixnations.ca	Dominique Lesage Dominique.Lesage@wendake.ca

Response 3				Yes - Emma Kameka sent their report review and they generally support the findings and recommendations presented. Want more verbiage added to their history as continuing to present day.	Yes - Adrian Blake responded that they do not have any questions, comments or concerns with the report.	NO	Yes- Mathieu Lariviere sent a report review letter June 3. see attached letter.

Appendix B

Cultural Heritage Report

Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment Sarnia Products Pipeline Mitigations Project City of Hamilton, Ontario

Prepared for:
Dillon Consulting Limited
51 Breithaupt Street, Suite 200
Kitchener, Ontario
N2H 5G5
tlefler@dillonc.ca

Prepared by:
TMHC Inc.
1108 Dundas Street, Unit 106
London, ON N5W 3A7
519-641-7222
tmhc.ca



Project No: 2025-630

Final Report: June 12, 2026

EXECUTIVE SUMMARY

Dillon Consulting Limited (Dillon), on behalf of Imperial Oil Limited (Imperial Oil), has engaged TMHC Inc. (TMHC) to produce a Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment (CHRECPIA) as part of the Sarnia Products Pipeline (SPPL) Mitigations Project ("the Project") in the City of Hamilton, Ontario (the "Study Area"). This report addresses the proposed development of a new Millgrove Pumpstation facility and adjoining pipeline to connect the facility to the existing pipeline network for the SPPL Project.

The Study Area is approximately 13.2 hectares (ha) in size, across Lots 1-3 of Concession 4 and Concession 5 of the former Township of Flamborough East in the City of Hamilton. It includes a 50 m buffer to better assess impacts against identified potential heritage resources and recommend mitigations for any impacts. The areas to the south and east of the Study Area are naturalized and are included in the Grindstone Creek watershed which is managed by the Halton Conservation Authority.

Part of the scope of the work considered for this report, being the construction of new pipeline, is subject to the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation for Hydrocarbon Projects and Facilities in Ontario*, 8th ed. 2023. Accordingly, this CHRECPIA has been completed in partial fulfillment of these requirements by:

1. Completing a cultural heritage screening that encompasses all properties within the Study Area, based on the *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes* checklist of the Ministry of Citizenship and Multiculturalism (MCM) and Section 5.4 of the OEB Environmental Guidelines;

2. Completing a preliminary cultural heritage review of the Study Area to identify existing conditions through the application of professional judgement regarding the potential to meet the *Ontario Heritage Act* (*OHA*) O.Reg. 9/06 criteria (as amended by O.Reg. 569/22) of all potential built heritage resources (BHRs) and potential cultural heritage landscapes (CHLs) flagged by the cultural heritage screening and any identified during field review; and

3. Completing a preliminary heritage impact assessment of all subject properties identified as having potential cultural heritage value or interest (CHVI) in the preliminary evaluation.

The cultural heritage screening and supplementary review for this CHRECPIA determined that of the 13 properties, structures, and landscapes screened in the Study Area, 12 were found to require additional review (see Appendix A for the screening checklist of the MCM, Maps 4-5 for historic maps of the Study Area, and Map 7 for historic aerial photographs of the Study Area). Following this review, two (2) potential BHRs and one (1) potential CHL were determined to have potential CHVI based on professional judgement and the preliminary application of *OHA* O. Reg. 9/06 criteria (as amended by O. Reg. 569/22). The identified potential BHRs and potential CHL within the Study Area were considered for possible direct and indirect impacts.

The scope of work proposed for this project was divided into three sections by TMHC for ease of description, as follows:

1. Section 1: New Millgrove Pumpstation;
2. Section 2: Pipeline from the new pumpstation to the Waterdown to Finch pipeline tie-points; and

3. Section 3: Pipeline from the Enbridge valve station to the new pumpstation.

Works under Section 1 of this report, related to the construction of the New Millgrove Pumpstation, are not subject to OEB Guidelines, but have been considered for this report as due diligence in anticipation of municipal and provincial permitting requirements for the proposed scope of work.

Direct impacts, indirect impacts, and preliminary mitigation measures were considered for each section of the proposed works as part of this CHRECPIA. The preliminary impact assessment conducted for the proposed works determined that there are no potential direct or indirect impacts identified for the two (2) potential BHRs.[1] The preliminary impact assessment identified the potential for direct and indirect impacts to the potential CHL-01[2] as a result of the proposed construction activities under Section 1 and Section 3.

The works under Section 1 and Section 3 related to the construction of the new Millgrove Pumpstation and associated pipeline present potential direct impacts to CHL-01 as a result of anticipated construction activities. The general recommended mitigations for potential direct impacts include, that:

- A designated construction staging area, within the limits of the identified project work area be determined prior to the commencement of construction activities;
- Impacts to existing vegetation outside of the project work area be minimised, and that the installation of vegetation to soften the visual transition between the potential CHL and the new pumpstation be considered after the completion of the project;
- Stormwater management plans completed for the project appropriately mitigate potential changes to drainage patterns which would adversely affect the CHL; and
- Ongoing ecological monitoring and monitoring of construction activities throughout the duration of the Project be undertaken to ensure the project work area limits are respected.

If direct impacts to the CHL persist during the detailed design phase and the above mitigation measures cannot be implemented, a Heritage Impact Assessment (HIA) should be undertaken by a qualified person as early as possible in the project, and developed in consultation with, and submitted for review and comment to, MCM and other interested parties (e.g., Indigenous communities, municipal heritage planner and/or municipal heritage committee). The HIA will address the alternatives and will identify the alternative that best minimizes or mitigates adverse effects on the property.

Potential indirect impacts identified for Section 1 and Section 3 work includes impacts related to the proximity of construction activities to CHL-01, and includes potential impacts to drainage and water management in the area, construction staging, and the use of heavy equipment. In general, the recommended mitigations for potential indirect impacts include to:

- Avoid potential negative impacts caused by the use heavy equipment and planned construction by designating staging areas appropriately confined to the limits of the Project Area or otherwise set back from the identified CHL based on the scale and function of the staging area and type of equipment;
- Avoid and/or mitigate any negative impacts to water management by ensuring that stormwater management plans completed for the project appropriately mitigate potential changes to drainage patterns which would adversely affect the CHL; and

[1] That is, BHR-01 and BHR-02
[2] That is, BHR-02 and CHL-01

- Mitigate and/or avoid any unanticipated potential negative indirect impacts to heritage attributes by monitoring construction activities in proximity to CHL-01 throughout the duration of the Project.

The potential impact of land disturbances on archaeological resources is addressed through separate archaeological reporting.

Copies or summaries of this CHRECPIA should inform and be available during future Pubic Information Centres (PICs) and other public/municipal outreach efforts as well as be made available to Indigenous communities, interested organizations or individuals upon request. Any feedback received about this CHRECPIA should be shared with TMHC and the report should be updated when and where appropriate. Any subsequent Cultural Heritage Evaluation Reports (CHERs) or HIAs should include circulation to the MCM, planning staff at the City of Hamilton, interested Indigenous communities, local organizations or individuals, as appropriate.

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LIST OF ACRONYMS

BHR	Built Heritage Resource
CHER	Cultural Heritage Evaluation Report
CHL	Cultural Heritage Landscape
CHRECPIA	Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment
CHVI	Cultural Heritage Value or Interest
EA	Environmental Assessment
EAA	*Environmental Assessment Act*
HIA	Heritage Impact Assessment
MCEA	Municipal Class Environmental Assessment
MCM	Ministry of Citizenship and Multiculturalism
OHA	*Ontario Heritage Act*
OHT	Ontario Heritage Trust
O. Reg.	Ontario Regulation
PIC	Public Information Centre
PPS	*Provincial Planning Statement*
RHOP	Rural Hamilton Official Plan
SPPL	Sarnia Products Pipeline
TMHC	TMHC Inc.
UHOP	Urban Hamilton Official Plan

PROJECT PERSONNEL

Principal	Holly Martelle, PhD
Senior Reviewer	Josh Dent, PhD, CAHP
Project Manager	Joan Crosbie, MA, CAHP
Cultural Heritage Project Lead	Maryssa Barras, MSc, CAHP
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ACKNOWLEDGEMENTS

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Ontario Heritage Trust	Samuel Bayefsky

ABOUT TMHC

Established in 2003 with a head office in London, Ontario, TMHC Inc. (TMHC) provides a broad range of archaeological assessment, heritage planning and interpretation, cemetery, and community consultation services throughout the Province of Ontario. We specialize in providing heritage solutions that suit the past and present for a range of clients and intended audiences, while meeting the demands of the regulatory environment. Over the past two decades, TMHC has grown to become one of the largest privately-owned heritage consulting firms in Ontario and is today the largest predominately woman-owned CRM business in Canada.

Since 2004, TMHC has held retainers with Infrastructure Ontario, Hydro One, the Ministry of Transportation, Metrolinx, the City of Hamilton, City of Barrie, and Niagara Parks Commission. In 2013, TMHC earned the Ontario Archaeological Society's award for Excellence in Cultural Resource Management. Our seasoned expertise and practical approach have allowed us to manage a wide variety of large, complex, and highly sensitive projects to successful completion. Through this work, we have gained corporate experience in helping our clients work through difficult issues to achieve resolution.

TMHC is skilled at meeting established deadlines and budgets, maintaining a healthy and safe work environment, and carrying out quality heritage activities to ensure that all projects are completed diligently and safely. Additionally, we have developed long-standing relationships of trust with Indigenous and descendent communities across Ontario and a good understanding of community interests and concerns in heritage matters, which assists in successful project completion.

TMHC is a Living Wage certified employer with the Ontario Living Wage Network and a member of the Canadian Federation for Independent Business.

KEY STAFF BIOS

Holly Martelle, PhD – Principal, Manager – Business Operations, Community Engagement & Cultural Heritage Programs

Holly Martelle earned a PhD from the University of Toronto based on her research on Iroquoian populations in southern Ontario. In addition to 16 years of experience in the road building and aggregate industries, Dr. Martelle has worked as a Heritage Planner at the now MCM and has taught at several universities throughout the province. In 2003, she founded TMHC with Dr. Peter Timmins and in 2013 the firm was honored with the Ontario Archaeological Society's award for Excellence in Cultural Resource Management.

Holly is an experienced Project Manager and has demonstrated throughout her career the ability to manage complex projects, meeting project deliverables cost effectively and to the highest standard of quality. Under her leadership, TMHC has made a commitment to innovation, creating solutions that meet the project specific goals and also address the long-term needs of our clients.

Holly is a skilled relationship builder with longstanding relationships with the Indigenous communities throughout Ontario, and other Descendant communities and organizations including the Ontario Black History Society. Ongoing and sustained communication with communities has proven an effective means of ensuring participation from Descendant communities in meeting and exceeding consultation requirements. Through her work on several high level and sensitive provincial projects she has developed an understanding

of what works in the consultation process to ensure that it is effective in providing the client and the project with the information needed to be successful.

Holly is a Past-President of the Ontario Archaeological Society, and is also an active member of the Canadian Archaeological Association, the Society for Historic Archaeology, the Ontario Association for Impact Assessment, and the Council for Northeastern Historical Society.

Joshua Dent, PhD, CAHP – Senior Reviewer; Division Manager - Cultural Heritage & Community Engagement

Joshua (Josh) has worked extensively on cultural heritage and archaeological assessments in Ontario and Western Canada. Josh's role at TMHC has involved background research, community consultation, report production, and project management. Josh specializes in multi-faceted heritage studies including large-scale inventories, environmental assessments, and complex institutional assessments. In his role at TMHC, he regularly communicates with Indigenous communities and a variety of heritage stakeholders. These efforts were recently recognized as part of the Oakville Harbour Cultural Heritage Landscape Strategy Implementation which received the Canadian Association of Heritage Professionals' 2021 Award of Merit for Documentation & Planning. He has volunteered extensively with the heritage community in London, Ontario, in both municipal and not-for-profit roles. Josh is professional member of the Canadian Association of Heritage Professionals (CAHP).

Joan Crosbie, MA, CAHP – Project Manager; Unit Manager - Cultural Heritage

Joan has extensive cultural heritage management experience in both the private and public sectors with a strong background in preservation services, built and landscape heritage assessment, archival/historical research, and Museums services. She earned her MA in Architectural History from York University. In her role in Preservation Services with the Toronto Historical Board (City of Toronto), Joan was part of a small team of professionals who advised City Council on a broad range of heritage preservation and planning matters. Later, as Curator of Casa Loma, she gained extensive experience as part of the Senior Management team and honed her skills in cultural and community engagement and was a key staff liaison with the restoration architects and skilled trades as the Casa Loma Estate underwent a major exterior restoration program. More recently, as Manager of Culture and Community Services, Town of Whitchurch-Stouffville, Joan managed the Heritage and Museums services portfolios and has widened her experience in cultural planning to include the adaptive reuse of heritage buildings and historic main street revitalization.

She has published articles on architecture and architectural preservation for a wide range of organizations, including the Canadian Society for Industrial Heritage, the City of Toronto and the Society for the Study of Architecture in Canada.

Maryssa Barras, MSc, CAHP – Lead – Cultural Heritage and Community Engagement Projects

Maryssa is an interdisciplinary professional with experience at local, provincial, national, and international scales. Holding a BA (Hons) and MSc in archaeology and with graduate education in Planning, Maryssa has a unique background investigating the regulatory evolution of heritage and archaeological management. Professionally, Maryssa has worked in public and private sectors in two provinces and with heritage non-profits at national and international levels. Maryssa has supported and led a range of projects including impact assessments and evaluations, policy analysis and drafting, property management plans, strategic plans, and heritage/archaeological potential studies, among others. Maryssa's research and professional interests focus

on critical analysis and questions of policy and legislation, equity, and advocacy in the heritage sector, working to find ways in which to support under-represented, equity-deserving, Black, and First Nations communities in her work. Examples include studies mapping the growth of nineteenth century Lebanese communities in Newfoundland, and heritage evaluations for a 2SLGBTQIA+ landmark and a property associated with the history of slavery.

Maryssa is an active member of professional communities, currently serving as Co-chair for the CAHP EDI Task Force and board member for Ontario Association of Heritage Professionals. Maryssa also volunteers with the Canadian Cultural Resources Association and is a founding member of the Points of Pride 2SLGTBQIA+ Mapping Project. Maryssa is professional member of the Canadian Association of Heritage Professionals (CAHP).

STATEMENT OF QUALIFICATIONS AND LIMITATIONS

The attached Report (the "Report") has been prepared by 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.

TMHC shall be entitled to rely upon the accuracy and completeness of information that was provided to it and has no obligation to update such information. TMHC accepts no responsibility for any events or circumstances that may have occurred since the date on which the Report was prepared and, in the case of subsurface, environmental or geotechnical conditions, is not responsible for any variability in such conditions, geographically or over time.

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Except (1) as agreed to in writing by TMHC and Client; (2) as required by-law; or (3) to the extent used by governmental reviewing agencies for the purpose of obtaining permits or approvals, the Report and the Information may be used and relied upon only by Client.

TMHC accepts no responsibility, and denies any liability whatsoever, to parties other than Client who may obtain access to the Report or the Information for any injury, loss or damage suffered by such parties arising from their use of, reliance upon, or decisions or actions based on the Report or any of the Information ("improper use of the Report"), except to the extent those parties have obtained the prior written consent of TMHC to use and rely upon the Report and the Information. Any injury, loss or damages arising from improper use of the Report shall be borne by the party making such use.

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.

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Report reviewed by:

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Principal, Manager – Business Operations, Community Engagement & Cultural Heritage Programs

1 INTRODUCTION

1.1 Report Scope and Purpose

Dillon, on behalf of Imperial Oil, has engaged TMHC to produce a CHRECPIA as part of the SPPL Mitigations Project in the City of Hamilton, Ontario (the "Study Area"). This report addresses the proposed development of a new Millgrove Pumpstation facility and adjoining pipeline to connect the facility to the existing pipeline network for the SPPL Project.

Part of the scope of the work considered for this report, being the construction of new pipeline, is subject to the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation for Hydrocarbon Projects and Facilities in Ontario*, 8th ed. 2023. Accordingly, this CHRECPIA has been completed in partial fulfillment of these requirements by:

1. Completing a cultural heritage screening that encompasses all properties within the Study Area, based on the *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes* checklist of the MCM. and Section 5.4 of the OEB Environmental Guidelines;

2. Completing a preliminary cultural heritage review of the Study Area to identify existing conditions through the application of professional judgement regarding the potential to meet the *OHA* O.Reg. 9/06 criteria (as amended by O.Reg. 569/22) of all potential BHRs and potential CHLs flagged by the cultural heritage screening and any identified during field review; and

3. Completing a preliminary heritage impact assessment of all subject properties identified as having potential CHVI in the preliminary evaluation.

The Study Area is approximately 13.2 ha in size, across Lots 1-3 of Concession 4 and Concession 5 of the former Township of Flamborough East in the City of Hamilton. The areas to the south and east of the Study Area are naturalized and are included in the Grindstone Creek watershed which is managed by the Halton Conservation Authority. The Study Area limits include a 50 m buffer to better assess impacts against identified potential heritage resources and recommend mitigations for any impacts. Any identified potential or confirmed BHRs and/or CHLs within the Study Area will be considered for possible direct and indirect impacts.

For the purposes of preparing this report, TMHC staff visited the Study Area on March 9, 2026. A full list of referenced sources is included in Section 12 of this CHRECPIA.

1.2 Client Contact Information

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2 STUDY AREA AND PROJECT DESCRIPTION

The Study Area is historically encompassed by Lots 1-3 of Concession 4 and Concession 5 of the former Township of Flamborough East in the City of Hamilton, Ontario. The Study Area is approximately 13.2 ha in size (Maps 1-3).

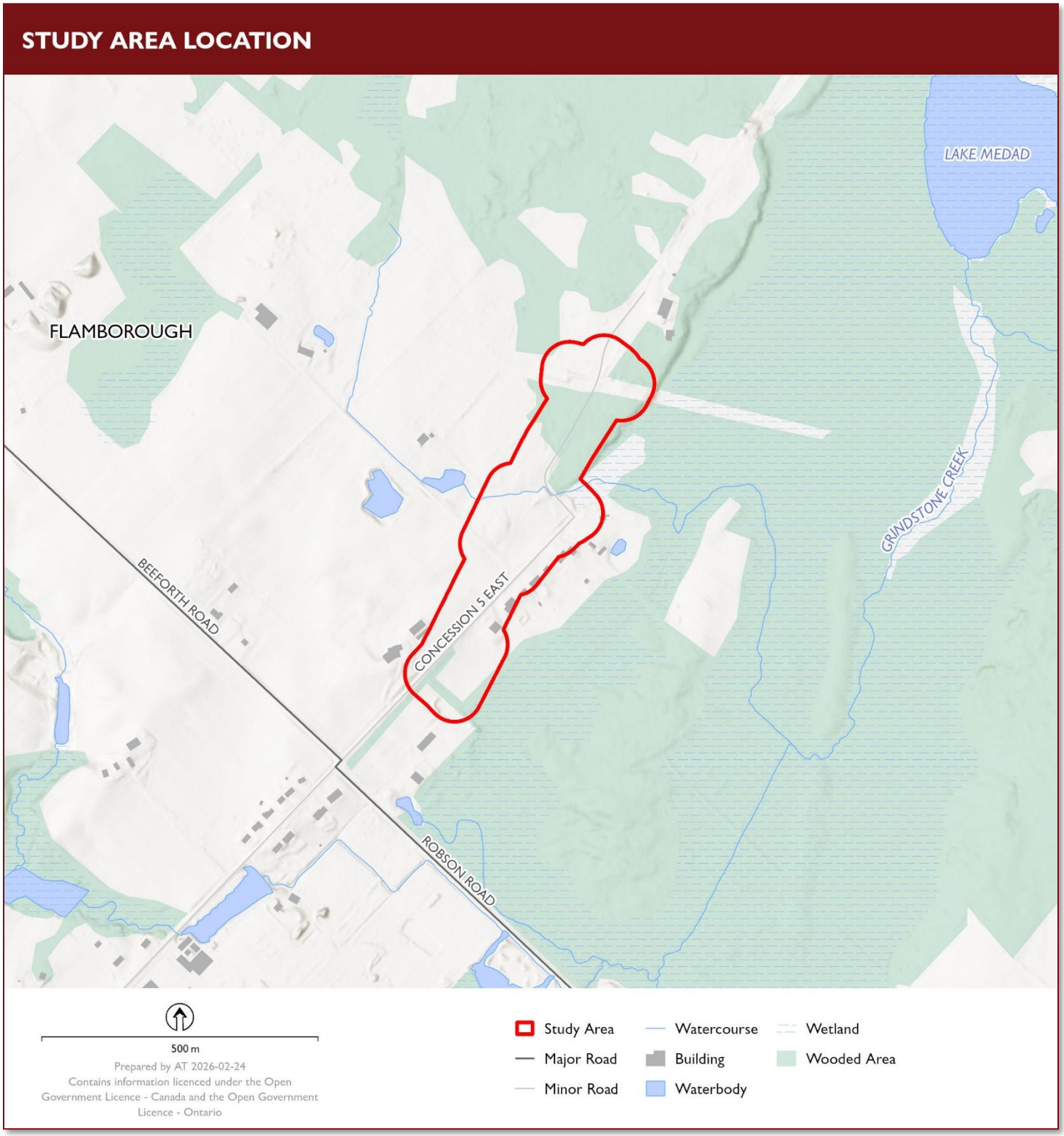
The Study Area is primarily rural and agricultural in character, with residential and naturalized properties adjacent to the Study Area. The areas to the south and east of the Study Area are naturalized and fall under the Grindstone Creek watershed which is managed by the Halton Conservation Authority. These lands are not a designated park or conservation area.

2.1 Heritage Status

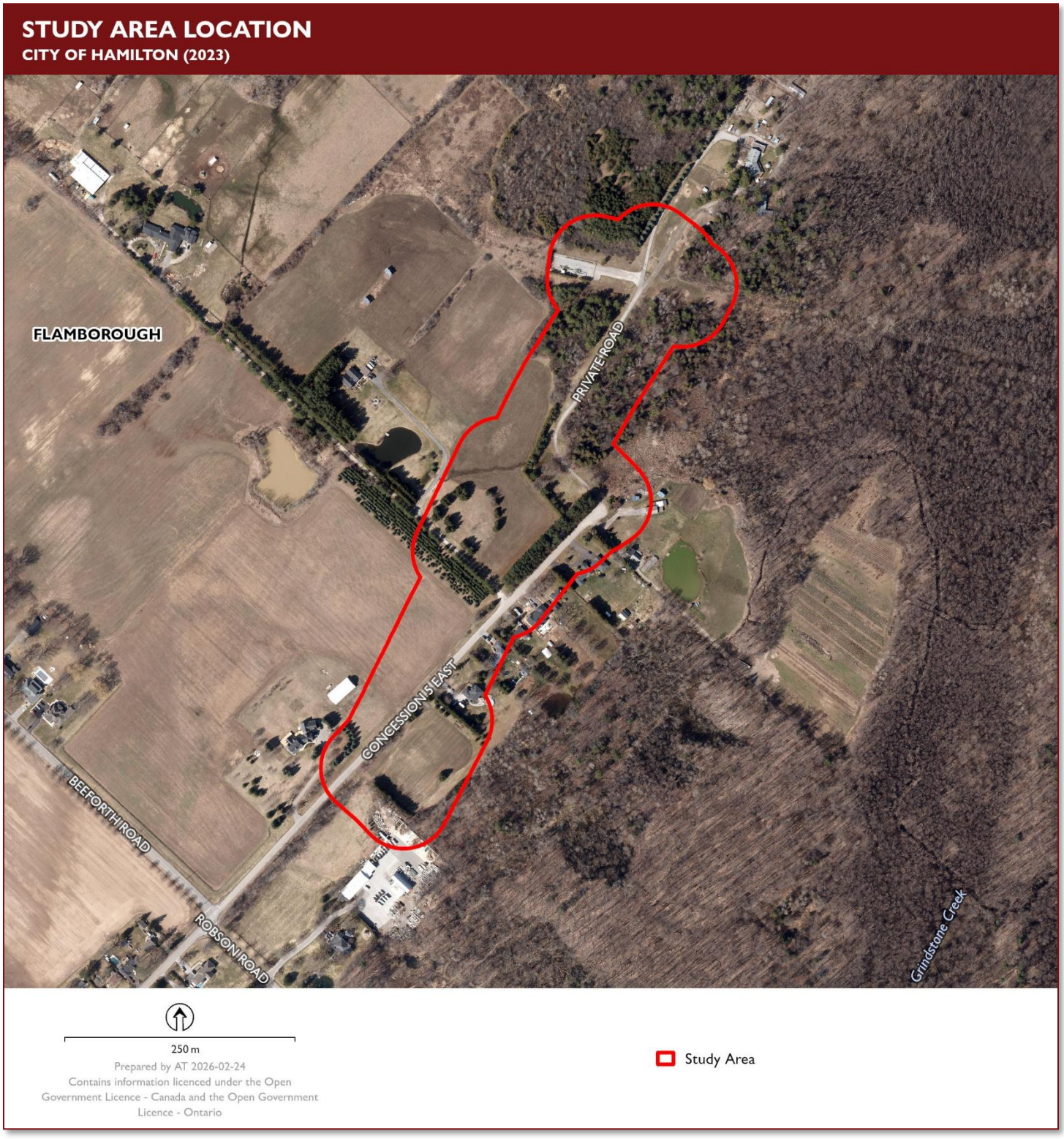
There are no properties listed on the City of Hamilton's *Register of Heritage Properties* within the Study Area. Three (3) properties were, however, identified by the Municipality as properties of potential heritage interest and include:

- 487 Parkside Drive;
- 511 Concession 5 Road East; and
- 526 Concession 5 Road East.

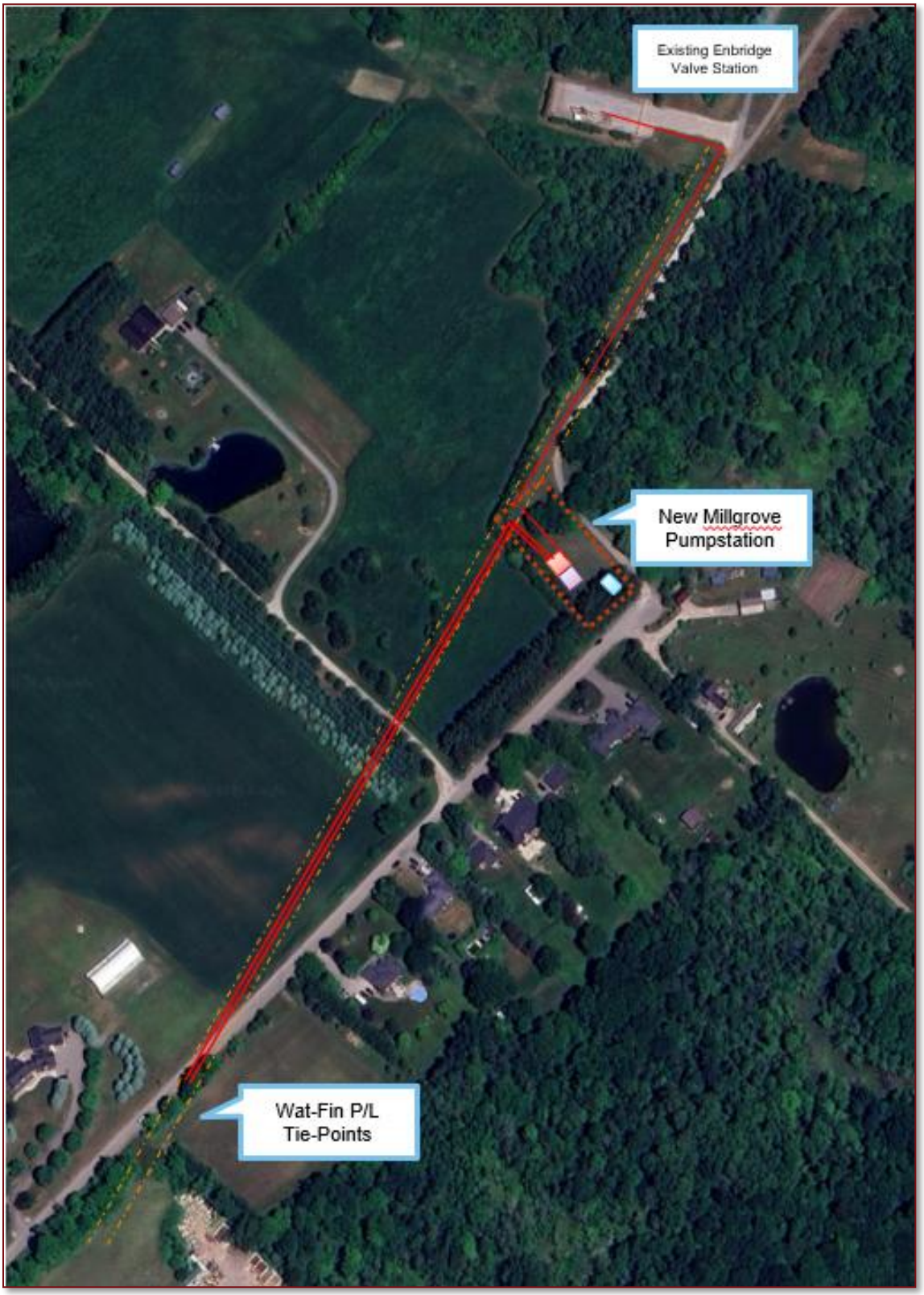
There are no properties designated under the *OHA* located within, or adjacent to, the Study Area. There are no National Historic Sites or other federally designated properties on, or adjacent to, the Study Area. There are no Ontario Heritage Trust (OHT)-owned properties, conservation easements, or Provincial Heritage Properties present on, or adjacent to, the Study Area as confirmed by the OHT and the MCM.



Map 1: Location of the Study Area



Map 2: Location of the Study Area



Map 3: Client-Provided Map of Study Area

Source: Imperial Oil

3 METHODOLOGY

This CHRECPIA was prepared in accordance with the *OHA*, the *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes* screening checklist of the MCM, the Ontario Heritage Toolkit, and under the reporting standards of the *Environmental Assessment Act* (*EAA*) process.

Known or potential BHRs and CHLs were identified using a four-step review process which is described in further detail below.

3.1 Heritage Screening

As part of a desktop screening including the application of the *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes*, known or potential BHRs and CHLs were identified through the review of municipal, provincial and federal heritage registers and outreach to the MCM, OHT, and planning staff at the City of Hamilton.

Furthermore, TMHC used historical mapping and aerial photography to identify buildings or structures that are 40 or more years old in adherence to Part B: Screening for Potential Cultural Heritage Value of the *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes*.

Desktop review also included high level research to address Part C: Other Considerations under the *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes*.

3.2 Supplementary Review

Using professional judgement, a supplementary desktop review was undertaken by TMHC to identify potential BHRs and CHLs and refine the list of properties for heritage screening. This review identified properties constructed in the mid-to-late 20th century and those that, based on professional judgement, did not meet a preliminary review against *OHA* O. Reg. 9/06 (as amended by O. Reg. 569/22), and permitted their removal from the list of properties to be screened.

The cultural heritage screening and supplementary review for this CHRECPIA determined that of the 13 properties, structures, and landscapes screened in the Study Area, 12 were found to require additional review.

3.3 Fieldwork Review

A field review of the Study Area was undertaken by TMHC on March 9, 2026 to review and document known and potential BHRs and CHLs alongside any other heritage resources that were not evident in the initial desktop study.

3.4 Post-Fieldwork Review

Following the completion of the fieldwork, TMHC consolidated field documentation and undertook, where necessary, additional historical and contextual analysis to establish potential CHVI for the 12 screened properties, structures, and landscapes using professional judgement and a preliminary application of O. Reg. 9/06 (as amended by O. Reg. 569/22).

A concurrent supplementary and fieldwork review determined that of the 12 screened properties, structures, and landscapes, three (3) have potential CHVI based on professional judgement and the preliminary application of *OHA* O. Reg. 9/06 criteria (as amended by O. Reg. 569/22; see Appendix B).

The remaining nine (9) properties, structures, and landscapes identified during post-fieldwork review, did not meet the criteria for potential CHVI (see Appendix C). This review was informed by background research and outreach to local heritage organizations including general Municipal Class Environmental Assessment (MCEA) consultation with Indigenous communities (see Section 8).

It should be noted that, when appropriate, the identified potential BHRs and CHL should be subject to a CHER or HIA inclusive of full O.Reg. 9/06 heritage evaluation (as amended by O. Reg. 569/22) in order to confirm CHVI.

4 HISTORICAL RESEARCH & ANALYSIS

4.1 Indigenous and First Nations Settlement and Treaties

There is archaeological evidence of Indigenous settlement in the Flamborough area since the time of glacial retreat some 12,000 years ago through to the modern era.

Since time immemorial, Indigenous peoples' use and management of land differed greatly from the much more recent era of colonial development. Instead of roads and highways cut through the landscape, Indigenous travel, especially in this region, focused on waterways and the portages between them. In addition to fish and other animals, Indigenous communities harvested wild rice, and actively managed and maintained nut and berry resources for food.[3] They maintained fields of corn, beans, and squash. Far from the pristine wilderness often characterized in popular culture, Indigenous landscapes included actively managed meadows and forests (such as Black Oak Savannas) shaped and maintained by controlled burns and other interventions.[4] This system of land management is often framed in terms of kinship between people and landscape, a mutual responsibility for each to promote and maintain the health of the other.

Prior to the early 17th century, much of the area that became known as Southwestern Ontario was occupied by two groups: Iroquoians and Algonquian speaking populations. In the east, the Iroquoian occupants were the Attawandaron.[5] Like other known Iroquoian groups including the Wendat and Petun (Tionontati), the Attawandaron practiced a system of intensive horticulture based on three primary subsistence crops (corn, beans, and squash).[6]

Between 1609 and 1701, a period of intermittent warfare known as The Beaver Wars engulfed much of the St. Lawrence and Great Lakes Regions.[7] The conflict between the French and the Haudenosaunee saw the occupancy of Southwestern Ontario change hands three times.[8] In their efforts to monopolize the fur trade with the Europeans, the Haudenosaunee invaded the lands that would become Southwestern Ontario, dispersing the Attawandaron, Petun, and the Wendat Nations; many of the Attawandaron would join the Haudenosaunee.[9] By the end of the 17th century, the combined efforts of Anishinaabe nations (together known as the Three Fires Confederacy), including the Mississaugas, and French forces succeeded in driving the Haudenosaunee back into their homelands, situated to the south of Lake Ontario.[10]

4.1.1 Indigenous Landscapes

Indigenous responsibility to and kinship with the land contrasted strongly with subsequent colonial treatment of these landscapes. Early colonial development typically looked to impose, rather than embed, itself on the landscape. As a result, colonial activities often displaced, interrupted, or destroyed Indigenous land management and subsistence activities. Waterways were dammed for mills or canalized with locks, blocking

[3] Migizi 2018
[4] Miskokdeh Centre for Indigenous Knowledge n.d.
[5] Noble 2015
[6] Noble 2015
[7] Parrott and Marshall 2006
[8] Dickason and Newbigging 2010
[9] Peter Graham pers. comm.
[10] Dickason and Newbigging 2010

Indigenous highways and interrupting trade routes and fisheries. Meadows and fields maintained by Indigenous communities for generations were occupied by colonial settlements and farms. When these spaces were no longer sufficient or convenient, forests were cleared. The systems and relationships between Indigenous people and landscapes that had been refined over thousands of years were increasingly broken during the height of colonization, often within a single generation. Treaties isolated Indigenous communities to relatively small reserves and colonial land development, including the privatization of property, increasingly limited the accessibility of lands outside of these reserves for subsistence activities. Six Nations of the Grand River's consultation supervisor, Peter Graham, has also noted that the treaties with the Haudenosaunee were about ensuring access to lands rather than land surrenders.[11] Residential schools further damaged these traditional lifeways by systematically preventing the transfer of Indigenous knowledge from one generation to the next. Despite all these challenges, contemporary Indigenous communities are increasing undertaking to revitalize their traditional histories and systems of land management including their relationships and responsibility to the landscape.[12]

4.1.2 Between the Lakes Treaty (Treaty No. 3)

The Study Area is encompassed by the Between the Lakes Treaty (Treaty No. 3). The Mississauga people reached a provisional agreement with the Crown in 1784, but it proved to be unclear. Consequently, the treaty was redrafted to provide a better description of the affected lands and signed on December 7, 1792. The area covered by the treaty extended from Mapleton Township in the northwest to Elgin County in the southwest to the edge of a tract of land ceded earlier along the Niagara River in the east. The stated purpose of Treaty No. 3 was the Crown acquisition of land for the resettling of British allies from the American Revolutionary War, most notably allies from the Haudenosaunee Confederacy (Six Nations).[13] Of these groups, Thayendanegea (Joseph Brant) and some 1,843 members of the Six Nations and their allies settled along the Grand River in what would become known as the Haldimand Tract.[14]

In 1701, the Fort Albany/Nanfan Treaty was signed between the Haudenosaunee Confederacy and the acting governor of New York, on behalf of the British Crown. The agreement covered a vast territory encompassing most of the lower Great Lakes, claimed as the Haudenosaunee's Beaver Hunting Grounds. Much of the same territory also falls within the Dish with One Spoon Wampum. The wampum represents an agreement between the Haudenosaunee and the Anishinaabeg to protect their respective territories but share the natural resources around the Great Lakes through diplomacy and permissions.[15]

[11] Peter Graham pers. comm.
[12] Miskokdeh Centre for Indigenous Knowledge n.d.
[13] MCFN 2020; Surtees 1984
[14] Surtees 1984:25
[15] Glover 2020; Jacobs and Lytwyn 2020

4.2 Early Municipal Settlement

The Study Area is located in the former Geographic Township of Flamborough East in the City of Hamilton, Ontario. The early history and development of these locations is described below to illustrate the historical evolution of the Study Area.

4.2.1 Wentworth County

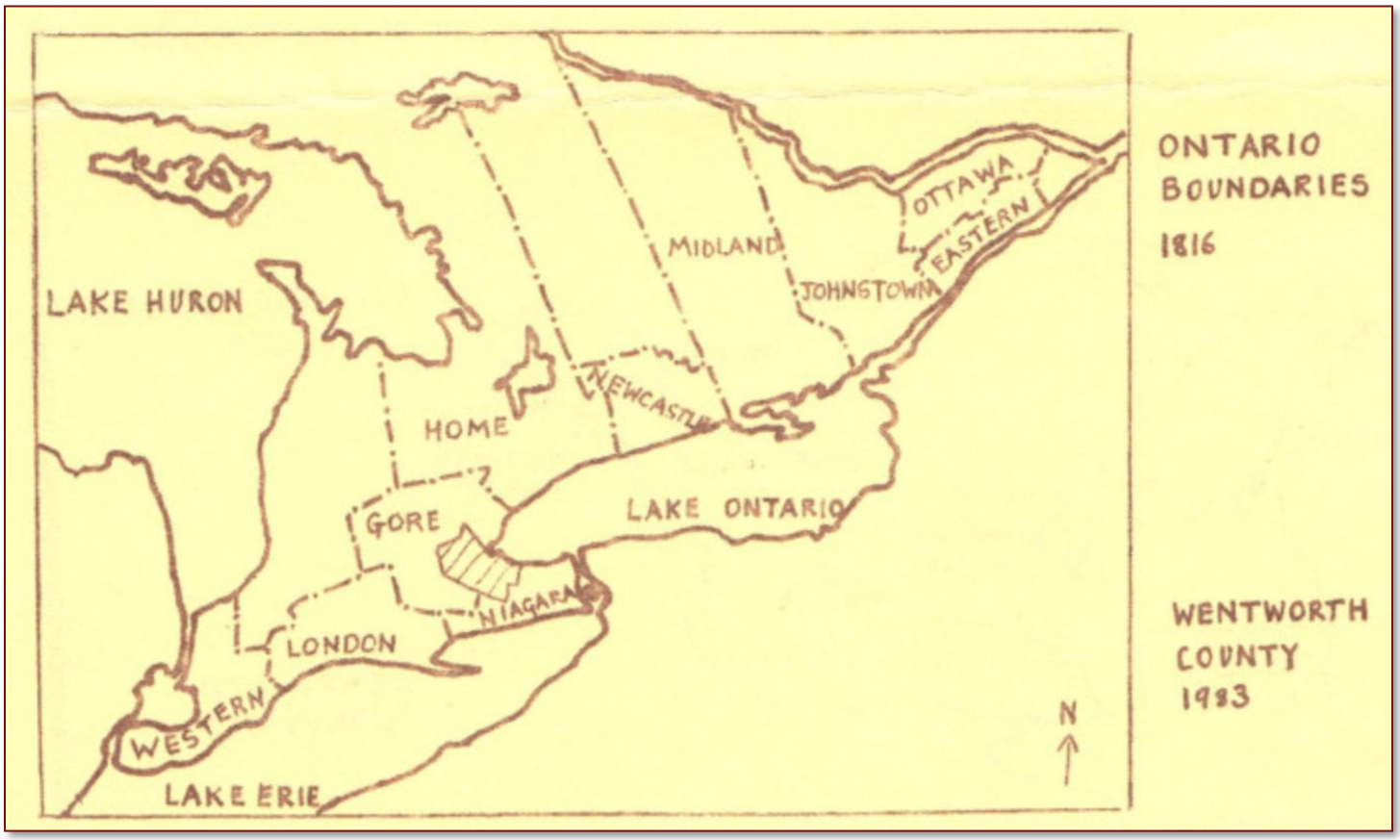
In the years following the American Revolutionary War, the area that became Southern Ontario was administratively reorganized several times. In 1788, the area was known as the British Province of Quebec, which was further subdivided into four districts called Hesse, Lunenburg, Mecklenburg, and Nassau.[16] Wentworth County was part of the District of Nassau at this time. The area was later reorganized as Upper Canada in 1792, at which time the four existing districts were renamed to Western (Hesse), East (Lunenburg), Midland (Mecklenburg), and Home (Nassau).[17] While Upper Canada still had a sparse settler population at this time, the Wentworth County area, then called the Head-of-the-Lake, was an attractive settlement location due to its strategic location at the intersection of trails between Niagara, Toronto, and Detroit/Windsor and its natural harbours.[18] During this period, Lieutenant Governor of Upper Canada John Graves Simcoe appointed Augustus Jones as Provincial Land Surveyor.[19] Jones began establishing townships in the area surrounding the Head-of-the-Lake in 1792.[20]

The four districts of Upper Canada were divided further between 1798 and 1802, during which time what would become Wentworth County was divided between the Home District and a new district named the Niagara District.[21] In 1816, the District of Gore was formed around the Head-of-the-Lake, encompassing Wentworth County.[22] The county remained in the Gore District until 1849, when the district system was abolished and the County of Wentworth-Halton was established.[23] In 1853, Wentworth and Halton were separated, with Wentworth encompassing the City of Hamilton, Town of Dundas, and townships of Beverly, Binbrook, Barton, Ancaster, Saltfleet, Glanford, East Flamborough, and West Flamborough.[24] Wentworth County remained largely intact until 1974 when it was replaced with the Regional Municipality of Hamilton-Wentworth.[25] This region was later amalgamated in 2001 to form the City of Hamilton.[26]

[16] Government of Ontario n.d.
[17] Government of Ontario n.d.
[18] Johnston 1967:6-7
[19] Smith 2003
[20] Flamborough Archives & Heritage Society 2021b
[21] Flamborough Archives & Heritage Society 2021c
[22] Flamborough Archives & Heritage Society 2021c
[23] Flamborough Archives & Heritage Society 2021c
[24] Page & Smith 1875
[25] Hamilton Public Library Local History & Archives n.d.a
[26] Hamilton Public Library Local History & Archives n.d.a

Image 1: Wentworth County in Relation to Ontario District Boundaries in 1816

Source: Flamborough Archives & Heritage Society 2021c



4.2.2 Town of Flamborough (Former Township of Flamborough)

The Town of Flamborough was historically made up of the former townships of Beverly, Flamborough East, and Flamborough West, and is presently part of the City of Hamilton.

The townships of Beverly and Flamborough were initially surveyed in 1792 by Augustus Jones,[27] and were part of Geneva Township which included Ancaster, Beverly, and Flamborough West and East. At this time, travel through the township was facilitated along Dundas Street (also known as the Governor's Road), a settlement road established along an Indigenous trail which connected the Head-of-the-Lake area to York (later Toronto).[28] Geneva Township was redivided into the aforementioned townships following the completion of Jones's survey.[29]

Colonial settlement began with the arrival of United Empire Loyalists as squatters in Geneva Township following the end of the American Revolutionary War in 1783.[30] Following the completion of the township

[27] Flamborough Archives & Heritage Society 2021a
[28] Flamborough Archives & Heritage Society 2021c
[29] Flamborough Archives & Heritage Society 2021c
[30] Flamborough Archives & Heritage Society 2021a

surveys in 1792, many squatters sought to obtain patents for the lands on which they had squatted.[31] In 1798, Flamborough Township was divided into the townships of Flamborough East and Flamborough West.[32]

The townships of Flamborough East, Flamborough West, and Beverly remained independent until 1974 when they were amalgamated along with the Town of Waterdown to form the Town of Flamborough. In 2001, the Town of Flamborough was amalgamated into the City of Hamilton.

4.2.3 Township of Flamborough East

The first colonial settler in the Township of Flamborough East was David Fonger, a squatter who arrived in 1783.[33] Fonger did not hold title to his land at the time of his arrival, and the plot he resided on was sold before he was able to purchase it.[34] Early rural communities were established in Flamborough East in the early 19th century, including Carlisle, Aldershot, Progrestown, Mountsberg, Bakersville, and Millgrove. Settlement remained largely rural and agricultural until Ebenezer Griffin purchased land in the Township in 1823, built a saw and grist mill on Grindstone Creek, and founded what would become the Village of Waterdown.[35]

In 1958, the southeastern portion of Flamborough East, including the community of Aldershot, were reorganized to become part of the Town of Burlington.

4.2.4 Waterdown

The first colonial settler in what would become Waterdown was Alexander Brown, who had built two sawmills on Grindstone Creek by 1805. In 1823, Ebenezer Griffin purchased land in the emerging village and, by constructing a grist mill on Grindstone Creek, became a catalyst for growth in the community.[36] In 1831, Griffin had the village surveyed into lots and by 1841, the village had a population of 165 settlers.[37] The Village of Waterdown was officially incorporated in 1878, and, as the largest settlement in the Township, it was the centre of civic life in throughout the 19th and 20th centuries.[38]

4.2.5 Medad Valley

The Study Area is located immediately west of Lake Medad and the Medad Valley, which are part of the provincially significant Grindstone Creek Headwaters Wetland Complex. Grindstone Creek flows in a southerly direction through Waterdown towards Lake Ontario. The area is a historically important Indigenous cultural landscape with significant archaeological sites throughout. The area was home to a substantial Attawandaron (Neutral) village in the 17th century.

[31] Flamborough Archives & Heritage Society 2021a
[32] Flamborough Archives & Heritage Society 2021a
[33] Flamborough Archives & Heritage Society 2021d
[34] Flamborough Archives & Heritage Society 2021d
[35] Flamborough Archives & Heritage Society 2021d
[36] Flamborough Archives & Heritage Society 2021d
[37] Waterdown East Flamborough Centennial Committee 1967:41
[38] WEFHS 2017:108

Image 2: Lake Medad, 1952

Source: Hamilton Public Library Local History Archives, Bruce Murdoch Collection



4.3 History of the Study Area

The Study Area is historically encompassed by Lots 1-3 of Concession 4 and Concession 5 of the former Township of Flamborough East in the City of Hamilton, Ontario. The Study Area is approximately 13.2 ha in size.

4.3.1 Study Area History

Focused around Concession 5 Road East, the Study Area was historically lined by six lots to the northwest and southeast along Concession 5 and Concession 4 in the former Township of Flamborough East.

Surtees's 1858 *Map of the County of Wentworth* does not depict any farmsteads or improvements on the lots in the Study Area (Map 4). Page & Smith's 1877 *County Atlas* depicts agricultural and residential operations on the southeast portions of the lots in Concession 4, well away from the current Study Area (Map 5). This map also shows agricultural and residential use on Lot 3, Concession 5, oriented toward what is now Beeforth Road, outside the Study Area, and shows no improvements to Lot 1, Concession 5. The map also depicts agricultural and residential use by owner David Charp in the southeast quarter of Lot 2, Concession 5, near the Study Area.

The 1858 and 1877 historic maps should not be considered to be definitive inventories of all buildings in and nearby the Study Area in the mid-late 19th century – notably, the property at 526 Concession 5 Road East features a frame farmhouse which is not depicted on either map, but has been previously assessed as having been constructed prior to 1870.[39]

4.3.1.1 Lot 1, Concession 4, Township of Flamborough East

In 1816, Daniel Rose received the Crown Patent for Lot 1, Concession 4, which he willed to Peter Rose in 1822. John Stewart purchased the lot in 1827, where the Stewart family lived until 1869.[40] Beginning in 1872, the lot began to be subdivided and sold.[41]

4.3.1.2 Lot 2, Concession 4, Township of Flamborough East

The Crown granted two 100-ac parcels for Lot 2, Concession 4. David Parsons received the Crown Patent for the southeast half of the lot in 1838, and the other 100-ac lot was granted to George Longdale in 1856.[42] Both properties were sold several times between absentee landowners with no signs of the land having been developed until the mid-1860s. By this time, parcels on the northwest of the lot were purchased by John Green and Samuel Green.[43]

John Green was the grandson of a wealthy millwright who founded nearby Greensville[44] – although he lived elsewhere in Flamborough West.[45] As such, he may have used the property as a farm rental.[46]

4.3.1.3 Lot 3, Concession 4, Township of Flamborough East

In 1816, Archibald Thomson (also spelled Thompson) received the Crown Patent for Lot 3, Concession 4, but passed away in 1821 without having moved to the lot.[47] Upon Archibald's death the 200-ac property was conveyed to his relative Richard Thomson in 1821.[48] Sometime prior to 1859 Richard informally transferred the lot to James Thompson (Map 4), who is presumed to be his son. This transfer was recorded in 1867 at

[39] City of Hamilton n.d.a
[40] OnLand 2026a:3
[41] OnLand 2026a:3
[42] OnLand 2026
[43] City of Hamilton n.d.a
[44] Crozier & Green 1986:30
[45] Crozier & Green 1986:36
[46] City of Hamilton n.d.a
[47] ONLand 2026a:43; Find a Grave 2019
[48] OnLand 2026; City of Hamilton 2008

which point the executor of Richard's will, David Thompson, released the property to James.[49] James informally divided the property in two 100-ac sections with the east portion going to Alexander Thompson (Map 5). Sections of the lot remained in the Thompson family until the 1950s, when Walter Alexander Thomson sold the east 100-ac lot to the Carey family.[50]

4.3.1.4 Lots 1 and 2, Concession 5, Township of Flamborough East

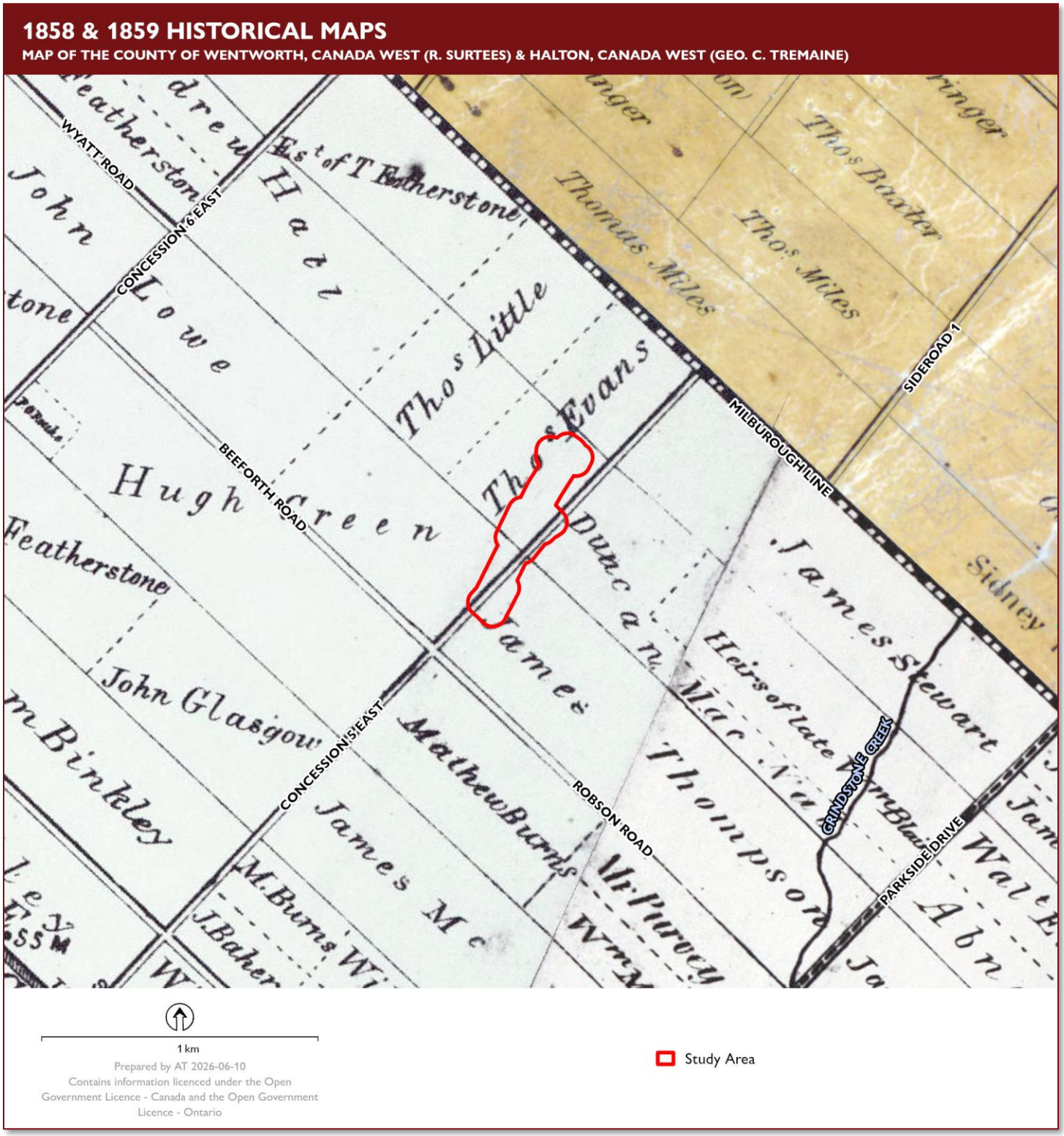
In 1797, Robert Dickson received the Crown Patent for Lots 1 and 2, Concession 5, who quickly passed them on to James McGill in 1798.[51] In the 1830s, McGill began subdividing the lots and selling them to local farmers. The only long-term occupancy was the Little family who purchased 100-ac of Lot 2 in 1836 and 100-ac of Lot 1 in 1842.[52] The Little family retained a portion of Lot 2 until at least 1946.[53]

4.3.1.5 Lot 3, Concession 5, Township of Flamborough East

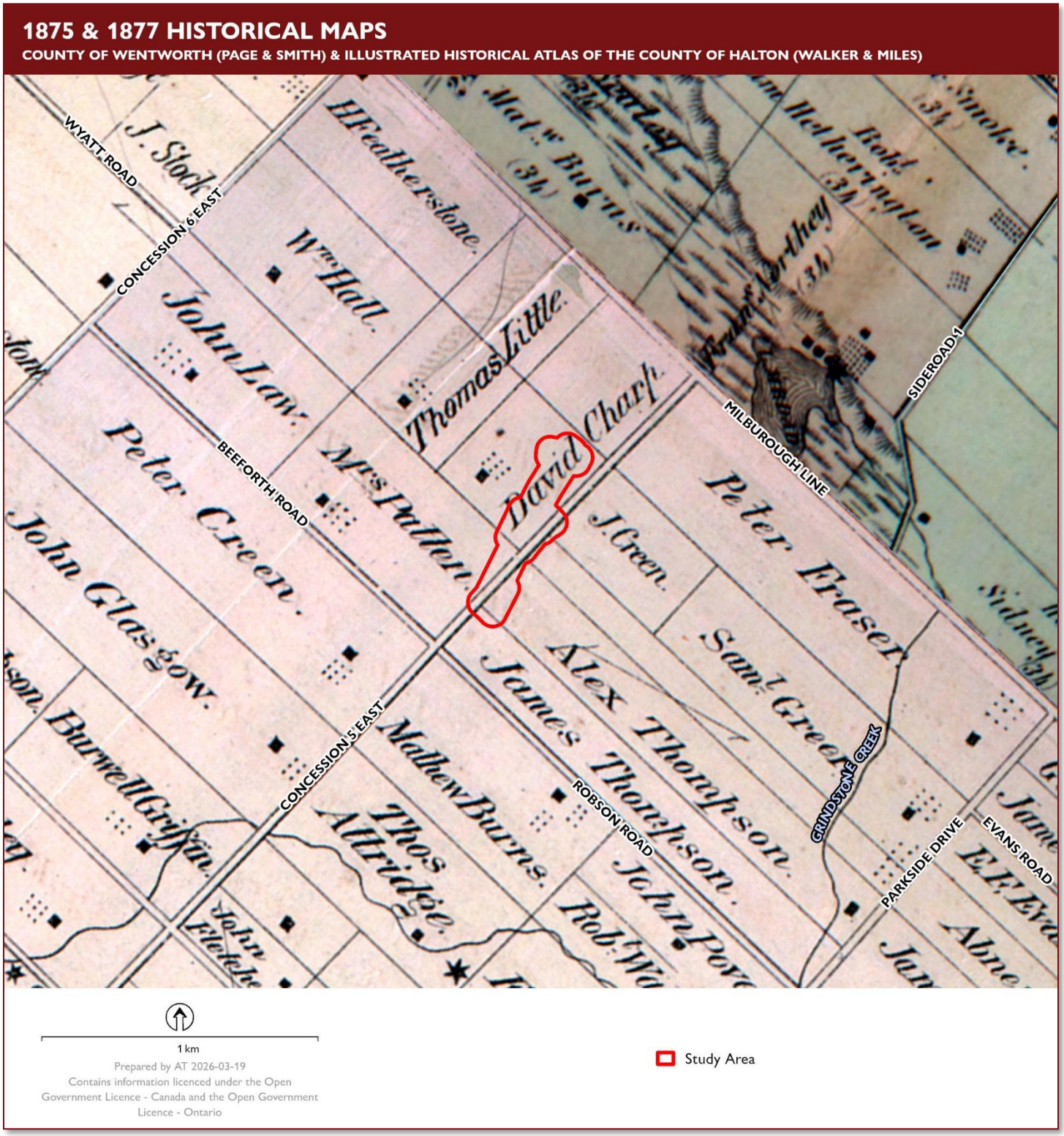
In 1829 the Crown granted the 200-ac of Lot 3, Concession 5 to The Canada Company, a British land development company. In 1835, Joseph Ireland, a farmer, bought the lot and split it into two separate 100-ac parcels for sale.[54] John Law bought one of these sections in 1836, and the Law family continued to own sections of this land until at least 1992.

Topographic maps and historic aerials from the early 20th century to the early 21st century indicate that there has been little change or growth in the land encompassed by the Study Area and its immediate surroundings, with the exception of the sporadic lot severances and construction of mid-to-late 20th century residential properties including a small cluster southeast of Concession 5 Road East (Map 6-7). As such, the land encompassed by the Study Area retains much of its mid-to-late 19th century rural and agricultural character.

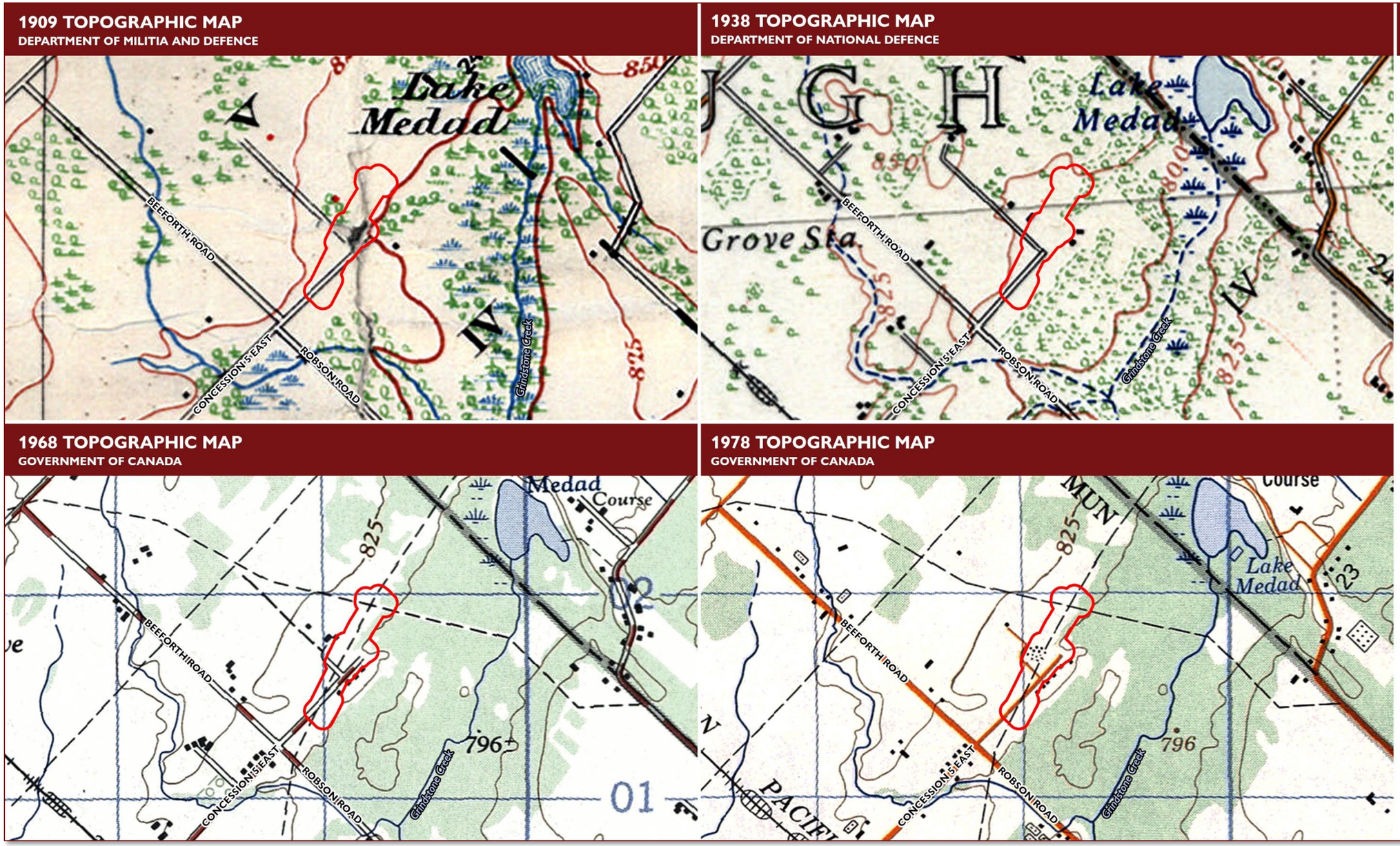
[49] ONLand 2026a
[50] City of Hamilton 2008; City of Hamilton n.d.b
[51] OnLand 2026b
[52] OnLand 2026b
[53] OnLand 2026b:33
[54] WEFHS 1986



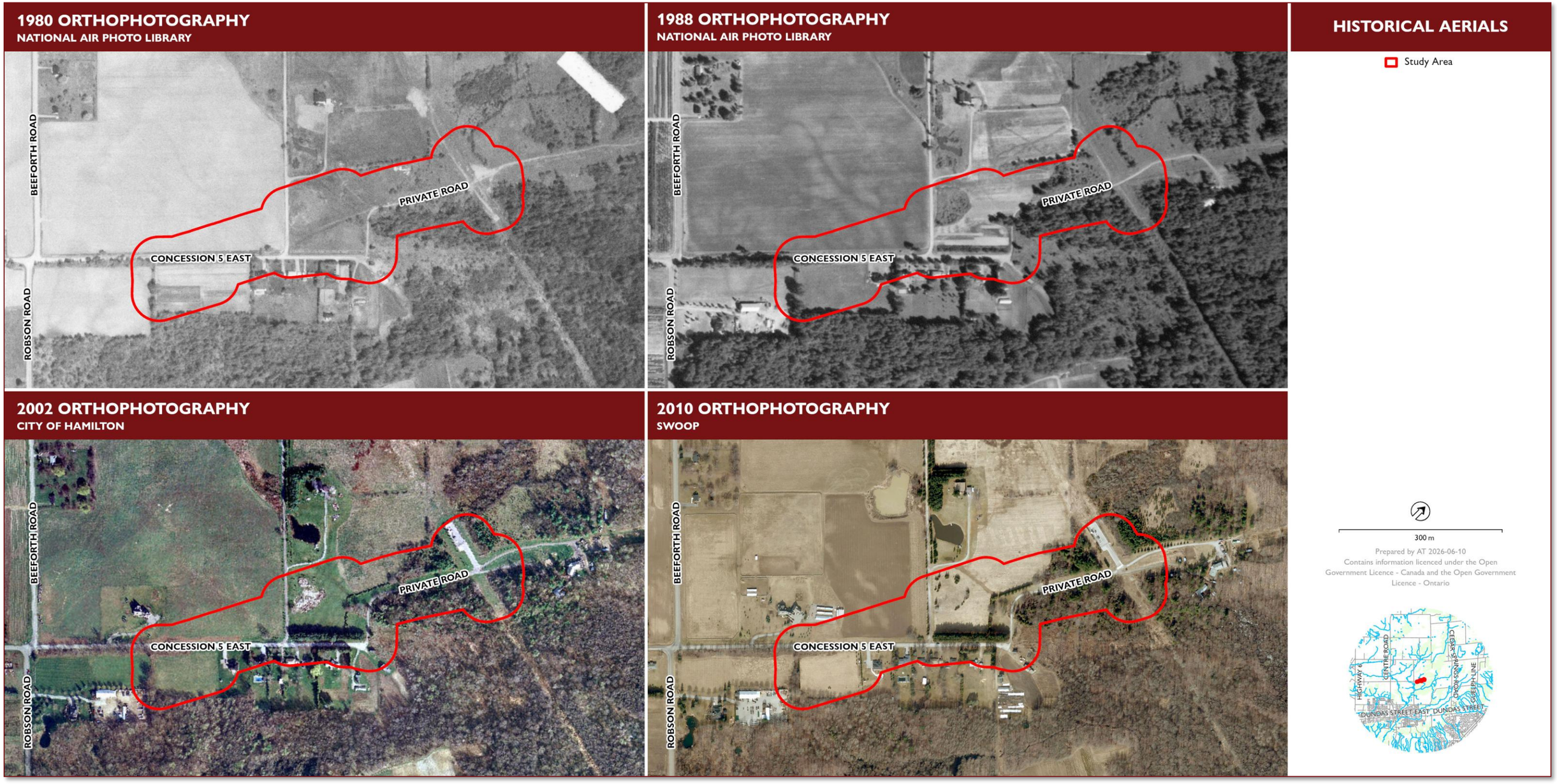
Map 4: 1858 Map of the County of Wentworth and 1859 Map of the County of Halton



Map 5: 1875 Map of the County of Wentworth and 1877 Map of the County of Halton



Map 6: 1909-1978 Topographic Maps of the Study Area



Map 7: 1980-2010 Aerial Images of the Study Area

5 HERITAGE SCREENING & REVIEW

5.1 Heritage Screening

The screening process began with the application of the MCM checklist *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes.*

The Study Area includes 13 properties, structures, and landscapes. There are no properties designated under Part IV or Part V of the *OHA,* nor any properties listed on the City of Hamilton's *Register of Heritage Properties* in the Study Area. Three (3) properties were identified by the Municipality as properties of potential heritage interest and include:

- 511 Concession 5 Road East;
- 526 Concession 5 Road East; and
- 487 Parkside Drive.

There are no National Historic Sites or other federally designated properties within the Study Area. Likewise, there are no OHT-owned properties, conservation easements, or Provincial Heritage Properties present on, or adjacent to, the Study Area as confirmed by the OHT and the MCM.

The cultural heritage screening for this CHRECPIA determined that of the 13 properties, structures, and landscapes reviewed in the Study Area, 12 were found to require preliminary heritage review (see Appendix A for the screening checklist and Map 7 for historic aerial photographs of the Study Area).

5.2 Preliminary Heritage Review

The objective of the preliminary heritage review was to identify existing conditions through the application of professional judgement regarding the potential for all screened properties within the Study Area to meet the *OHA* O. Reg. 9/06 (as amended by O. Reg. 569/22) criteria for CHVI.

Of the 12 properties, structures, and landscapes reviewed during the preliminary desktop and fieldwork review, four (4) were found to have potential CHVI based on the application of *OHA* O. Reg. 9/06 criteria (see Appendix B for properties with known or potential CHVI and Appendix C for properties found not to have CHVI). Of the four properties in the Study Area identified by the Municipality as having potential CHVI, one (1) property (511 Concession 5 Road East) no longer had potential BHR as the building was demolished (see Appendix C for more information).

5.3 Preliminary Heritage Review Results

Of the 12 properties, structures, and landscapes reviewed, 8 were not found to have CHVI (see Appendix C) and one additional potential BHR (511 Concession 5 Road East) was found to be demolished. A description of properties with potential CHVI, including photographs and justification, is included in Appendix B.

Through the preliminary heritage review, two (2) potential BHRs and one (1) potential CHL were found to have potential CHVI based on the application of professional judgement regarding the potential to meet the *OHA* O. Reg. 9/06 criteria (as amended by O. Reg. 569/22) (see Table 1 for preliminary heritage evaluation

results, Appendix B for an inventory of these properties, and Appendix D for heritage review results mapping).

Table 1: Preliminary Heritage Evaluation Results – Potential BHRs and CHL

BHR/CHL	Street Address	Existing Heritage Status or Potential CHVI	Study Number
BHR-01	487 Parkside Drive	The property is included on the City of Hamilton's Heritage Inventory as having potential CHVI. The property is not included on the City of Hamilton's *Register of Heritage Properties.*	PRK-01
BHR-02	526 Concession 5 Road East	The property is included on the City of Hamilton's Heritage Inventory as having potential CHVI. The property is not included on the City of Hamilton's *Register of Heritage Properties.*	CFE-07
CHL-01	513 Concession 5 Road East	Potential	CFE-08

6 EXISTING CONDITIONS

The Study Area is approximately 13.2 ha in size and is located in the City of Hamilton. It is historically encompassed by Lots 1-3 of Concession 4 and Concession 5 of the former Township of Flamborough East, and is roughly oriented along an approximately 650 m length of Concession 5 Road East.

The western extent of the Study Area is rural, agricultural, and wooded in character (Images 3-4), with a small row of late 20th century residential properties along the southeast side of Concession 5 Road East (Image 5). The Study Area is located in an archaeologically-sensitive area, with multiple archaeological sites associated with Indigenous cultural heritage landscapes around the Lake Medad Valley. The eastern end of the Study Area is situated approximately 750 m west of Lake Medad, and is defined by a wooded and marshy landscape (Image 6; Map 6).

The tie-in points to the existing pipeline network are located in the westernmost part of the Study Area, which is the only portion of the Study Area to the south of Concession 5 Road East (Image 7). The proposed pipeline connects to the new Millgrove Pumpstation approximately 400 m to the northeast of the tie-in points. The Millgrove Pumpstation site is proposed to be located on the north side of the terminus of Concession Road 5 East (Image 8; Map 8). The easternmost extent of the Study Area is the existing Enbridge Valve Station, located approximately 200 m northeast of the new pumpstation site (Image 9).

Image 3: Agricultural Field in Study Area

Looking Northwest



Image 4: Concession 5 Road East, from Robson Road

Looking Northeast



Image 5: Late 20th Century Residential Property

Looking East



Image 6: Wooded and Marshy Landscape East of the Study Area

Looking East



Image 7: Proposed Tie in Point Location

Looking South



Image 8: Proposed Pumpstation Location

Looking West



Image 9: Existing Enbridge Valve Station

Looking West





Map 8: Location of Proposed Pumpstation in Relation to the Existing Valve Station

7 POLICY CONTEXT

7.1 *Planning Act* (1990)

The *Planning Act* is a piece of provincial legislation that governs land use planning throughout Ontario. It sets out matters of provincial interest which the Minister, the municipal Councils, and the Ontario Land Tribunal (OLT) shall have regard to in their decisions.

Section 2 of the *Planning Act* identifies conservation as a matter of provincial interest:

> 2. The minister, the council of a municipality, a local board, a planning board and the Tribunal, in carrying out their responsibilities under this Act, shall have regard to, among other matters, matters of provincial interest such as:
>
> > (d) The conservation of features of significant architectural, cultural, historical, archaeological or scientific interest.

Section 3 of the *Planning Act* indicates that all decisions affecting land use planning matters "…shall be consistent with" the *Provincial Planning Statement*.

7.2 *Provincial Planning Statement* (2024)

The *Provincial Planning Statement, 2024* (*PPS*) is a provincial land use policy framework for development throughout Ontario. It provides policy direction on matters of provincial interest related to land use planning and development, including the conservation of BHRs and CHLs in the province. The *PPS* replaces the *Provincial Policy Statement* (2020) and the *A Place to Grow: Growth Plan for the Greater Golden Horseshoe* (2019).

The following sections of the *PPS* are relevant to the report:

> 4.6.1 Protected heritage property, which may contain built heritage resources or cultural heritage landscapes, shall be conserved.
>
> 4.6.2 Planning authorities shall not permit development and site alteration on lands containing archaeological resources or areas of archaeological potential unless the significant archaeological resources have been conserved.
>
> 4.6.3 Planning authorities shall not permit development and site alteration on adjacent lands to protected heritage property unless the heritage attributes of the protected heritage property will be conserved.
>
> 4.6.4 Planning authorities are encouraged to develop and implement:
>
> > a) archaeological management plans for conserving archaeological resources; and
> >
> > b) proactive strategies for conserving significant built heritage resources and cultural heritage landscapes.
>
> 4.6.5 Planning authorities shall engage early with Indigenous communities and ensure their interests are considered when identifying, protecting and managing archaeological resources, built heritage resources and cultural heritage landscapes.

> 6.2.2 Planning authorities shall undertake early engagement with Indigenous communities and coordinate on land use planning matters to facilitate knowledge-sharing, support consideration of Indigenous interests in land use decision-making and support the identification of potential impacts of decisions on the exercise of Aboriginal or treaty rights.
>
> 6.2.3 Planning authorities are encouraged to engage the public and stakeholders early in local efforts to implement the Provincial Planning Statement, and to provide the necessary information to ensure the informed involvement of local citizens, including equity-deserving groups.

The *PPS* also defines key terms which guide the interpretation of these policies. Relevant defined terms include:

> Built heritage resource: means a building, structure, monument, installation or any manufactured or constructed part or remnant that contributes to a property's cultural heritage value or interest as identified by a community, including an Indigenous community.
>
> Cultural heritage landscape: means a defined geographical area that may have been modified by human activity and is identified as having cultural heritage value or interest by a community, including an Indigenous community. The area may include features such as buildings, structures, spaces, views, archaeological sites or natural elements that are valued together for their interrelationship, meaning or association.
>
> Heritage attributes: means, as defined under the *Ontario Heritage Act*, in relation to real property, and to the buildings and structures on the real property, the attributes of the property, buildings and structures that contribute to their cultural heritage value or interest.

7.3 *Environmental Assessment Act* (1990)

The *Environmental Assessment Act* is a provincial statute that sets out the processes used to evaluate potential environmental effects of proposed undertakings.

Section 1(1) of the *Environmental Assessment Act* includes within its definition of "environment":

> (c) the social, economic and cultural conditions that influence the life of humans or a community; and
>
> (d) any building, structure, machine or other device or thing made by humans.

7.4 *Ontario Heritage Act* (2005)

The *OHA* provides a legislative framework for the identification and protection of cultural heritage resources and archaeological resources in the province. It legislates requirements and processes for conserving resources of archaeological value (*OHA* Part IV). The *OHA* also gives municipalities powers to identify and protect BHRs or CHLs with cultural heritage value or interest, using mechanisms like listing (*OHA* s.27) or designating properties (*OHA* s. 29) and creating heritage conservation districts (*OHA* s.40).

> 29 (1) The council of a municipality may, by by-law, designate a property within the municipality to be of cultural heritage value or interest if:

> (a) where criteria for determining whether property is of cultural heritage value or interest have been prescribed, the property meets the prescribed criteria; and
>
> (b) the designation is made in accordance with the process set out in this section.

Designated properties appear on a municipality's register of heritage properties:

> 27 (1) The clerk of a municipality shall keep a register of property situated in the municipality that is of cultural heritage value or interest.

This register also may include so-called listed properties:

> 27(3) In addition to the property listed in the register under subsection (2) [designated properties], the register may include property that has not been designated under this Part if,
>
> (a) the council of the municipality believes the property to be of cultural heritage value or interest; and
>
> (b) where criteria for determining whether property is of cultural heritage value or interest have been prescribed for the purposes of this subsection, the property meets the prescribed criteria.

Under the *OHA*, O.Reg. 9/06 provides the criteria for determining a property's CHVI. A property must meet two or more of the O. Reg. 9/06 criteria to qualify for designation (section 3, O. Reg. 9/06). The criteria for both listing and designation are as follows according to s.1(2) of O. Reg. 9/06:

> 1. The property has design value or physical value because it is a rare, unique, representative or early example of a style, type, expression, material or construction method.
>
> 2. The property has design value or physical value because it displays a high degree of craftsmanship or artistic merit.
>
> 3. The property has design value or physical value because it demonstrates a high degree of technical or scientific achievement.
>
> 4. The property has historical value or associative value because it has direct associations with a theme, event, belief, person, activity, organization or institution that is significant to a community.
>
> 5. The property has historical value or associative value because it yields, or has the potential to yield, information that contributes to an understanding of a community or culture.
>
> 6. The property has historical value or associative value because it demonstrates or reflects the work or ideas of an architect, artist, builder, designer or theorist who is significant to a community.
>
> 7. The property has contextual value because it is important in defining, maintaining or supporting the character of an area.
>
> 8. The property has contextual value because it is physically, functionally, visually or historically linked to its surroundings.
>
> 9. The property has contextual value because it is a landmark.

7.5 City of Hamilton Rural Hamilton Official Plan (2006)

The City of Hamilton has two official plans. The first is the Urban Hamilton Official Plan (UHOP), adopted by Council in 2009, and the second is the Rural Hamilton Official Plan (RHOP), adopted by Council in 2006. The Study Area is located within the RHOP.

Vision 2020 provides guiding directions for the City of Hamilton's strategic directions in both the UHOP and RHOP:

> Direction #3 - Protect rural areas for a viable rural economy, agricultural resources, environmentally sensitive recreation and enjoyment of the rural landscape.
>
> The rural landscape is truly distinctive with its farming areas, resource-based industries, Rural Settlement Areas, cultural heritage landscapes and features, an extensive natural system and many recreational uses. Supporting and enhancing the rural area and its economy requires balancing many interests. In particular, agricultural lands and natural heritage features are non-renewable resources and must be protected, preserved and enhanced for the economic well being of the City and the Province.

Section B.3 of the RHOP outlines a vision for complete communities in rural Hamilton, most specifically in section B.3.4 *Cultural Heritage Resource Policies*. More specifically, this section outlines goals and policies for "the conservation of the City's cultural heritage resources organized around three key components: archaeology, built heritage, and cultural heritage landscapes."

Section B.3.4.1 outlines policy goals for cultural heritage resources under the RHOP, which apply to the "care, protection, and management of *cultural heritage resources* in Hamilton", including:

> 3.4.1.1 Identify and conserve the City's cultural heritage resources through the adoption and implementation of policies and programs, including partnerships among various public and private agencies and organizations.
>
> 3.4.1.3 Ensure that all new development, site alterations, building alterations, and additions are contextually appropriate and maintain the integrity of all on-site or adjacent cultural heritage resources.

Section B.3.4.2 outlines general policies related to cultural heritage, as follows:

> B.3.4.2.1 b) Identify cultural heritage resources through a continuing process of inventory, survey, and evaluation, as a basis for the wise management of these resources.
>
> B.3.4.2.1 d) Avoid harmful disruption or disturbance of known archaeological sites or areas of archaeological potential.
>
> B.3.4.2.1 g) Ensure the conservation and protection of cultural heritage resources in planning and development matters subject to the Planning Act either through appropriate planning and design measures or as conditions of development approvals.
>
> B.3.4.2.1 h) Conserve the character of areas of cultural heritage significance, including designated heritage conservation districts and cultural heritage landscapes, by encouraging those land uses, development and site alteration activities that protect, maintain and enhance these areas.

> 3.4.2.2 The City consists of many diverse districts, communities, and neighbourhoods, each with their own heritage character and form. The City shall recognize and consider these differences when evaluating development proposals to maintain the heritage character of individual areas.

Under Section B.3.4.2 there are policies which specifically address expectations for managing undesignated and unregistered properties with potential CHVI – as follows:

> B.3.4.2.6 The City recognizes there may be cultural heritage properties that are not yet identified, included in the City's *Inventory of Buildings of Architectural or Historical Interest*, included in the *Register of Property of Cultural Heritage Value or Interest*, or designated under the *Ontario Heritage Act*, but still may be of cultural heritage interest. These may be properties that have yet to be surveyed, or otherwise identified, or their significance and cultural heritage value has not been comprehensively evaluated but are still worthy of conservation.
>
> 3.4.2.7 The City shall ensure these non-designated and non-registered cultural heritage properties are identified, evaluated, and appropriately conserved through various legislated planning and assessment processes, including the *Planning Act*, the *Environmental Assessment Act*, the *Ontario Heritage Act*, and the *Cemeteries Act*.
>
> 3.4.2.8 To ensure consistency in the identification and evaluation of these non-designated and non-registered cultural heritage properties, the City shall use the criteria for determining cultural heritage value or interest established by provincial regulation under the *Ontario Heritage Act* and set out in Policy B.3.4.2.9

RHOP Policy B.3.4.2.9 reiterates criteria established under O. Reg. 9/06 for evaluation of CHVI. Policy 3.4.2.10 however notes that "Any property that fulfills one or more of the foregoing criteria listed in Policy B.3.4.2.9 shall be considered to possess cultural heritage value. The City may further refine these criteria and provide guidelines for their use as appropriate". It should be noted that *OHA* policies which require a policy meet two or more criteria under O. Reg. 9/06 to be designated under the *OHA* supersedes RHOP Policy 3.4.2.10, but does not prevent the City from identifying heritage interest outside of *OHA* frameworks.

RHOP Section B.3.4.2.12 specifically addresses Cultural Heritage Impact Assessments (CHIA), stating that these are required by the City prior to or at the time of any application submission under the *Planning Act* where the proposed activities have the potential to adversely affect through displacement or disruption cultural heritage resources which are:

- designated under or adjacent to properties designated under any part of the *OHA*; in or adjacent to properties in the City's *Register of Property of Cultural Heritage Value or Interest*;
- a registered or known archaeological site or area of archaeological potential;
- in an area for which a cultural heritage conservation plan statement has been prepared; or
- properties that comprise or are contained within cultural heritage landscapes that are included in the *Register of Property of Cultural Heritage Value or Interest*.

RHOP Section B.3.4.2.12 further specifies that a CHIA "may be required by the City and submitted prior to or at the time of any application submission pursuant to the *Planning Act* where the proposed development, site alteration, or redevelopment of lands…has the potential to adversely affect cultural heritage resources that

are included in, or adjacent to cultural heritage resources included in, the City's *Inventory of Buildings of Architectural or Historical Interest* through displacement or disruption.

RHOP Section B.3.4.5 details policies for BHRs. Relevant to this report is policy B.3.4.5.2, which states that:

> The City shall encourage the retention and conservation of significant built heritage resources in their original locations. In considering planning applications under the Planning Act and heritage permit applications under the *Ontario Heritage Act*, there shall be a presumption in favour of retaining the built heritage resource in its original location.

RHOP Section F.3.2.6.1 specifies that the City requires proponents to provide CHIAs undertaken by a qualified professional with demonstrated expertise in cultural heritage assessment, mitigation and management, according to the requirements of the City's Cultural Heritage Impact Assessment Guidelines, and shall contain the following:

a) identification and evaluation of all potentially affected cultural heritage resource(s), including detailed site(s) history and a cultural heritage resource inventory containing textual and graphic documentation;

b) a description of the proposed development or site alteration and alternative forms of the development or site alteration;

c) a description of all cultural heritage resource(s) to be affected by the development and its alternative forms;

d) a description of the effects on the cultural heritage resource(s) by the proposed development or site alteration and its alternative forms; and,

e) a description of the measures necessary to mitigate the adverse effects of the development or site alteration and its alternatives upon the cultural heritage resource(s)

RHOP Policy 3.7.1 specifies that "Prior to any municipal or provincial public works or other development or site alteration activities that are subject to the *Environmental Assessment Act* or other applicable legislation, the proponent shall identify and evaluate all cultural heritage resources, and where necessary ensure that suitable conservation or mitigation measures, as assessed by a qualified heritage professional, are undertaken."

7.6 Greenbelt Plan (2017)

The Greenbelt was established in 2005 as part of the *Greenbelt Act* to protect important ecological and agricultural landscapes in the Greater Golden Horseshoe. The *Greenbelt Plan* was published in 2017 in tandem with the *Oak Ridges Moraine Conservation Plan* and *Niagara Escarpment Plan* as a guiding document that "identifies where urbanization should not occur in order to provide permanent protection to the agricultural land base and the ecological and hydrological features, areas and functions occurring on this landscape."

Section 4.4 Cultural Heritage Resources of the *Greenbelt Plan* identifies the following policies for lands in Protected Countryside areas of the Greenbelt:

1. Cultural heritage resources shall be conserved in order to foster a sense of place and benefit communities.

2. Municipalities will work with stakeholders, as well as First Nations and Metis communities, in developing and implementing official plan policies and strategies for the identification, wise use and management of cultural heritage resources.
3. Municipalities are encouraged to consider the Greenbelt's vision and goals in preparing archaeological management plans and municipal cultural plans and consider them in their decision-making.

8 COMMUNITY ENGAGEMENT AND INFORMATION GATHERING

As part of the drafting of this report, TMHC reached out to key heritage organizations and Indigenous communities. The notification emails were sent in February and March 2026 and included a description of the project, imagery of the Study Area, and an invitation to provide comments and share information pertaining to buildings, structures, or landscapes with known or potential CHVI. A brief summary of the outreach conducted is provided below.

8.1 Indigenous Communities

Indigenous engagement for this project is being undertaken by Imperial Oil with Six Nations of the Grand River Elected Council, Mississaugas of the Credit First Nation, Wendat Nation, and Haudenosaunee Development Institute. It is TMHC's understanding that this client-led engagement process will be guided by the Indigenous communities' desired involvement in the project.

Dillon and TMHC will be coordinating additional engagement related to archaeological reporting for review and feedback.

8.2 Municipalities and Heritage Agencies

8.2.1 Ministry of Citizenship and Multiculturalism (MCM)

The MCM was contacted by email on February 24, 2026, to determine if any properties within or adjacent to the Study Area are listed as Provincial Heritage Properties. Mariana Nito, Heritage Advisor, responded in an email dated March 5, 2026, that to date, no properties within the Study Area have been designated by the Ministry. Likewise, the MCM is not aware of a provincial heritage property within or adjacent to the Study Area.

8.2.2 Ontario Heritage Trust (OHT)

The OHT was contacted by email on February 24, 2026, to determine if any properties within or adjacent to the Study Area are included within any OHT heritage registers or have any heritage conservation easements placed on them. Samuel Bayefsky, Real Property Coordinator, responded in an email dated February 27, 2026, that the OHT neither owns nor protects via conservation easement agreement any properties within or adjacent to the Study Area. Likewise, the OHT does not have any heritage plaques within or adjacent to the Study Area.

8.2.3 City of Hamilton

Planning staff at the City of Hamilton were contacted by email on February 24, 2026, to determine if any properties within or adjacent to the Study Area are listed or designated on the municipal heritage register. Keara Reilly, Assistant Cultural Heritage Planner, responded in an email dated March 26, 2026, noting that the municipality has no properties designated under Part IV of the *OHA* or listed on the municipal heritage register within the Study Area. While not included on the City of Hamilton's *Register of Heritage Properties*, three (3) additional properties were identified on the City of Hamilton's Heritage Inventory as having potential CHVI:

- 511 Concession 5 Road West;
- 526 Concession 5 Road West; and
- 487 Parkside Drive.

8.3 General Community Engagement

8.3.1 Flamborough Archives and Heritage Society

In an email dated March 5, 2026, TMHC contacted the Flamborough Archives and Heritage Society to share information about the project and to determine if the group had any knowledge or concerns regarding cultural heritage in the area. Lyn Lunsted responded on behalf of the Flamborough Archives and Heritage Society, in an email dated March 18, 2026. She indicated that the society had some resources available, and provided materials on the following properties on March 19, 2026:

- 487 Parkside Drive; and
- 526 Concession 5 Road East

8.4 Future Engagement

Copies or summaries of this CHRECPIA should inform and be available during future PICs and other public/municipal outreach efforts as well as be made available to Indigenous communities, interested organizations or individuals upon request. Any feedback about this CHRECPIA should be shared with TMHC and the report should be updated when and where appropriate.

Any subsequent CHERs or HIAs should include circulation to MCM, planning staff at the City of Hamilton, interested Indigenous communities, and interested local organizations or individuals as appropriate.

9 DESCRIPTION OF PROPOSED DEVELOPMENT

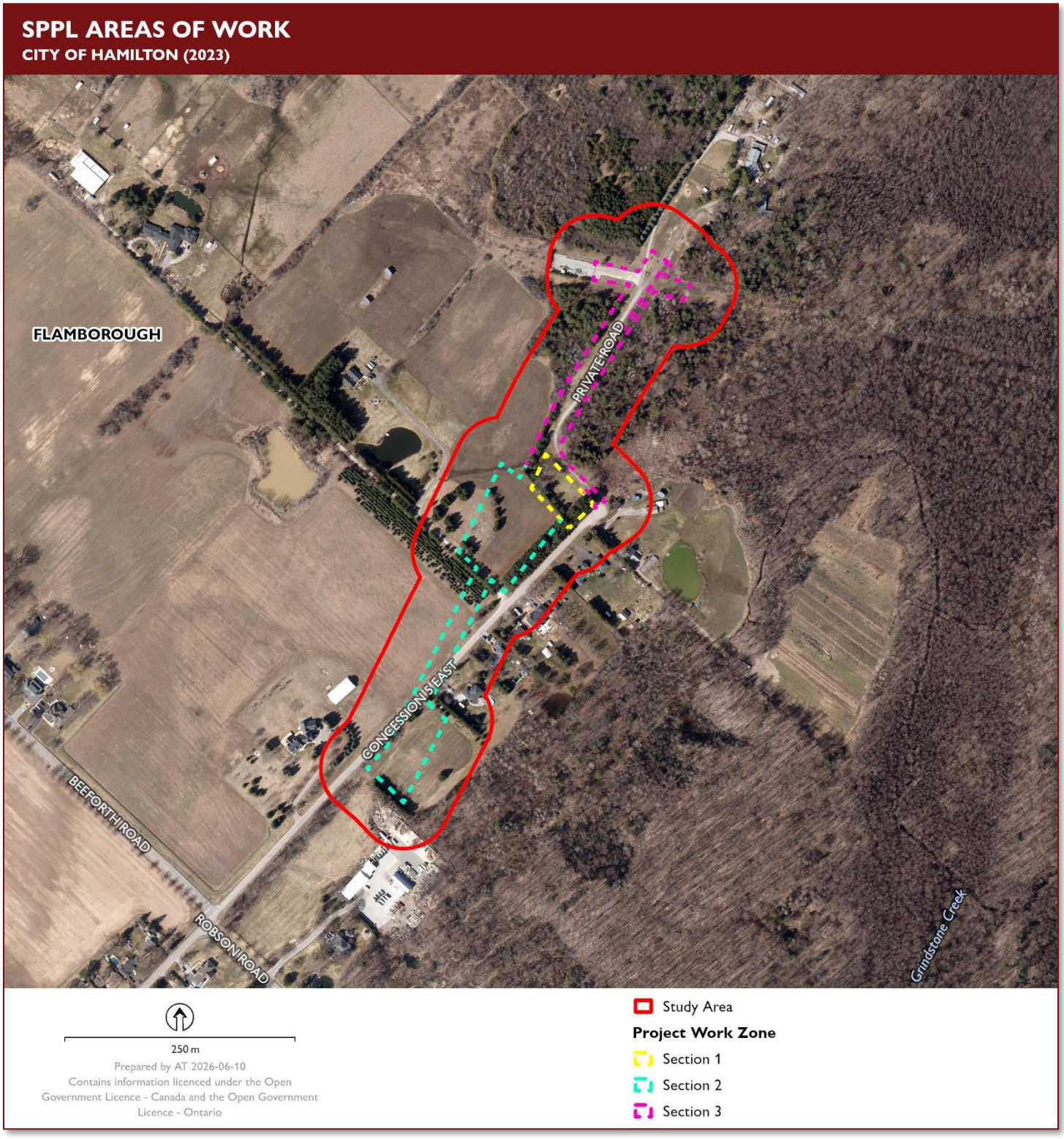
This report addresses the SPPL Mitigations Project which includes the construction of a new pump station adjacent to the existing valve station easement near Millgrove Station (Concession Road 5 East, in Waterdown, Ontario) and the installation of two sections of related 12-inch pipeline within the existing Imperial Oil ROW. This scope of work has been divided into three sections of work in this report for ease of description, called Section 1, Section 2, and Section 3 (Map 9).

Section 1 refers to the proposed construction of a new Millgrove Pumpstation. This section of work is not subject to OEB guidelines, but has been included in this report's considerations for due diligence in anticipation of municipal and provincial permit requirements.

Sections 2 and 3 refer to proposed pipeline installation, both of which will be laid within the existing ROW approximately 0.9 to 1.2 m below ground. The pipeline scope required to integrate the pumpstation into the Waterdown to Finch pipeline also includes the following:

- Section 2: From the new pumpstation to the Waterdown to Finch pipeline tie-in points to the east, two (2) new approximately 400 m sections of 12-inch pipelines will be constructed within the existing ROW; and
- Section 3: An approximately 200 m of 12-inch buried (open trench construction) pipeline within the existing ROW from the existing valve station to the new Millgrove Pumpstation.

The CHRECPIA Study Area also includes a 50 m buffer around the pumpstation footprint (including construction, gravel containment, access, and service work areas) and the associated tie-ins.



Map 9: SPPL Areas of Work

10 IMPACT ASSESSMENT AND MITIGATION RECOMMENDATIONS

According to *InfoSheet #5: Heritage Impact Assessments and Conservation Plans* published by the MCM:

> Any impact (direct or indirect, physical or aesthetic) of the proposed development or site alteration on a cultural heritage resource must be identified. The effectiveness of any proposed conservation or mitigative or avoidance measures must be evaluated on the basis of established principles, standards and guidelines for heritage conservation.

This report assesses the proposed development against the types of potential impacts identified in *InfoSheet #5*. Any identified potential impacts should be addressed by mitigation measures, as discussed below.

The following types of potential impacts are outlined in *InfoSheet #5*:

- **Destruction** of any, or part of any, significant heritage attributes or features;
- **Alteration** that is not sympathetic, or is incompatible, with the historic fabric and appearance;
- **Shadows** created that alter the appearance of a heritage attribute or change the viability of a natural feature or plantings, such as a garden;
- **Isolation** of a heritage attribute from its surrounding environment, context or a significant relationship;
- Direct or indirect **obstruction** of significant views or vistas within, from, or of built and natural features;
- A **change in land use** such as rezoning a battlefield from open space to residential use, allowing new development or site alteration to fill in the formerly open spaces;
- **Land disturbances** such as a change in grade that alters soils, and drainage patterns that adversely affect an archaeological resource; and
- **Other** potential impacts.

Preliminary impact assessment results and mitigation recommendations are provided in Table 2 below.

Table 2: Preliminary Impact Assessment Results

BHR/CHL Number and Type	Location (Study Number)	Heritage Recognition	Type and Description of Potential/Anticipated Impacts	Mitigation Recommendations	Associated Alternative Method(s)
BHR-01	487 Parkside Drive (PRK-01)	The property is included on the City of Hamilton's Heritage Inventory as having potential CHVI. The property is not included on the City of Hamilton's *Register of Heritage Properties.*	While part of this property is located within the Study Area, the potential heritage attributes associated with BHR-01 are located over 1.5 km outside the 50 m buffer and fronts onto Parkside Drive. As such, no direct nor indirect impacts to BHR-01 have been identified.	No mitigations are required under the current scope of work. In the event that the scope of work extends the construction area or activities within 50 m of the potential BHR structure(s), additional review of potential impacts will be required.	• Section 2: Pipeline from the new pumpstation to the Waterdown to Finch pipeline tie-points.
BHR-02	526 Concession 5 East (CFE-07)	The property is included on the City of Hamilton's Heritage Inventory as having potential CHVI. The property is not included on the City of Hamilton's *Register of Heritage Properties.*	While part of this property is located within the Study Area, the potential heritage attributes associated with BHR-02 are located outside the 50 m buffer. As such, no direct nor indirect impacts to BHR-02 have been identified.	No mitigations are required under the current scope of work. In the event that the scope of work extends the construction area or activities within 50 m of the potential BHR structure(s), additional review of potential impacts will be required.	• Section 1: New Millgrove Pumpstation
CHL-01	513 Concession 5 (CFE-08)	None	Works related to Section 1 and Section 3 will take place within CHL-01 in the existing ROW, which has already been altered from the original landscape. Concerns related to the archaeological components of this CHL which contribute to its potential CHVI are addressed in separate archaeological reporting. Direct Impacts: • Section 1 and Section 3 works pose potential direct impacts to CHL-01 from construction activities which could result in the destruction and/or alteration of vegetation which has the potential to degrade the wooded character of the CHL. The potential impact of land disturbances on archaeological resources is addressed through separate archaeological reporting. Indirect Impacts:	**Preferred Option:** Works under Section 1 and Section 3 related to the construction of the proposed Millgrove Pumpstation present some potential direct and indirect impacts to CHL-01 as a result of land disturbances related to nearby construction activities. As a result, recommended mitigations for CHL-01 include: • That a designated construction staging area within the limits of the identified project work area be determined prior to the commencement of construction activities; • That impacts to existing vegetation outside of the project work area be minimised, and that the installation of vegetation to soften the visual transition between the potential CHL and the new pumpstation be considered after the completion of the project; • That stormwater management plans completed for the project appropriately mitigate potential changes to drainage patterns which would adversely affect the CHL; and	• Section 1: New Millgrove Pumpstation • Section 3: Pipeline from the Enbridge valve station to the new pumpstation.

BHR/CHL Number and Type	Location (Study Number)	Heritage Recognition	Type and Description of Potential/Anticipated Impacts	Mitigation Recommendations	Associated Alternative Method(s)
			• Section 1 and Section 3 works pose potential indirect impacts to CHL-01 due to potential land disturbances during construction which may alter drainage patterns or local ecology.	• That ongoing ecological monitoring and monitoring of construction activities throughout the duration of the Project be undertaken to ensure the project work area limits are respected. **Alternative Option:** If direct impacts to the CHL are identified during the detailed design phase, an HIA should be undertaken by a qualified person as early as possible in the project, and developed in consultation with, and submitted for review and comment to, MCM and other interested parties (e.g., Indigenous communities, municipal heritage planner and/or municipal heritage committee). The HIA will address the alternatives and will identify the alternative that best minimizes or mitigates adverse effects on the property.	

11 CONCLUSION

Dillon, on behalf of Imperial Oil, has engaged TMHC to produce a CHRECPIA as part of the SPPL Mitigations Project in the City of Hamilton, Ontario. This report addresses the proposed development of a new Millgrove Pumpstation facility and adjoining pipeline to connect the facility to the existing pipeline network for the SPPL Project.

The cultural heritage screening and supplementary review for this CHRECPIA determined that of the 13 properties, structures, and landscapes screened in the Study Area, 12 were found to require additional review. Following this review, two potential (2) BHRs and one (1) potential CHL were determined to have potential CHVI based on professional judgement and the preliminary application of *OHA* O. Reg. 9/06 criteria (as amended by O. Reg. 569/22). The identified potential BHRs and potential CHL within the Study Area were considered for possible direct and indirect impacts.

The scope of work proposed for this project was divided into three sections by TMHC for ease of description, as follows:

1. Section 1: New Millgrove Pumpstation;
2. Section 2: Pipeline from the new pumpstation to the Waterdown to Finch pipeline tie-points; and
3. Section 3: Pipeline from the Enbridge valve station to the new pumpstation.

Works under Section 1 of this report, related to the construction of the New Millgrove Pumpstation, are not subject to OEB Guidelines, but have been considered for this report as due diligence in anticipation of municipal and provincial permitting requirements for the proposed scope of work.

Direct impacts, indirect impacts, and preliminary mitigation measures were considered for each section of the proposed works as part of this CHRECPIA. The preliminary impact assessment conducted for the proposed works determined that there are no potential direct or indirect impacts identified for the two (2) potential BHRs.[55] The preliminary impact assessment identified the potential for direct and indirect impacts to the potential CHL-01[56] as a result of the proposed construction activities under Section 1 and Section 3 works.

The works under Section 1 and Section 3 related to the construction of the new Millgrove Pumpstation and associated pipeline present potential direct impacts to CHL-01 as a result of anticipated construction activities. The general recommended mitigations for potential direct impacts include, that:

- A designated construction staging area, within the limits of the identified project work area be determined prior to the commencement of construction activities;
- Impacts to existing vegetation outside of the project work area be minimised, and that the installation of vegetation to soften the visual transition between the potential CHL and the new pumpstation be considered after the completion of the project;
- Stormwater management plans completed for the project appropriately mitigate potential changes to drainage patterns which would adversely affect the CHL; and

[55] That is, BHR-01 and BHR-02
[56] That is, BHR-02 and CHL-01

- Ongoing ecological monitoring and monitoring of construction activities throughout the duration of the Project be undertaken to ensure the project work area limits are respected.

If direct impacts to the CHL persist during the detailed design phase and the above mitigation measures cannot be implemented, a Heritage Impact Assessment (HIA) should be undertaken by a qualified person as early as possible in the project, and developed in consultation with, and submitted for review and comment to, MCM and other interested parties (e.g., Indigenous communities, municipal heritage planner and/or municipal heritage committee). The HIA will address the alternatives and will identify the alternative that best minimizes or mitigates adverse effects on the property.

Potential indirect impacts identified for Section 1 and Section 3 work includes impacts related to the proximity of construction activities to CHL-01, and includes potential impacts to drainage and water management in the area, construction staging, and the use of heavy equipment. In general, the recommended mitigations for potential indirect impacts include to:

- Avoid potential negative impacts caused by the use heavy equipment and planned construction by designating staging areas appropriately confined to the limits of the Project Area or otherwise set back from the identified CHL based on the scale and function of the staging area and type of equipment;
- Avoid and/or mitigate any negative impacts to water management by ensuring that stormwater management plans completed for the project appropriately mitigate potential changes to drainage patterns which would adversely affect the CHL; and
- Mitigate and/or avoid any unanticipated potential negative indirect impacts to heritage attributes by monitoring construction activities in proximity to CHL-01 throughout the duration of the Project.

The potential impact of land disturbances on archaeological resources is addressed through separate archaeological reporting.

Copies or summaries of this CHRECPIA should inform and be available during future PICs and other public/municipal outreach efforts as well as be made available to Indigenous communities, interested organizations or individuals upon request. Any feedback received about this CHRECPIA should be shared with TMHC and the report should be updated when and where appropriate. Any subsequent CHERs or HIAs should include circulation to the MCM, planning staff at the City of Hamilton, interested Indigenous communities, local organizations or individuals, as appropriate.

12 BIBLIOGRAPHY

Bowley, Stephen

2023 8381 Loyalist Directory Biography. The United Empire Loyalists' Association of Canada. Available online: https://uelac.ca/wp-content/uploads/2023/12/Biography-Archibald-Thomson-8381-of-Scarborough.pdf. Accessed March 31, 2026.

City of Hamilton

2005 *Hamilton's Heritage Volume 6: Inventory of Cemeteries and Burial Grounds.* City of Hamilton Planning and Economic Development Department. Available online: https://www.hamilton.ca/sites/default/files/2022-06/heritageproperties-inventory-cemeteries-volume6.pdf. Accessed March 4, 2026.

City of Hamilton, Planning and Economic Development Department

2008 Heritage Property Evaluation Form: 487 Parkside Drive. On file with the City of Hamilton.

City of Hamilton, Planning and Economic Development Department

2025 Cultural Heritage Assessment Report: 2 Hatt Street, Dundas. City of Hamilton, Planning and Economic Development Department. Available online: https://pub-hamilton.escribemeetings.com/filestream.ashx?DocumentId=446752

City of Hamilton, Planning and Economic Development Department

n.d.a Heritage Property Evaluation Form: 526 5th Concession E. On file with the City of Hamilton.

City of Hamilton, Planning and Economic Development Department

n.d.b The Thompson Family. On file with the City of Hamilton.

Crozier, I.F.W., & C.B.A. Green

1986 *A Green Genealogy: Volume 1 1678-1986.* I.F.W. Ontario: Crozier and C.B.A. Green. Available online: https://archive.org/details/greengenealogy0000croz/

Ferris, N.

2011 *The Archaeology of Native-Lived Colonialism: Challenging History in the Great Lakes*. Tuscon, AZ: University of Arizona Press.

Find a Grave

2019 Archibald Thomson. Available online: https://www.findagrave.com/memorial/201445124/archibald-thomson. Accessed May 5, 2026.

Flamborough Archives & Heritage Society

2021a History of West Flamborough Township Part 2. Available online: https://www.flamboroughhistory.com/history-of-west-flamborough-township-part-2/. Accessed February 19, 2026.

Flamborough Archives & Heritage Society

2021b History of West Flamborough Township Part 1. Available online: https://www.flamboroughhistory.com/history-of-west-flamborough-township-part-1/. Accessed February 20, 2026.

Flamborough Archives & Heritage Society

2021c The Changing Boundaries within Southern Ontario 1777-1783. Available online: https://www.flamboroughhistory.com/the-changing-boundaries-within-southern-ontario-1777-1983/. Accessed February 20, 2026.

Flamborough Archives & Heritage Society

2021d The Lower Concessions of East Flamborough – Part 1. Available online: https://www.flamboroughhistory.com/the-lower-concessions-of-east-flamborough-part-i/. Accessed February 20, 2026.

Fox, W.

2020 George Gustav Heye and His Looted Lake Medad Collection: An Allegory for All That Went Before in Ontario. *Journal of the Ontario Archaeological Society* 100:90-101.

Glover, F.

2020 A Dish with One Spoon. *Canadian Encyclopedia*. Available online: https://www.thecanadianencyclopedia.ca/en/article/a-dish-with-one-spoon. Accessed February 2, 2024.

Government of Canada

1891 *Indian Treaties and Surrenders From 1680-1890*. Two Volumes. Ottawa, ON: Brown Chamberlin, Printer to the Queen's most Excellent Majesty.

Government of Ontario, Ministry of Public and Business Service Delivery

n.d. The Changing Shape of Ontario. Available online: https://wayback.archive-it.org/org-1963/20250403093615/https:/www.archives.gov.on.ca/en/maps/ontario-districts.aspx. Accessed February 20, 2026.

Hamilton Conservation Authority

2011a *Middle Spencer, Westover and West Spencer Creeks Stewardship Action Plans*. Hamilton Conservation Authority. Available online: https://conservationhamilton.ca/wp-content/uploads/2015/07/1_MSWWS-MAIN-DOC-Final-March-2011.pdf. Accessed March 31, 2026.

Hamilton Conservation Authority

2011b *Middle Spencer Creek Stewardship Action Plans*. Hamilton Conservation Authority. Available online: https://conservationhamilton.ca/wp-content/uploads/2015/07/2_MIDDLE-SPENCER-SAP-Final-March-2011.compressed.pdf. Accessed March 31, 2026.

Hamilton Conservation Authority

2011c *Westover Creek Stewardship Action Plans*. Hamilton Conservation Authority. Available online: https://conservationhamilton.ca/wp-content/uploads/2015/07/3_WESTOVER-SAP-Final-March-2011.pdf. Accessed March 31, 2026.

Hamilton Conservation Authority

2011d *West Spencer Creek Stewardship Action Plans*. Hamilton Conservation Authority. Available online: https://conservationhamilton.ca/wp-content/uploads/2015/07/4_WEST-SPENCER-SAP1-Final-March-2011.pdf. Accessed March 31, 2026.

[HPL] Hamilton Public Library Local History & Archives

n.d.a Historical Flamborough. Available online: https://lha.hpl.ca/articles/historical-flamborough. Accessed February 20, 2026.

[HPL] Hamilton Public Library Local History & Archives

n.d.b Historical Dundas. Available online: https://lha.hpl.ca/articles/historical-dundas. Accessed February 20, 2026.

[HPL] Hamilton Public Library Local History & Archives

n.d.c Chronology of Cities, Towns and Townships in Hamilton. Available online: https://lha.hpl.ca/articles/chronology-cities-towns-and-townships-hamilton. Accessed February 19, 2026.

[HPL] Hamilton Public Library Local History & Archives

1952 *A Glimpse of Lake Medad – Waterdown*. Photograph. Bruce Murdoch Collection; Hamilton Public Library Local History & Archives. Available online: https://www.facebook.com/flamboroughhistory/posts/a-glimpse-of-lake-medad-waterdownsaid-to-be-fed-by-very-deep-springs-and-with-no/2103422823039229/. Accessed April 1, 2026.

Lunsted, Lyn

2019 Threads Through the Past. *Heritage Happenings*. Summer 2019, Vol. 48, No. 1. Available online: https://flamboroughhistory.com/wp-content/uploads/2019/07/Summer-2019-web.pdf. Accessed February 25, 2026.

Migizi, Gidigaa

2018 *Michi Saagiig Nishnaabg: This is Our Territory*. Winnipeg: ARP Books.

Mishkodeh Centre for Indigenous Knowledge

n.d. History. Available online: https://mishkodeh.org/history/. Accessed October 27, 2022.

Mississaugas of the Credit First Nation (MCFN)

2020 *Between the Lakes Treaty No. 3 (1792).* Culture and History; Historical Tidbit. Mississaugas of the Credit First Nation. Available online: https://mncfn.ca/between-the-lakes-treaty-no-3-1792/. Last accessed December 21, 2022.

[MNAI] Municipal Natural Assets Initiative

2022 *Grindstone Creek Watershed Natural Assets Management Project: Summary Report.* Municipal Natural Assets Initiative. Available online: https://www.conservationhalton.ca/wp-content/uploads/2023/02/MNAI-Grindstone-main-report-104.pdf

ONLand

2026a Concession 4; Lot 1 to 7. Book 318. Hamilton Wentworth (62), East Flamborough. Available online: https://www.onland.ca/ui/62/books/18062/viewer/19577401?page=2. Accessed March 31, 2026.

ONLand

2026b Concession 5; Lot 1 to 7. Book 320. Hamilton Wentworth (62), East Flamborough. Available online: https://www.onland.ca/ui/62/books/18062/viewer/19577401?page=2. Accessed March 31, 2026.

Page & Smith

1875 *Illustrated Historical Atlas of the County of Wentworth, Ont*. Toronto, ON: Page & Smith.

Smith, Donald B.

2003 Jones, Augustus. *Dictionary of Canadian Biography*. Available online: https://www.biographi.ca/en/bio/jones_augustus_7E.html. Accessed February 19, 2026.

Surtees, R.J.

1984 *Indian Land Surrenders in Ontario 1763-1867*. Ottawa: Indian Affairs and Northern Development, Government of Canada.

Thomson, Thomas M.

1965 *The Spencer Story*. Hamilton: Spencer Creek Conservation Authority. Available online: https://archive.org/details/spencerstory0000thom_h9w1. Accessed March 31, 2026.

University of Toronto Map and Data Library

1954 1954 Air Photos of Southern Ontario. Available online: https://mdl.library.utoronto.ca/collections/air-photos/1954-air-photos-southern-ontario/index. Accessed November 13, 2025.

Waterdown East Flamborough Centennial Committee

1967 *Waterdown and East Flamborough 1867-1967*. Hamilton, ON: W. L. Griffin Ltd.

[WEFHS] Waterdown-East Flamborough Heritage Society.

1986 The Ireland Family of Nelson Part II. *Heritage Happenings*. Canada: Waterdown-East Flamborough Heritage Society.

[WEFHS] Waterdown-East Flamborough Heritage Society.

2017 *Connecting the Dots: Snapshots of Flamborough Communities.* Canada: Waterdown-East Flamborough Heritage Society.

APPENDIX A: MCM SCREENING CHECKLIST

Ontario

Ministry of Tourism, Culture and Sport

Programs & Services Branch
401 Bay Street, Suite 1700
Toronto ON M7A 0A7

Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes

A Checklist for the Non-Specialist

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.

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Project or Property Name
Sarnia Products Pipeline Mitigations Project - Flamborough East

Project or Property Location (upper and lower or single tier municipality)
Flamborough, City of Hamilton

Proponent Name
Dillon Consulting Limited

Proponent Contact Information
Tristan Lefler, tlefler@dillonc.ca

Screening Questions

	Yes	No
1. Is there a pre-approved screening checklist, methodology or process in place?	☐	☑

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?	☐	☑

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 *Ontario Heritage Act* as being of cultural heritage value?	☐	☑
b. a National Historic Site (or part of)?	☐	☑
c. designated under the *Heritage Railway Stations Protection Act*?	☐	☑
d. designated under the *Heritage Lighthouse Protection Act*?	☐	☑
e. identified as a Federal Heritage Building by the Federal Heritage Buildings Review Office (FHBRO)?	☐	☑
f. located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?	☐	☑

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?	☐	☑
b. has or is adjacent to a known burial site and/or cemetery?	☐	☑
c. is in a Canadian Heritage River watershed?	☐	☑
d. contains buildings or structures that are 40 or more years old?	☑	☐

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?	☑	☐
b. has a special association with a community, person or historical event?	☐	☑
c. contains or is part of a cultural heritage landscape?	☑	☐

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)

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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)

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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

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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 B: INVENTORY OF PROPERTIES WITH POTENTIAL CHVI

Table 3: Heritage Review Results – Properties with Potential CHVI

BHR/CHL Number	Study Number	Type of Property	Street Address	Heritage Recognition	Description of Known or Potential Cultural Heritage Value or Interest (CHVI)	Photograph/Digital Image	Associated Alternative Method(s)
BHR-01	PRK-01	Residential; Agricultural	487 Parkside Drive, Flamborough	The property is included on the City of Hamilton's Heritage Inventory as having potential CHVI. The property is not included on the City of Hamilton's *Register of Heritage Properties.*	Design/Physical Value: • The property contains a red brick house constructed prior to 1875. The one-and-a-half storey building has an 'L'-shaped plan, a ground-storey bay window, segmentally arched window openings, a covered verandah and a steeply pitched gabled roof, • The property also includes five outbuildings including barns and garages. These appear to date from the 20th century and are not considered to have CHVI. Historical/Associative Value: • The property is of potential historical and associative value for its affiliations with the Thompson (also spelled Thomson) family of Flamborough East and themes of 19th century agriculture. In 1816, Archibald Thomson received the Crown Patent for Lot 3, Concession 4, but passed away five years later in 1821 without having moved to the lot.[57] Upon Archibald's death the property was conveyed to his relation Richard Thomson in 1821.[58] • Prior to 1859 Richard informally transferred the lot to James Thompson (Map 4), who is presumed to be his son. This transfer was recorded in 1867 at which point the executor of Richard's will, David Thompson, released the property to James.[59] James informally divided the property in two sometime prior to 1875 – with the east 100-ac of the 200-ac lot going to his relation Alexander Thompson (Map 5).[60] Alexander is likely responsible for the construction of the house at 487 Parkside		• Section 2: Pipeline from the new pumpstation to the Waterdown to Finch pipeline tie-points.

[57] ONLand 2026a:43; Find a Grave 2019
[58] OnLand 2026; City of Hamilton 2008
[59] ONLand 2026a
[60] ONLand 2026a

BHR/CHL Number	Study Number	Type of Property	Street Address	Heritage Recognition	Description of Known or Potential Cultural Heritage Value or Interest (CHVI)	Photograph/Digital Image	Associated Alternative Method(s)
					Drive, and the 1875 *County Atlas* shows a building on the lot in the approximate location of the present-day building. The lot remained in the Thompson family until the 1950s, when Walter Alexander Thomson sold the east 100-ac lot to the Carey family.[61] Contextual Value: • The property at 487 Parkside Drive is of potential contextual value as it is representative of Flamborough's historic 19th century agricultural landscape which is an important facet of the town's civic identity.		
BHR-02	CFE-07	Residential; Agricultural	526 Concession 5 Road East, Flamborough	The property is included on the City of Hamilton's Heritage Inventory as having potential CHVI. The property is not included on the City of Hamilton's *Register of Heritage Properties.* City of Hamilton Inventory.	Design/Physical Value: • The property at 526 Concession 5 Road East contains a 19th century farmhouse and stone outbuilding. The one-and-a-half storey frame farmhouse features elements of the Ontario Cottage style. Despite being unsympathetically altered with the addition of vertical wood siding, modern windows, and a metal roof, the house retains its symmetrical design, central doorway flanked by single window openings, and small window opening in the centre gable. • The property also contains two 20th century outbuildings and a c.2015 house clad in fieldstone. These buildings are not considered to have CHVI. Historical/Associative Value: • The Crown granted two 100-ac parcels for Lot 2, Concession 4. David Parsons received the Crown Patent for the southeast half of the lot in 1838, and the other 100-ac lot was granted to George Longdale in 1856.[62] Both properties were sold several times between absent		• Section 1: New Millgrove Pumpstation

[61] City of Hamilton 2008; City of Hamilton n.d.b
[62] OnLand 2026

BHR/CHL Number	Study Number	Type of Property	Street Address	Heritage Recognition	Description of Known or Potential Cultural Heritage Value or Interest (CHVI)	Photograph/Digital Image	Associated Alternative Method(s)
					landowners with no signs of the land having been developed until the mid-1860s. At this time, parcels on the Norwest of the lot were purchased by John Green and Samuel Green.[63] • John Green was the grandson of a wealthy millwright who founded nearby Greensville[64] – although he lived elsewhere in Flamborough West.[65] As such, he may have used the property as a farm rental, as the next several property owners in the late 19th and early 20th centuries likely did.[66] Contextual Value: • The property at 526 Concession 5 Road East has potential contextual value as it is representative of Flamborough's surviving historic 19th century agricultural landscape which is an important facet the town's civic identity.	 19th century farmhouse on the property in 1991 Source: City of Hamilton n.d.a	
CHL-01	CFE-08	Residential; Naturalized	513 Concession 5, Flamborough	None	Design/Physical Value: • CHL-01 has been preliminarily identified as a component of a potential CHL which encompasses the Medad Valley and Lake Medad. The boundaries of this CHL require further investigation and consultation with Indigenous communities to better understand its full extent and significance. • CHL-01 has physical value as a representative example of a Woodland Period Indigenous landscape, ranging from middle to late Woodland period. The physical value of the CHL is represented through the high concentration of archaeological sites in the Medad Valley, in which Lake Medad sits to the east of the Study Area.[67] Historical/Associative Value:		• Section 1: New Millgrove Pumpstation • Section 3: Pipeline from the Enbridge valve station to the new pumpstation

[63] City of Hamilton n.d.a
[64] Crozier & Green 1986:30
[65] Crozier & Green 1986:36
[66] City of Hamilton n.d.a
[67] Fox 2020

BHR/CHL Number	Study Number	Type of Property	Street Address	Heritage Recognition	Description of Known or Potential Cultural Heritage Value or Interest (CHVI)	Photograph/Digital Image	Associated Alternative Method(s)
					• The Medad Valley and Lake Medad is the source of Grindstone Creek, a defining feature of the Town of Waterdown and Flamborough East on which mills and industry in the 19th and early 20th centuries were centered. • By the mid-19th century, the area was associated with important archaeological remains, and archaeological investigations proposed that it may be the location of a substantive Attawandaron (Neutral) village in the 17th century.[68] The area's high profile during this time made it a popular site for looting – which has degraded the integrity of local archaeological remains, including burial sites, but contributes to an overall understanding of the significance of the Indigenous landscape which defines the area.[69] • For a complete analysis and understanding of the historical and associative CHVI of CHL-01 further research & discussion with Indigenous communities are necessary. Contextual Value: • The Medad Valley is of contextual value as it is a defining physical landscape feature in Flamborough East, housing both Grindstone Creek and its source, Lake Medad. • Further research and discussion with Indigenous communities are necessary to confirm CHVI.		

[68] Fox 2020
[69] Fox 2020

APPENDIX C: INVENTORY OF PROPERTIES WITHOUT POTENTIAL CHVI

Table 4: Heritage Review Results – Properties Without Potential CHVI

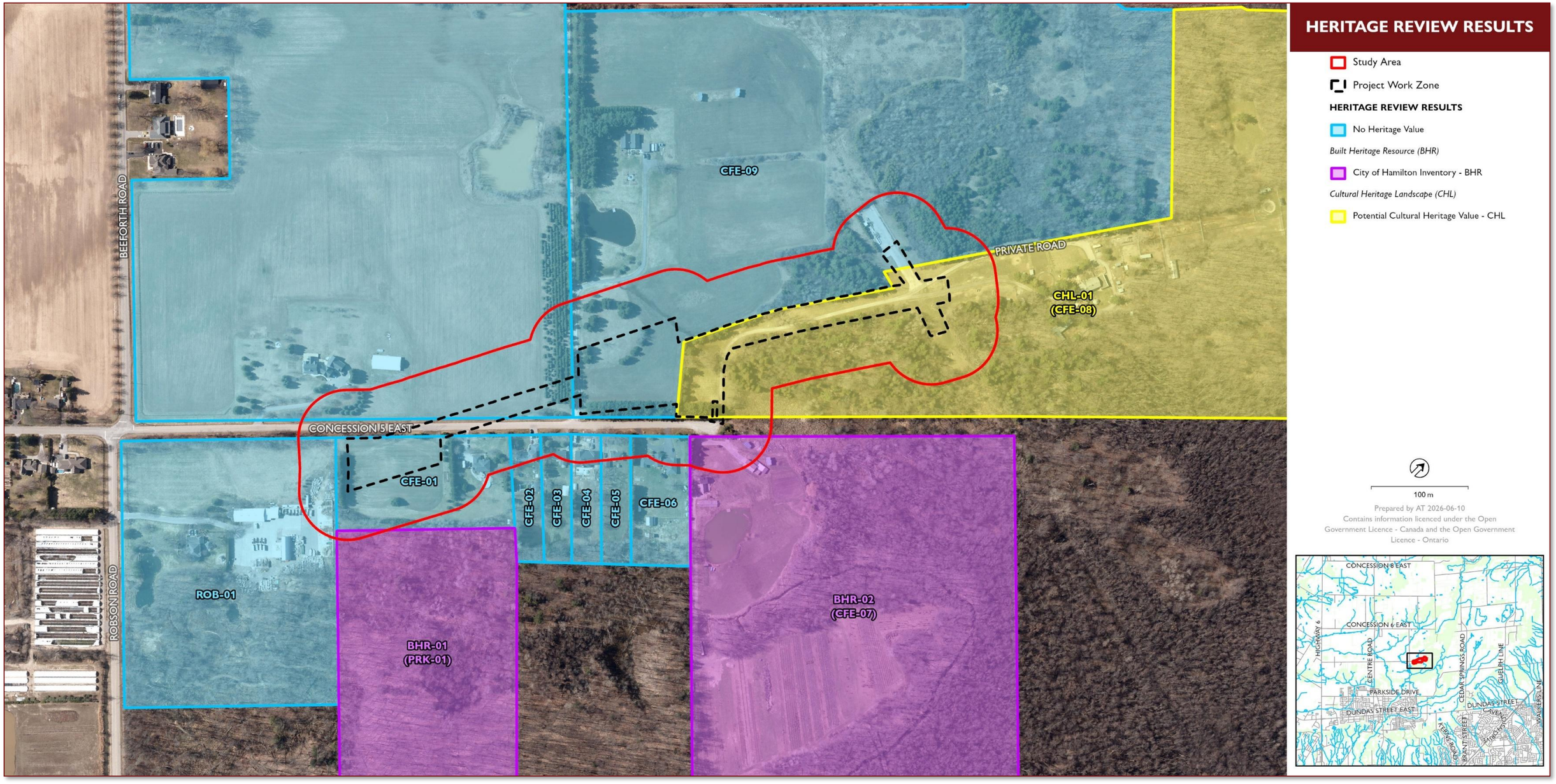
Study Number	Street Address	CHVI	BHR/CHL	Preliminary Review	Photograph of Property
CFE-01	502 Concession 5 Road East, Flamborough	None	N/A	The property at 502 Concession 5 Road East contains a house of late-20th century construction which does not exhibit potential design/physical value, historical/associative value, and/or contextual value. No further heritage review is necessary.	
CFE-02	508 Concession 5 Road East, Flamborough	None	N/A	The property at 508 Concession 5 Road East contains a house of late-20th century construction which does not exhibit potential design/physical value, historical/associative value, and/or contextual value. No further heritage review is necessary.	
CFE-03	510 Concession 5 Road East, Flamborough	None	N/A	The property at 510 Concession 5 Road East contains a house of late-20th century construction which does not exhibit potential design/physical value, historical/associative value, and/or contextual value. No further heritage review is necessary.	

Study Number	Street Address	CHVI	BHR/CHL	Preliminary Review	Photograph of Property
CFE-04	514 Concession 5 Road East, Flamborough	None	N/A	The property at 514 Concession 5 Road East contains a house of late-20th century construction which does not exhibit potential design/physical value, historical/associative value, and/or contextual value. No further heritage review is necessary.	
CFE-05	518 Concession 5 Road East, Flamborough	None	N/A	The property at 518 Concession 5 Road East contains a house of mid-20th century construction which does not exhibit potential design/physical value, historical/associative value, and/or contextual value. No further heritage review is necessary.	
CFE-06	522 Concession 5 Road East, Flamborough	None	N/A	The property at 522 Concession 5 Road East contains a house of late-20th century construction which does not exhibit potential design/physical value, historical/associative value, and/or contextual value. No further heritage review is necessary.	

Study Number	Street Address	CHVI	BHR/CHL	Preliminary Review	Photograph of Property
CFE-09	511 Concession 5 Road East, Flamborough	The property is included on the City of Hamilton's Heritage Inventory as having potential CHVI. The property is not included on the City of Hamilton's *Register of Heritage Properties.*	N/A	The property at 511 Concession 5 Road East is a large agricultural and residential property that contains an existing Enbridge valve station, two related houses, and an outbuilding. The two related houses are situated immediately next to one another, and their architectural style suggests mid-to-late 20th century construction. The associated outbuilding appears to be a contemporary garage. Aerial photography confirms that the extant buildings were constructed after 1954, and that an earlier building indicated on this map has since been demolished.[70] It is presumed that the potential heritage resource identified in the City of Hamilton's Heritage Inventory was demolished following the property's initial heritage survey in 1991. The buildings observed on the property at 511 Concession 5 Road East do not exhibit potential design/physical value, historical/associative value, and/or contextual value. No further heritage review is necessary.	 
ROB-01	764 Robson Road, Flamborough	None	N/A	The property at 764 Robson Road contains a residential and commercial complex of late-20th century construction which does not exhibit potential design/physical value, historical/associative value, and/or contextual value. No further heritage review is necessary.	

[70] University of Toronto Map and Data Library 1954

APPENDIX D: PRELIMINARY HERITAGE REVIEW RESULTS



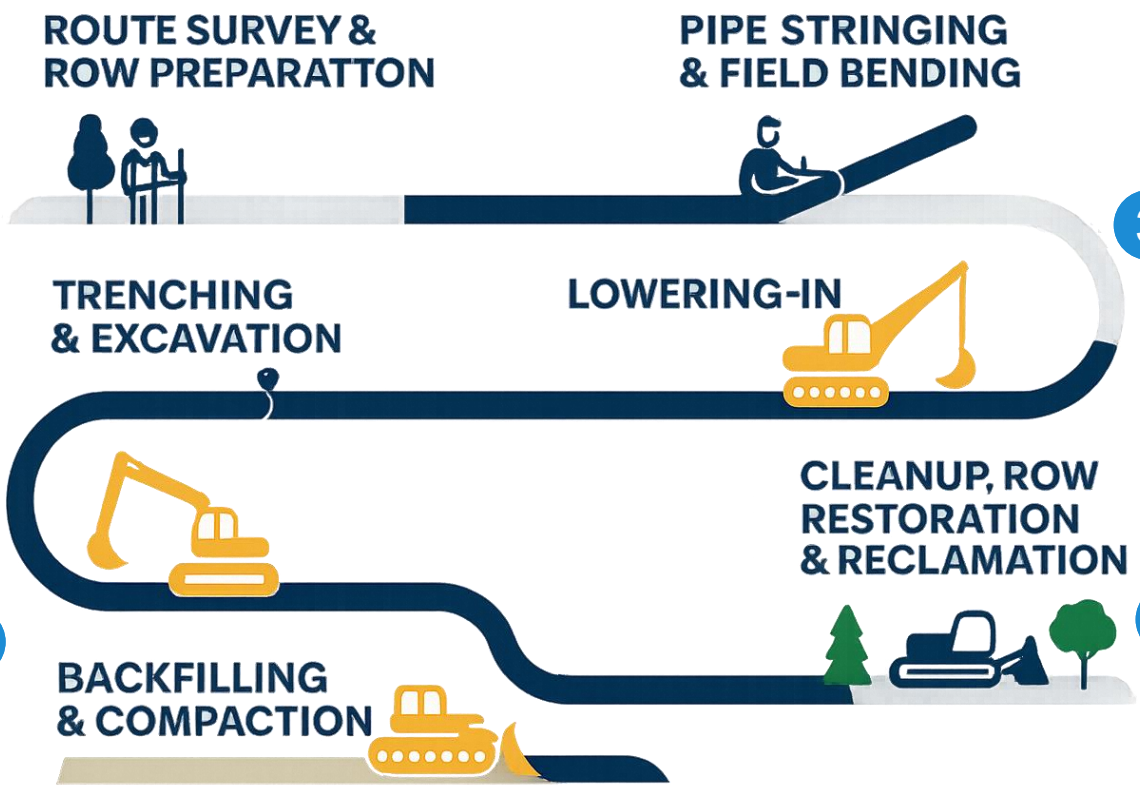
Map 10: Heritage Review Results

Appendix C

Typical Pipeline Construction Sequence

Trenched (Open Cut) Installation Steps

1. Engineering survey is completed; right-of-way cleared, graded, and staked in accordance with permits and environmental controls.



2. Line pipe delivered, stringed along right-of-way, and cold-bent as required to match alignment and profile.

3. Completed pipe string lowered into trench using padded side-booms; alignment and cover verified.

4. Excavate trench to design depth and width; manage spoils, groundwater, and shoring per regulatory and safety requirements.

5. Trench backfilled with approved material and compacted; select padding used where required.

6. ROW restored to original conditions or landowner requirements, including grading, topsoil replacement, and re-vegetation.

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Trenchless (HDD) Installation Steps

1 Planning and Design:

Before any field work begins, geotechnical investigations are performed to understand soil and rock conditions and the bore path is designed.

2 Site Preparation:

Entry and exit areas are prepared; drilling fluid and recycling systems are set up, and safety controls and environmental protection measures are put in place.

3 Pilot Hole Drilling:

A steerable drill head is launched from the HDD entry point and along the designed bore path. The drill head position is continuously tracked using a guidance system to maintain alignment.

4 Reaming (Hole Enlargement):

Once the pilot hole reaches the HDD exit point, the drill string is pulled back while rotating a reamer to enlarge the borehole to the required diameter.

5 Pipe String Fabrication:

While reaming is ongoing or after it is complete, pipe sections are joined/welded into a continuous string near the exit side. All welds are inspected and tested for integrity.

6 Pullback Installation:

The pipeline is connected to the drill string and is pulled through the borehole from the exit to the entry point. Once the pipe reaches the entry point, installation is complete.

7 Completion and Tie-In:

The pipe is disconnected from the drill string, end sections are trimmed, and tie-ins are completed to connect the new system.



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Appendix D

Project Contact List

Table D-1: Contact List

Federal and Provincial Elected Officials

Surname	First Name	Organization	Department	Title/Role	Address	City/Town, Province	Postal Code	Telephone	E-mail Address	Notes
Muys	Dan	Government of Canada	Flamborough - Glanbrook - Brant North	Member of Parliament	6 Main Street South	St. George	N0E 1N0	519-448-1483	dan.muys@parl.gc.ca	
Skelly	Donna	Government of Ontario	Flamborough - Glanbrook	Member of Provincial Parliament	Suite 104, 2000 Garth Street	Hamilton	L9B 0C1	905-679-3770	donna.skelly@pc.ola.org	

Ontario Pipeline Coordinating Committee (as of February 19, 2026)

Surname	First Name	Organization	Department	Title/Role	Address	City/Town, Province	Postal Code	Telephone	E-mail Address	Notes
Crnojacki	Zora	OPCC	--	OPCC Co-chair	PO Box 2319, 2300 Yonge Street	Toronto	M4P 1E4	416-440-8104	OPCC.Chair@oeb.ca	Cc both Co-chairs on notices
Doradat	Randy	OPCC	--	OPCC Co-chair	PO Box 2319, 2300 Yonge Street	Toronto	M4P 1E4	416-440-8104	OPCC.Chair@oeb.ca	
Mott	Ken	Minstry of Agriculture, Food & Agribusiness	Food Safety and Environmental Policy Branch	Rural Planner	1 Stone Road West, 3rd Floor SE	Guelph	N1G 4Y2	613-290-9112	omafra.eanotices@ontario.ca	
Barboza	Karla	Ministry of Citizenship and Multiculturalism	Heritage Planning	Team Lead, Heritage	400 University Avenue, 5th Floor	Toronto	M7A 2R9	416-66-1027	karla.barboza@ontario.ca	
Hamilton	James	Ministry of Citizenship and Multiculturalism	Heritage Planning	Manager	400 University Avenue, 5th Floor	Toronto	M7A 2R9	416-995-8404	james.hamilton@ontario.ca	cc' heritage@ontario.ca on notices
Boucher	Marc	Minsitry of Energy and Mines	Indigenous Energy Policy Unit	Senior Advisor	77 Grenville Street, 6th Floor	Toronto	M7A 2C1	--	Marc.Boucher@Ontario.ca	cc' shannon.mccabe@ontario.ca

Surname	First Name	Organization	Department	Title/Role	Address	City/Town, Province	Postal Code	Telephone	E-mail Address	Notes
Noordhof	Jake	Ministry of the Environment, Conservation and Parks	Environmental Assessment Branch	Manager, Environmental Assessment Services	135 St. Clair Avenue West, 1st Floor	Toronto	M4V 1P5	--	jake.noordhof@ontario.ca	cc' sourceprotectionscreening@ontario.ca eanotification.cregion@ontario.ca
Cole	Nick	Infrastructure Ontario	--	Environmental Manager	2000-1 Dundas Street West	Toronto	M5G 2L5	647-264-4499	nick.cole@infrastructureontario.ca	
Zhuo	Julianna	Ministry of Municipal Affairs and Housing	Community Planning and Development	Team Lead	777 Bay Street, 16th Floor	Toronto	M7A 2J3	647-201-0903	Julianna.Zhuo@ontario.ca	
--	--	Ministry of Natural Resources and Foresty	Environmental Planning Team	--	300 Water Street, 3rd Floor South	Peterborough	K9J 3C7	--	Environmental.Planning.Team@ontario.ca	
Andre	Nurgel	Technical Standards and Safety Authority	Fuels Engineering	Manager	345 Carlingview Drive	Toronto	M9W 6N9	416-734-3521	anurgel@tssa.org	Cc' Robin Yu on notices (below)
Yu	Robin	Technical Standards and Safety Authority	Fuels Engineering	Engineer	345 Carlingview Drive	Toronto	M9W 6N9	416-734-3402	ryu@tssa.org	
Prelipcean	Daniel	Ministry of Transportation	Corridor Management	Senior Project Manager	310 St. Paul Street	St. Catherines	L2R 7R4	289-407-4238	daniel.prelipcean@ontario.ca	Cc' Alicia Edwards on notices (below)
Edwards	Alicia	Ministry of Transportation	Corridor Management	Administrative Assistant	310 St. Paul Street	St. Catherines	L2R 7R4	289-668-4759	Alicia.Edwards@ontario.ca	

Provincial Agencies

Surname	First Name	Organization	Department	Title/Role	Address	City/Town, Province	Postal Code	Telephone	E-mail Address	Notes
--	--	Niagara Escarpment Commission	General Inbox	--	--	--	--	--	nec@ontario.ca	EAs to be sent to the general address in addition to the regional email.
Sperling	Janet	Niagara Escarpment Commission	South Region	Senior Strategic Advisor	--	--		226-668-5247	janet.sperling@ontario.ca	
--	--	Conservation Halton	General Inbox	--	2596 Britannia Road West, RR 2	Burlington	L7P 0G3	905-336-1158	envserv@hrca.on.ca	
Head	Laura	Conservation Halton	Approvals and Permitting	Lead for Hamilton	2596 Britannia Road West, RR 2	Burlington	L7P 0G3	--	lhead@hrca.on.ca	

Municipal Elected Officials

Surname	First Name	Organization	Department	Title/Role	Address	City/Town, Province	Postal Code	Telephone	E-mail Address	Notes
Horwath	Andrea	City of Hamilton	--	Mayor	71 Main Street West	Hamilton	L8P 1P9	905-546-4200	mayor@hamilton.ca	
McMeekin	Ted	City of Hamilton	Council	Councillor - Ward 15	71 Main Street West	Hamilton	L8P 1P9	905-546-2713	ted.mcmeekin@hamilton.ca	Cc' maureen.scally@hamilton.ca
Cluckie	Marnie	City of Hamilton	--	CAO/ City Manager	71 Main Street West	Hamilton	L8P 1P9	905-546-2489	citymanager@hamilton.ca	Cc' rosanna.melatti@hamilton.ca

Municipal Staff

Surname	First Name	Organization	Department	Title/Role	Address	City/Town, Province	Postal Code	Telephone	E-mail Address	Notes
--	--	City of Hamilton	Development Planning	--	71 Main Street West	Hamilton	L89 4Y5	905-546-2424	pdgeninq@hamilton.ca	
--	--	City of Hamilton	Economic Development	--	71 Main Street West	Hamilton	L89 4Y5	905-546-4222	economicdevelopment@hamilton.ca	
--	--	City of Hamilton	City Clerk	--	71 Main Street West	Hamilton	L89 4Y5	905-546-2095	clerk@hamilton.ca	
--	--	City of Hamilton	Forestry	--	100 King Street West, 14th Floor	Hamilton	L8P 1A2	905-546-2489	forestry@hamilton.ca	

Interest Groups

Surname	First Name	Organization	Department	Title/Role	Address	City/Town, Province	Postal Code	Telephone	E-mail Address	Notes
		Ontario Federation of Agriculture (OFA)			200 Hanlon Creek Boulevard	Guelph	N1C 0A1	519-821-8883	--	
Belbeck	Kate	Ontario Federation of Agriculture (OFA)	Zone 5 - Halton, Hamilton-Wentworth, Niagara	Member Service Representative	200 Hanlon Creek Boulevard	Guelph	N1C 0A1	289-687-7477	kate.belbeck@ofa.on.ca	
--	--	Hamilton Chamber of Commerce	--	--	120 King Street West, Plaza Level	Hamilton	L8P 4V2	905-552-1151	hcc@hamiltonchamber.ca	
Franchetto	Michelle	Ontario Greenhouse Alliance	Administrative Office	--	7382 County Road 30, Unit B.	Guelph	N1H 6J2	--	admin@theontariogreenhousealliance.com	
--	--	Sometimes Stables	--	--	509 Concession 5 Road East	Waterdown	L8B0W8	905-876-7962	--	
--	--	Shademaster Luxury Landscapes	--	--	764 Robson Road	Waterdown	L8B 1H1	905-689-4297	info@shademaster.com	
--	--	Hortico Nurseries	--	--	422 Concession Road 5 East	Waterdown	L8B 1K7	905-689-6984	office@hortico.com	
--	--	Aldershot Greenhouses Limited	--	--	374 Concession 5 Road East	Waterdown	L8B 1K7	905-632-9272	enquiries@agl.ca	
--	--	Connon Nurseries	--	--	656 Robson Road	Waterdown	L8B 1H1	905-689-7433	sales@connon.ca	

Indigenous Communities

Surname	First Name	Organization	Department	Title/Role	Address	City/Town, Province	Postal Code	Telephone	E-mail Address	Notes
Sault	Margaret	Mississaugas of the Credit First Nation	Chief and Council	Chief	2789 Mississauga Road, Building #3	Hagersville	N0A 1H0	--	MargaretS@mncfn.ca	
LaForme	Adam	Mississaugas of the Credit First Nation	Archaeology	Manager	2789 Mississauga Road, Building #3	Hagersville	N0A 1H0	289-527-2763	Adam.LaForme@mncfn.ca	
DeVries	Megan	Mississaugas of the Credit First Nation	Consultation and Accommodation	Director	4065 Hwy 6	Hagersville	N0A 1H0	905-786-4260	megan.devries@mncfn.ca	
Wong	Lindsay	Mississaugas of the Credit First Nation	Environment	Manager	2789 Mississauga Road, Building #3	Hagersville	N0A 1H0	--	Lindsay.Wong@mncfn.ca	
--	--	Mississaugas of the Credit First Nation	--	Field Coordinator	2789 Mississauga Road, Building #3	Hagersville	N0A 1H0	--	Field.Coordinator@mncfn.ca	
Hill	Sherri-Lyn	Six Nations of the Grand River	Chief and Council	Chief	1695 Chiefswood Road, PO Box 5000	Ohsweken	N0A 1M0	519-445-2201	sngr.chief@sixnations.ca	
Hill-Montour	Tanya	Six Nations of the Grand River	Archaeology	Archaeology Coordinator	1695 Chiefswood Road, PO Box 5000	Ohsweken	N0A 1M0	519-753-0665	tanyahill-montour@sixnations.ca	
LaForme	Dawn	Six Nations of the Grand River	Lands and Resources	Secretary/Receptionist	1695 Chiefswood Road, PO Box 5000	Ohsweken	N0A 1M0	519-753-0665	dlaforme@sixnations.ca	
Henhawk	Tierra	Six Nations of the Grand River	Land Use	--	1695 Chiefswood Road, PO Box 5000	Ohsweken	N0A 1M0	--	acmaa@sixnations.ca	

Surname	First Name	Organization	Department	Title/Role	Address	City/Town, Province	Postal Code	Telephone	E-mail Address	Notes
Bomberry	Lonny	Six Nations of the Grand River	Land and Resource	Director	1695 Chiefswood Road, PO Box 5000	Ohsweken	N0A 1M0	519-753-0665	lonnybomberry@sixnations.ca	
Graham	Peter	Six Nations of the Grand River	Environmental Consultation	Lead	1695 Chiefswood Road, PO Box 5000	Ohsweken	N0A 1M0		LRCS@sixnations.ca	
Picard	Pierre (Alphe)	Huron Wendat Nation	--	Grand Chief	7751 Black River Road, Unit #1	Sutton West	L0E 1R0	--		
Lesage	Dominique	Huron Wendat Nation	--	--	7751 Black River Road, Unit #1	Sutton West	L0E 1R0	--	Dominique.Lesage@wendake.ca	
Williams	Todd	Haudenosaunee Development Institute	--	Environment Coordinator	PO Box 714	Ohsweken	N0A 1M0	519-445-4222	toddwilliams@hdi.land	
Turner	Matt	Haudenosaunee Development Institute	Environmental Consultation	--	PO Box 714	Ohsweken	N0A 1M0	519-445-4222	environmental@hdi.land	
Williams	Raechelle	Haudenosaunee Development Institute	--	Environmental Supervisor	PO Box 714	Ohsweken	N0A 1M0	519-445-4222	raechellewilliams@hdi.land	
Hill	Shannon	Haudenosaunee Development Institute	--	Finance Assistant	PO Box 714	Ohsweken	N0A 1M0	519-445-4222	shannonhill@hdi.land	
--	--	Haudenosaunee Development Institute	--	Administration	PO Box 714	Ohsweken	N0A 1M0	519-445-4222	administration@hdi.land	

Appendix E

Stakeholder Engagement Logs

1.0 Agency Correspondence

1.1 Federal Agencies and Elected Officials

Line Item	Date of Consultation	Name of Agency and/or Contact	Description of Consultation Activity	Date of Response	Response and Issue Resolution (if applicable)
1.1	March 27, 2026	Government of Canada – Member of Parliament (MP) Contact: Dan Muys	Dillon Consulting Limited (Dillon) representative emailed MP Muys and provided the Notice of Study Commencement and Invitation to Public Information Session for the Imperial Oil Sarnia Products Pipeline Segments Mitigation Project (the Project) in the City of Hamilton, noting that additional details regarding the Project and the upcoming public information session are included in the attached notice. Dillon representative provided an email to direct any questions or obtain further information about the Project.	N/A	N/A

1.2 Provincial Agencies and Elected Officials

Line Item	Date of Consultation	Name of Agency and/or Contact	Description of Consultation Activity	Date of Response	Response and Issue Resolution (if applicable)
1.1	March 27, 2026	Government of Ontario – Member of Provincial Parliament (MPP) Contact: Donna Skelly	Dillon representative emailed MPP Skelly and provided the Notice of Study Commencement and Invitation to Public Information Session for the Project, noting that additional details regarding the Project and the upcoming public information session are included in the attached notice. Dillon representative provided an email to direct any questions or obtain further information about the Project.	March 27, 2026	The office of MPP Skelly emailed the Project inbox with an automated reply stating that, due to high volume, a complete residential address and phone number are to be provided, and a member of staff will reply as soon as possible.
2.1	March 10, 2026	Niagara Escarpment Commission Contacts: Janet Sperling	Dillon representative, on behalf of Imperial Oil, emailed the Niagara Escarpment Commission (NEC) and introduced the Project. Dillon representative noted that they have retained Dillon to conduct an environmental study for the Project, in accordance with the Ontario Energy Board (OEB) *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023).* Dillon representative indicated that Imperial Oil and Dillon will be hosting an in-person public information session as part of the stakeholder engagement program for the Project, with a notice to be circulated at a later date with further details. Dillon representative noted that they are interested in hearing comments or concerns that the NEC may have regarding the Project and provided an email address.	March 10, 2026	The NEC emailed the Project inbox with an automated reply, thanking for the inquiry and noting that it was passed on to planning staff for review.
2.2	March 12, 2026	Niagara Escarpment Commission Contacts: Janet Sperling	The NEC representative responded to Dillon representative, thanking them for the inquiry and noting it was passed on to planning staff for review. The NEC provided an inquiry number.	N/A	N/A

Line Item	Date of Consultation	Name of Agency and/or Contact	Description of Consultation Activity	Date of Response	Response and Issue Resolution (if applicable)
3.1	March 27, 2026	Conservation Halton Contacts: Laura Head and Cassandra Connolly	Dillon representative emailed Conservation Halton (CH) and provided the Notice of Study Commencement and Invitation to Public Information Session for the Project in the City of Hamilton, noting that additional details regarding the Project and the upcoming public information session are included in the attached notice. Dillon representative provided an email to direct any questions or obtain further information about the Project.	N/A	N/A
3.2	April 20, 2026	Conservation Halton Contacts: Cassandra Connolly	CH representative emailed the Project inbox attaching CH's issued Environmental Assessment (EA) Checklist, identifying CH's areas of interest in the study area and outlining the details recommended in the EA. CH representative noted that the checklist provided by CH is associated specifically for areas within CH's jurisdiction. CH representative recommended contacting neighboring conservation authorities to discuss lands within their jurisdiction, if applicable. CH representative noted that they look forward to receiving and reviewing the final Environmental Report.	April 21, 2026	Dillon representative emailed the CH representative thanking them for providing the checklist on behalf of CH, noting that Dillon will review and reach out with any questions.

1.3 Ontario Pipeline Coordinating Committee (OPCC)

Line Item	Date of Consultation	Name of Agency and/or Contact	Description of Consultation Activity	Date of Response	Response and Issue Resolution (if applicable)
1.1	March 10, 2026	Ontario Pipeline Coordinating Committee (OPCC) Contacts: Zora Crnojacki, Randy Dorodat	Dillon representative, on behalf of Imperial Oil, emailed the Ontario Pipeline Coordinating Committee (OPCC) and introduced the Project. Dillon representative noted that they were retained to conduct an environmental study for the Project, in accordance with the OEB *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023).* Dillon representative indicated that Imperial Oil and Dillon will be hosting an in-person public information session as part of the stakeholder engagement program for the Project, with a notice to be circulated at a later date with further details. Dillon representative noted that they are interested in hearing comments or concerns that the OPCC may have regarding the Project and provided an email address.	N/A	N/A
2.1	March 10, 2026	Ministry of Agriculture, Food and Agri-business (OMAFA) Contact: Ken Mott	Dillon representative, on behalf of Imperial Oil, emailed a representative from the Ministry of Agriculture, Food and Agri-business (OMAFA) and introduced the Project. Dillon representative noted that they were retained to conduct an environmental study for the Project, in accordance with the OEB *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023).* Dillon representative indicated that Imperial Oil and Dillon will be hosting an in-person public information session as part of the stakeholder engagement program for the Project, with a notice to be circulated at a later date with further details. Dillon representative noted that they are interested in hearing comments or concerns that OMAFA may have regarding the Project and provided an email address.	March 10, 2026	A representative from the OMAFA Agricultural Land Use Planning team emailed an automated reply to Dillon, thanking for contacting OMAFA and noting that due to staffing constraints, OMAFA will not be providing comments on the Project at this time.
2.2	March 27, 2026	Ministry of Agriculture, Food and Agri-business (OMAFA) Contact: Ken Mott	Dillon representative emailed a representative from OMAFA and provided the Notice of Study Commencement and Invitation to Public Information Session for the Project, noting that additional details regarding the Project and the upcoming public information session are included in the attached notice. Dillon representative provided contact information to direct any questions or obtain further information about the Project.	N/A	N/A
3.1	March 10, 2026	Ministry of Citizenship and Multiculturalism (MCM) Contacts: Karla Barboza, James Hamilton	Dillon representative, on behalf of Imperial Oil, emailed representatives from the Ministry of Citizenship and Multiculturalism (MCM) and introduced the Project. Dillon representative noted that they were retained by Imperial Oil to conduct an environmental study for the Project, in accordance with the OEB *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023).* Dillon representative indicated that Imperial Oil and Dillon will be hosting an in-person public information session as part of the stakeholder engagement program for the Project, with a notice to be circulated at a later date with further details. Dillon representative noted that they are interested in hearing comments or concerns that the MCM may have regarding the Project and provided an email address.	N/A	N/A
3.2	March 27, 2026	Ministry of Citizenship and Multiculturalism (MCM) Contacts: Karla Barboza, James Hamilton	Dillon representative emailed the MCM and provided the Notice of Study Commencement and Invitation to Public Information Session for the Project, and noted that additional details regarding the Project and the upcoming public information session are included in the attached notice. Dillon representative provided contact information to direct any questions or obtain further information about the Project.	April 14, 2026	A representative from the MCM emailed the Project inbox and thanked Dillon for sending the Notice of Study Commencement and Public Information Session for the Project and attached an initial letter.

Line Item	Date of Consultation	Name of Agency and/or Contact	Description of Consultation Activity	Date of Response	Response and Issue Resolution (if applicable)
3.3	April 14, 2026	Ministry of Citizenship and Multiculturalism (MCM) Contacts: Amanda Antwi-Nsiah, Karla Barboza, James Hamilton, Dan Minkin	Dillon representative emailed the MCM representative and thanked them for sending the initial response letter on behalf of the MCM, stating that Dillon will review the letter and reach out with any questions.	N/A	N/A
4.1	March 10, 2026	Ministry of Energy and Mines Contacts: Marc Boucher, Shannon McCabe	Dillon representative, on behalf of Imperial Oil, emailed representatives form the Ministry of Energy and Mines and introduced the Project proposed to be constructed in the City of Hamilton. Dillon representative noted that they were retained by Imperial Oil to conduct an environmental study for the Project, in accordance with the OEB *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023).* Dillon representative indicated that Imperial Oil and Dillon will be hosting an in-person public information session as part of the stakeholder engagement program for the Project, with a notice to be circulated at a later date with further details. Dillon representative noted that they are interested in hearing comments or concerns that the Ministry of Energy and Mines may have regarding the Project and provided an email address.	N/A	N/A
4.2	March 27, 2026	Ministry of Energy and Mines Contacts: Marc Boucher, Shannon McCabe	Dillon representative emailed the Ministry of Energy and Mines and provided the Notice of Study Commencement and Invitation to Public Information Session for the Project, noting that additional details regarding the Project and the upcoming public information session are included in the attached notice. Dillon representative provided contact information to direct any questions or obtain further information about the Project.	N/A	N/A
5.1	March 10, 2026	Ministry of the Environment, Conservation and Parks (MECP) Contact: Jake Noordhof	Dillon representative, on behalf of Imperial Oil, emailed the Ministry of the Environment, Conservation and Parks (MECP) and introduced the Project. Dillon representative noted that they were retained by Imperial Oil to conduct an environmental study for the Project, in accordance with the OEB *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023).* Dillon representative indicated that Imperial Oil and Dillon will be hosting an in-person public information session as part of the stakeholder engagement program for the Project, with a notice to be circulated at a later date with further details. Dillon representative noted that they are interested in hearing comments or concerns that the MECP may have regarding the Project and provided an email address.	March 10, 2026	MECP emailed the Project inbox with an automated reply acknowledging the delivery of Dillon's email to the Regional EA Notifications email account, and that a Regional EA Coordinator will contact Dillon if additional information is needed. The automated email includes instructions for how to contact a Regional EA Coordinator directly.
5.2	March 27, 2026	Ministry of the Environment, Conservation and Parks (MECP) Contact: Jake Noordhof	Dillon representative emailed a representative from the MECP and provided the Notice of Study Commencement and Invitation to Public Information Session for the Project, noting that additional details regarding the Project and the upcoming public information session are included in the attached notice. Dillon representative provided contact information to direct any questions or obtain further information about the Project.	N/A	N/A

Line Item	Date of Consultation	Name of Agency and/or Contact	Description of Consultation Activity	Date of Response	Response and Issue Resolution (if applicable)
6.1	March 10, 2026	Infrastructure Ontario Contact: Nick Cole	Dillon representative, on behalf of Imperial Oil, emailed a representative from Infrastructure Ontario and introduced the Project. Dillon representative noted that they were retained by Imperial Oil to conduct an environmental study for the Project, in accordance with the OEB *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023).* Dillon representative indicated that Imperial Oil and Dillon will be hosting an in-person public information session as part of the stakeholder engagement program for the Project, with a notice to be circulated at a later date with further details. Dillon representative noted that they are interested in hearing comments or concerns that Infrastructure Ontario may have regarding the Project and provided an email address.	N/A	N/A
6.2	March 27, 2026	Infrastructure Ontario Contacts: Nick Cole and Robin Yu	Dillon representative emailed a representative from Infrastructure Ontario and provided the Notice of Study Commencement and Invitation to Public Information Session for the Project, noting that additional details regarding the Project and the upcoming public information session are included in the attached notice. Dillon representative provided contact information to direct any questions or obtain further information about the Project.	N/A	N/A
7.1	March 10, 2026	Ministry of Municipal Affairs and Housing Contact: Julianna Zhuo	Dillon representative, on behalf of Imperial Oil, emailed a representative from the Ministry of Municipal Affairs and Housing and introduced the Project. Dillon representative noted that they were retained by Imperial Oil to conduct an environmental study for the Project, in accordance with the OEB *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023).* Dillon representative indicated that Imperial Oil and Dillon will be hosting an in-person public information session as part of the stakeholder engagement program for the Project, with a notice to be circulated at a later date with further details. Dillon representative noted that they are interested in hearing comments or concerns that the Ministry of Municipal Affairs and Housing may have regarding the Project and provided an email address.	N/A	N/A
7.2	March 27, 2026	Ministry of Municipal Affairs and Housing Contact: Julianna Zhuo	Dillon representative emailed Ministry of Municipal Affairs and Housing and provided the Notice of Study Commencement and Invitation to Public Information Session for the Project, noting that additional details regarding the Project and the upcoming public information session are included in the attached notice. Dillon representative provided an email to direct any questions or obtain further information about the Project.	N/A	N/A

Line Item	Date of Consultation	Name of Agency and/or Contact	Description of Consultation Activity	Date of Response	Response and Issue Resolution (if applicable)
8.1	March 10, 2026	Ministry of Natural Resources (MNR) Contact: Pauline Capelle	Dillon representative, on behalf of Imperial Oil, emailed the Ministry of Natural Resources (MNR) and introduced the Project proposed to be constructed in the City of Hamilton. Dillon representative noted that they were retained by Imperial Oil to conduct an environmental study for the Project, in accordance with the OEB *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023).* Dillon representative indicated that Imperial Oil and Dillon will be hosting an in-person public information session as part of the stakeholder engagement program for the Project, with a notice to be circulated at a later date with further details. Dillon representative noted that they are interested in hearing comments or concerns that the MNR may have regarding the Project and provided an email address.	March 13, 2026	MNR representative emailed the Project inbox and confirmed they received the Notice of Upcoming Project. The MNR representative attached an MNR Southern Region Information Package – For External Proponent Environmental Assessments (Package) to help proponents understand MNR's role as a commenting agency. The MNR representative indicated that the information in the Package is also relevant to Ontario Energy Board project proponents to help understand provincial interests relating to natural gas projects within the Ministry's mandate, and that the Package also provides information on the Ministry's regulatory authority to issue authorizations, permits, licenses and/or approvals. The MNR representative noted that the Ministry has not completed a screening of natural heritage or other resource values at this time and provided an email address to contact if Dillon has identified any MNR interests in Project planning and requires additional technical information or if Dillon has any questions about the Package contents.
8.2	March 27, 2026	Ministry of Natural Resources (MNR) Contact: Pauline Capelle	Dillon representative emailed a representative from MNR and provided the Notice of Study Commencement and Invitation to Public Information Session for the Project, noting that additional details regarding the Project and the upcoming public information session are included in the attached notice. Dillon representative provided an email to direct any questions or obtain further information about the Project.	N/A	N/A
9.1	March 10, 2026	Technical Standards and Safety Authority (TSSA) Contacts: Nurgel Andre, Robin Yu	Dillon representative, on behalf of Imperial Oil, emailed representatives from the Technical Standards and Safety Authority (TSSA) and introduced the Project. Dillon representative noted that they were retained by Imperial Oil to conduct an environmental study for the Project, in accordance with the OEB *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023).* Dillon representative indicated that Imperial Oil and Dillon will be hosting an in-person public information session as part of the stakeholder engagement program for the Project, with a notice to be circulated at a later date with further details. Dillon representative noted that they are interested in hearing comments or concerns that the TSSA may have regarding the Project and provided an email address.	N/A	N/A
9.2	March 27, 2026	Technical Standards and Safety Authority (TSSA) Contacts: Robin Yu	Dillon emailed TSSA representative and provided the Notice of Study Commencement and Invitation to Public Information Session for the Project, noting that additional details regarding the Project and the upcoming public information session are included in the attached notice. Dillon representative provided an email to direct any questions or obtain further information about the Project.	May 11, 2026	TSSA representative emailed the Project Inbox noting they did not have comments at this stage. TSSA representative indicated Imperial Oil must submit an Application for Review of Pipeline Projects to the TSSA within 30 to 60 days from the start of construction.
9.3	May 12, 2026	Technical Standards and Safety Authority (TSSA) Contacts: Robin Yu	Dillon representative, on behalf of Imperial Oil, emailed the TSSA representative, thanking them for their response and noting that Imperial Oil would submit the Application for Review of Pipeline Projects within 30 to 60 days from the start of construction.	N/A	N/A

Line Item	Date of Consultation	Name of Agency and/or Contact	Description of Consultation Activity	Date of Response	Response and Issue Resolution (if applicable)
10.1	March 10, 2026	Ministry of Transportation (MTO) Contacts: Daniel Prelipcean, Alicia Edwards	Dillon representative, on behalf of Imperial Oil, emailed representatives from the Ministry of Transportation (MTO) and introduced the Project. Dillon representative noted that they were retained by Imperial Oil to conduct an environmental study for the Project, in accordance with the OEB *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023).* Dillon representative indicated that Imperial Oil and Dillon will be hosting an in-person public information session as part of the stakeholder engagement program for the Project, with a notice to be circulated at a later date with further details. Dillon representative noted that they are interested in hearing comments or concerns that MTO may have regarding the Project and provided an email address.	N/A	N/A
10.2	March 27, 2026	Ministry of Transportation (MTO) Contacts: Daniel Prelipcean, Alicia Edwards	Dillon representative emailed the MTO and provided the Notice of Study Commencement and Invitation to Public Information Session for the Project, noting that additional details regarding the Project and the upcoming public information session are included in the attached notice. Dillon representative provided contact information to direct any questions or obtain further information about the Project.	N/A	N/A

1.4 Municipal Agencies and Elected Officials

Line Item	Date of Consultation	Name of Agency and/or Contact	Description of Consultation Activity	Date of Response	Response and Issue Resolution (if applicable)
1.1	March 10, 2026	City of Hamilton Elected Officials and City Manager Contacts: Mayor Andrea Horwath, Councillor Ted McMeekin, Maureen Scally (Assistant to Councillor McMeekin), City Manager Marnie Cluckie, Rosanna Melatti (Assistant to Marnie Cluckie)	Dillon representative, on behalf of Imperial Oil, emailed the offices of the Mayor, Ward 15 Councillor, and City Manager of the City of Hamilton and introduced the Project. Dillon representative noted that they were retained by Imperial Oil to conduct an environmental study for the Project, in accordance with the OEB *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023).* Dillon representative indicated that Imperial Oil and Dillon will be hosting an in-person public information session as part of the stakeholder engagement program for the Project, with a notice to be circulated at a later date with further details. Dillon representative noted that they are interested in hearing comments or concerns regarding the Project and provided an email address.	N/A	N/A
1.2	March 27, 2026	City of Hamilton Elected Official Contact: Mayor Andrea Horwath	Dillon representative emailed the office of the Mayor of the City of Hamilton and provided the Notice of Study Commencement and Invitation to Public Information Session for the Project. Dillon representative provided contact information to direct any questions or obtain further information about the Project.	N/A	N/A
1.3	March 27, 2026	City of Hamilton Elected Officials and City Manager Contacts: Councillor Ted McMeekin, Maureen Scally (Assistant to Councillor McMeekin), City Manager Marnie Cluckie, Rosanna Melatti (Assistant to Marnie Cluckie)	Dillon representative emailed the offices of the Ward 15 Councillor and City Manager of the City of Hamilton and provided the Notice of Study Commencement and Invitation to Public Information Session for the Project. Dillon representative provided contact information to direct any questions or obtain further information about the Project.	N/A	N/A
2.1	March 30, 2026	City of Hamilton Contact: Johnathan Vandriel	A City of Hamilton representative emailed Project inbox regarding the Project notice, noting that the map on the Project notice form is unclear as to the exact location of the upcoming pipeline Right of Way (ROW) work. The City of Hamilton representative inquired about sending an aerial map with the study limits overlaid to show more context, which would help determine which City staff should review and provide comment.	N/A	N/A
2.2	April 10, 2026	City of Hamilton Contact: Johnathan Vandriel	A City of Hamilton representative emailed the Project inbox following up on a previous inquiry about sending an aerial map with the study limits overlaid to show more context.	N/A	N/A
2.3	April 14, 2026	City of Hamilton Contact: Johnathan Vandriel	A City of Hamilton representative emailed the Project inbox following up on a previous inquiry about sending an aerial map with the study limits overlaid to show more context.	April 14, 2026	Dillon Representative emailed the City of Hamilton representative providing a link to the Project online interactive map.
2.4	April 14, 2026	City of Hamilton Contact: Johnathan Vandriel	A City of Hamilton representative emailed the Project inbox confirming that the Study Area falls outside of lands owned by the City of Hamilton, and therefore they do not have any comments for the file.	April 16, 2026	Dillon representative emailed the City of Hamilton thanking them for reviewing the map and for confirming the study area falls outside of lands owned by the City of Hamilton. The Dillon representative told the City of Hamilton representative to contact Dillon if they have any further questions.

2.0 Interest Group Correspondence

Line Item	Date of Consultation	Name of Agency and/or Contact	Description of Consultation Activity	Date of Response	Response and Issue Resolution (if applicable)
1.1	March 27, 2026	Connon Nurseries	Dillon representative emailed a representative from Connon Nurseries and provided the Notice of Study Commencement and Invitation to Public Information Session for the Project in the City of Hamilton. Dillon representative provided an email to direct any questions or obtain further information about the Project.	N/A	N/A
1.2	March 27, 2026	Ontario Federation of Agriculture Contact: Kate Belbeck	Dillon representative emailed the Ontario Federation of Agriculture and provided the Notice of Study Commencement and Invitation to Public Information Session for the Project, noting that additional details regarding the Project and the upcoming public information session are included in the attached notice. Dillon representative provided an email to direct any questions or obtain further information about the Project.	N/A	N/A
1.3	March 27, 2026	Hamilton Chamber of Commerce	Dillon representative emailed the Hamilton Chamber of Commerce and provided the Notice of Study Commencement and Invitation to Public Information Session for the Project, noting that additional details regarding the Project and the upcoming public information session are included in the attached notice. Dillon representative provided an email to direct any questions or obtain further information about the Project.	N/A	N/A
1.4	March 27, 2026	Ontario Greenhouse Alliance Contact: Michelle Franchetto	Dillon representative emailed the Ontario Greenhouse Alliance and provided the Notice of Study Commencement and Invitation to Public Information Session for the Project, noting that additional details regarding the Project and the upcoming public information session are included in the attached notice. Dillon representative provided an email to direct any questions or obtain further information about the Project.	N/A	N/A
1.5	March 27, 2026	Shademaster Luxury Landscapes	Dillon representative emailed Shademaster Luxury Landscapes and provided the Notice of Study Commencement and Invitation to Public Information Session for the Project, noting that additional details regarding the Project and the upcoming public information session are included in the attached notice. Dillon representative provided an email to direct any questions or obtain further information about the Project.	N/A	N/A

3.0 Public and Landowner Correspondence

Line Item	Date of Consultation	Name of Agency and/or Contact	Description of Consultation Activity	Date of Response	Response and Issue Resolution (if applicable)
1.1	April 19, 2026	Member of the Public [redacted]	A member of the public emailed the Project inbox noting that the map of the Project location they received did not have any cross streets other than Concession 5 Road East and therefore it is not possible to figure out the exact location. The member of the public asked Dillon to provide further details on the pipeline location.	April 22, 2026	Dillon representative emailed the member of the public sharing a link to the online interactive Project map.
1.2	April 28, 2026	Impacted Landowners [redacted]	A landowner emailed the Project inbox outlining their thoughts and concerns about the Project, primarily seeking technical clarification on pipeline lifecycles, the total number of pipelines, and whether the right-of-way will expand. The landowner expressed concern over the increased frequency of construction and requested transparency regarding future development plans and risk mitigation protocols for potential leaks. Additionally, they emphasized the need for better property management, specifically regarding existing drainage issues, weed control, and noise mitigation. The landowner requested strict adherence to work hours, the use of “no trespassing” signage, and a guarantee of continued personal access to their property.	April 28, 2026	An Imperial Oil representative emailed the landowner thanking them for their email and sharing appreciation for the detailed questions. The Imperial oil representative assured the landowner that they are working with their team on responses and offered to schedule a meeting in May.
1.3	June 5, 2026	Impacted Landowners [redacted]	An Imperial representative emailed a member of the public thanking them for meeting to discuss their concerns and attaching meeting notes from May 26, 2026. Imperial clarified that the pipeline work is a proactive, risk-modeled safety replacement, and while no other capital projects are currently planned for the property, future maintenance may occur. Imperial addressed regulatory concerns and noted that while the Ontario Energy Board holds expropriation rights, the company prefers direct, collaborative landowner engagement. Imperial explained that aim to stay within the existing right of way pending final engineering designs and provided a sketch plan alongside Technical Standards and Safety Authority setback recommendations. Imperial reviewed active pipeline surveillance systems and confirmed that Imperial remains responsible for actual damages in the event of a rupture. Imperial committed to a smaller workspace, pre-work topographic surveys, post-inspections, and improved project-to-operations communication to prevent property maintenance gaps. Imperial mentioned they are conducting a construction noise study to address potential breaches of the 90 dB municipal limit, while confirming that site security, signage, and continuous personal property access for the landowners will be maintained throughout the Project.	N/A	N/A

Appendix F

Project Notices

Sarnia Products Pipeline Segments Mitigation Project
Notice of Upcoming Project
Imperial Oil Limited

Project Overview

This notice is to inform you of an upcoming environmental study to support the Sarnia Products Pipeline Segments Mitigation Project (the Project) in the City of Hamilton. Imperial Oil Limited (Imperial Oil) is proposing to construct approximately 1 kilometre (km) of 12-inch pipeline entirely within the existing Imperial Oil right-of-way (ROW). Approximately 200 m of 12-inch pipeline is proposed to run from an existing Enbridge Pipelines Inc. valve station to a future pump station, which is not part of this Project, west of Concession 5 East. In addition, two sections of 12-inch pipeline, approximately 400 m each, are proposed to connect the new pump station to the existing Waterdown to Finch pipeline at a tie-in point east of Concession 5 East.

Upcoming Study

Imperial Oil has retained Dillon Consulting Limited (Dillon) to undertake Stage 1 and Stage 2 Archaeological Assessments, a Cultural Heritage Report, Indigenous and stakeholder engagement, and an environmental assessment for the Project. The study is being conducted in accordance with the Ontario Energy Board (OEB) *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition* (2023).The study will review the need and justification for the Project; describe the existing environment (built, natural, socio-economic, and cultural); identify and assess potential adverse environmental effects including cumulative effects; and describe reasonable measures to avoid, minimize, and mitigate adverse effects.

Once the study is complete, Imperial Oil plans to file a Leave-to-Construct application with the OEB in Q3 2026. Pending receipt of all approvals, construction of the pipeline is anticipated to begin in 2027, with an anticipated in-service date in 2027.

Project Contacts

Johnson Ojo
Project Manager
Imperial Oil Limited
225 Concession 2, PO Box 500
Nanticoke, ON

Tristan Lefler
Project Manager
Dillon Consulting Limited
51 Breithaupt Street, Suite 200
Kitchener, ON

Project Email: SPPL_Project@dillon.ca

Indigenous and Stakeholder Engagement

Indigenous and stakeholder engagement will be a key component of this study. Indigenous communities and members of the public, regulatory agencies, and other interested persons are invited to provide feedback on the Project. A public information session hosted by Imperial Oil and Dillon is being planned for spring 2026. The public information session will provide an opportunity to review the Project details, ask the Project team questions and provide input on the Project. An additional notice will be circulated in the coming weeks with details on how to participate in the public information session.



Sarnia Products Pipeline Segments Mitigation Project
Notice of Study Commencement and Public Information Session
Imperial Oil Limited

The Study
Imperial Oil Limited (Imperial Oil) has retained Dillon Consulting Limited (Dillon) to undertake Stage 1 and Stage 2 Archaeological Assessments, a Cultural Heritage Report, Indigenous and stakeholder engagement, and an environmental assessment to support the Sarnia Products Pipeline Segments Mitigation Project (the Project) in the City of Hamilton.

Imperial Oil is proposing to construct approximately 1 kilometre (km) of 12-inch pipeline entirely within the existing Imperial Oil right-of-way (ROW). Approximately 200 metres (m) of 12-inch pipeline is proposed to run from an existing Enbridge Pipeline Inc. valve station to a future pump station, which is not part of this Project, west of Concession 5 East. In addition, two sections of 12-inch pipeline, approximately 400 m each, are proposed to connect the new pump station to the existing Waterdown to Finch pipeline at a tie-in point east of Concession 5 East.

The Process
The study is being conducted in accordance with the Ontario Energy Board (OEB) *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition* (2023).

The study will review the need and justification for the Project; describe the existing environment (built, natural, socio-economic, and cultural); identify and assess potential adverse environmental effects including cumulative effects; and describe reasonable measures to avoid, minimize, and mitigate adverse effects.

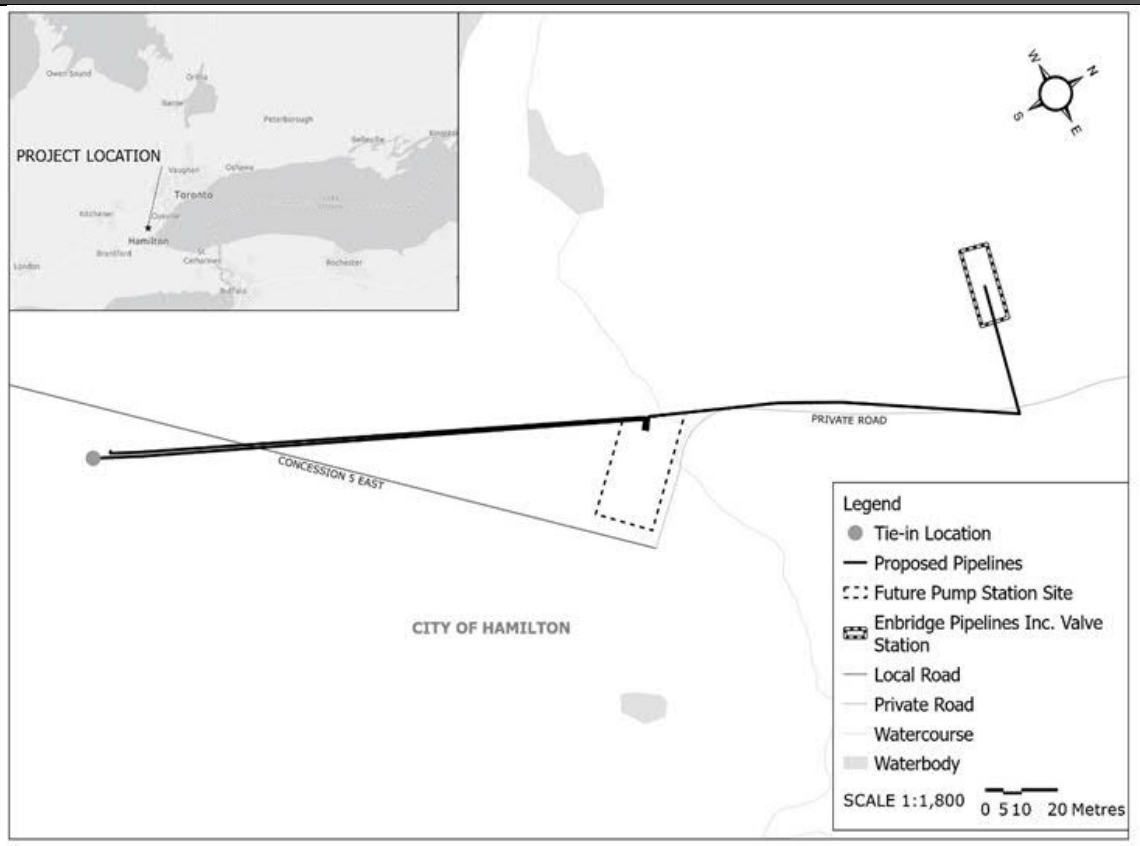
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Invitation to the Community

Indigenous and stakeholder engagement will be a key component of this study. Imperial Oil and Dillon are hosting a drop-in style public information session to provide you with an opportunity to review the Project details, ask questions, and provide input. Indigenous communities, members of the public, regulatory agencies, and other interested persons are invited to participate.

Public Information Session Details:

Location: Banquet Hall
Waterdown Legion Branch 551
79 Hamilton St N, Hamilton, ON

Date and Time: April 14, 2026
4:30 pm – 7:30 pm

Representatives from Imperial Oil and Dillon will be in attendance to discuss the Project and answer questions. Your input will be used to inform mitigation plans that may be implemented during construction. While we encourage all interested parties to attend and participate in the session, comments and inquiries can also be submitted to the Project contacts using the Project email address listed here.

Appendix G

Public Information Session Panels and Comment Form

Sarnia Products Pipeline Segments Mitigation Project

Public Information Session

Royal Canadian Legion – Branch 551

April 14, 2026

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Welcome

Thank you for joining us at the Public Information Session to learn about the Sarnia Products Pipeline Segments Mitigation Project!

You can provide your input on the Project by:

- Speaking to a member of the Project team here today
- Completing the comment form (available at the front where you signed in), and/or
- Emailing the Project team at: **SPPL_project@dillon.ca**

Please submit your comments by **Tuesday, April 28, 2026,** so your feedback can be considered in the Environmental Report that will be submitted to the Ontario Energy Board.

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Purpose of the Information Session

- Consult with landowners and Indigenous communities and engage with members of the public and regulatory authorities regarding the proposed pipeline, potential impacts, and proposed mitigation.
- Provide an opportunity to review the proposed Project details, and to ask questions and/or provide comments to representatives from Imperial Oil Limited (Imperial) and Dillon Consulting Limited (Dillon).



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Imperial’s Engagement with Indigenous Peoples

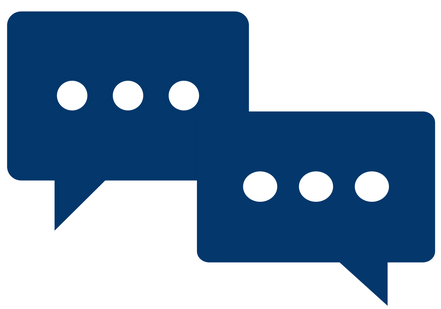
Imperial strives to build strong and lasting relationships with Indigenous Peoples grounded in mutual trust, respect, and shared prosperity. This commitment is guided by listening deeply and working collaboratively to develop energy solutions for future generations.

Many of Imperial’s operations and development opportunities are located close to Indigenous communities or on their Traditional lands and we recognize that our company and our employees have an important role in progressing Reconciliation.

Imperial’s Four Pillars of Indigenous Engagement

Our goal is to collaborate with Indigenous communities on a common vision for progress, environmental stewardship, and sustainable development.

Consultation



Career Readiness and Workforce Development



Economic Development



Engagement



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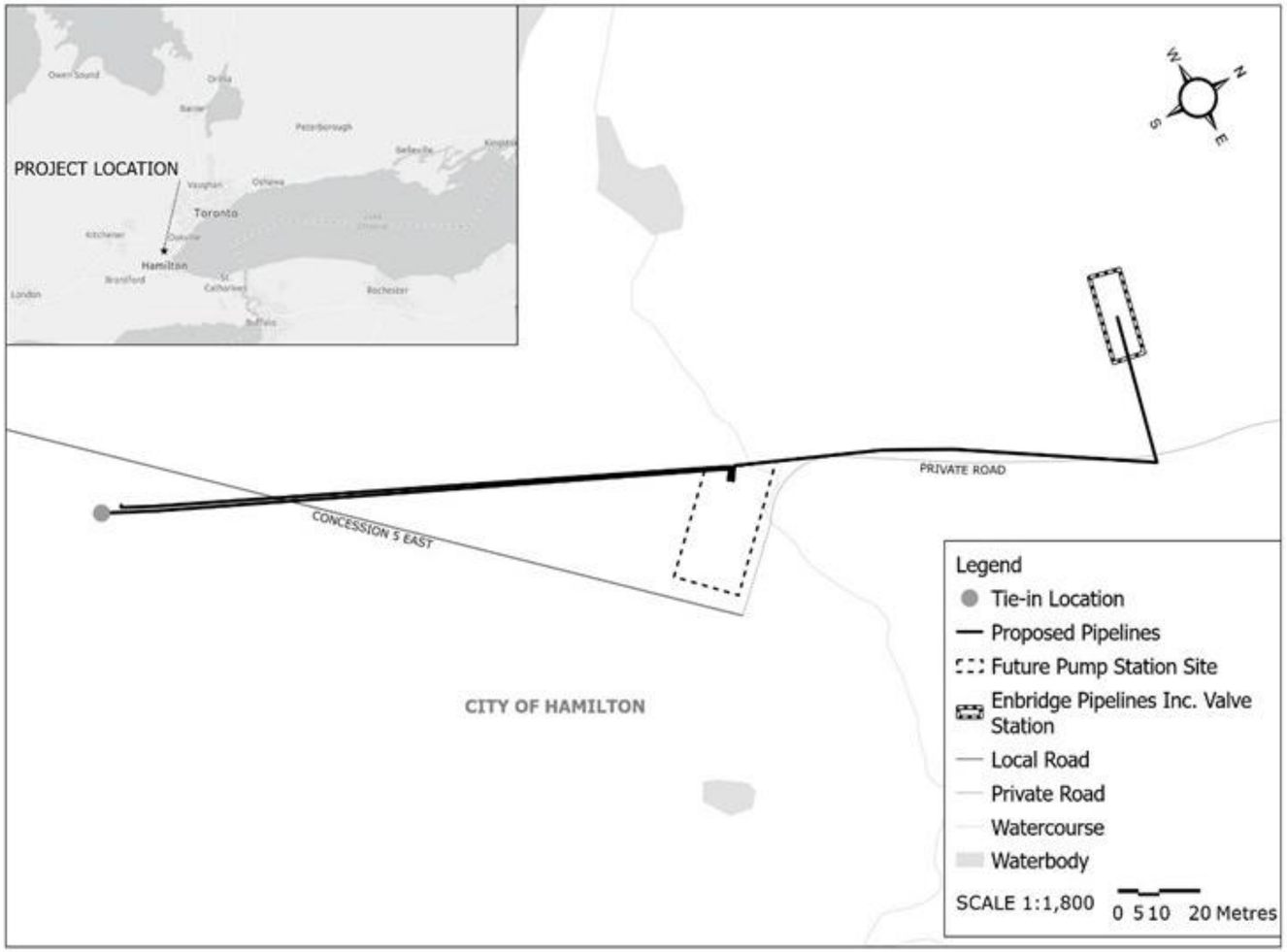
Imperial

Project Overview

Imperial is proposing to construct approximately 1 kilometre (km) of 12-inch pipeline entirely within the existing Imperial right-of-way in the City of Hamilton, Ontario.

Approximately 200 metres (m) of 12-inch pipeline is proposed to run from an existing Enbridge Pipelines Inc. valve station to a new pump station north of Concession 5 East. Note: the new pump station is not subject to the Ontario Energy Board Leave to Construct process but is included here to show the overall context of the Project.

In addition, two sections of 12-inch pipeline, approximately 400 m each, are proposed to connect the new pump station to the existing Waterdown to Finch pipeline at a tie-in point south of Concession 5 East.

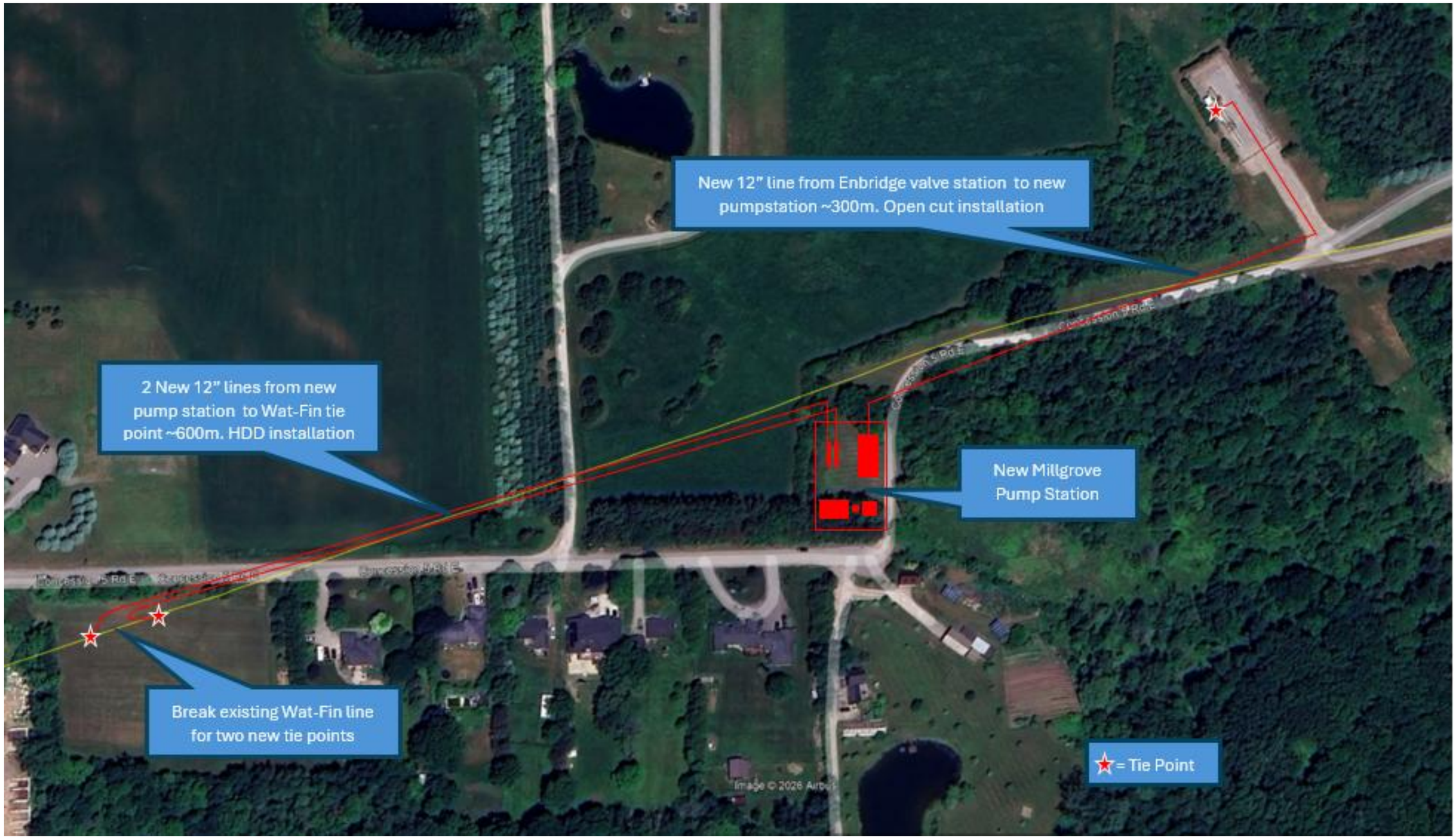


Please visit the display table to view a printed copy of the Project Map. We invite you to take a closer look, share your feedback, and connect with our Project team for more information.

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Key Project Map



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Environmental Study Process

As part of the planning process, Imperial has retained Dillon to undertake an Environmental Study for the Project. The Environmental Study will fulfill the requirements of the Ontario Energy Board (OEB) **Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition** (2023). The OEB is the independent regulator of Ontario's electricity and natural gas sectors.

The Study will:

- Undertake engagement to understand the views of interested and potentially affected parties.
- Consult with Indigenous communities to understand interests and potential impacts.
- Describe the existing natural and social environment.
- Assess potential environmental effects.
- Develop environmental mitigation and safety measures to avoid or reduce potential effects.
- Develop an appropriate environmental inspection, monitoring, and follow-up program.

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OEB Review and Approval Process

It is anticipated that the Environmental Report for the Study will be completed in August 2026. Once complete, Imperial plans to file a Leave to Construct application with the OEB to construct the Project. The application to the OEB will include the following information:

- An overview of the Project;
- Description of the Project facilities and components;
- Project costs;
- Environmental effects and mitigation measures; and,
- Consultation with Indigenous communities.



The OEB's review and approval are required before the proposed Project can proceed. If approved, construction could begin in 2027.

Additional information about the OEB process can be found online at: www.oeb.ca.

Note: While the new pump station north of Concession 5 East does not fall within the scope of the Leave to Construct application for the Project, it will be subject to all applicable provincial, regional, and municipal permitting and approvals.

Consultation and Engagement

- Consultation and engagement are key components of the Environmental Study. Imperial is committed to meaningful engagement throughout the Project with:
    - Residents and Project neighbours
    - Local governments and elected officials
    - Indigenous groups
    - Permitting authorities
- At the outset of the Project, Imperial submits a Project Description to the Ministry of Energy and Mines (MEM). Upon review, the MEM determines potential impacts on Aboriginal or Treaty Rights and identifies Indigenous communities that Imperial will consult with during the entirety of the Project.
- The consultation and engagement program helps identify and address Indigenous community, landowner, and stakeholder concerns and questions. This public information session aims to provide information about the Project and allow for participation in the Project review and development process.
- Input during consultation and engagement will be used to help finalize the Environmental Study and mitigation plans for the Project.
- Once the Leave to Construct application is made to the OEB, parties with an interest in the Project, including members of the public, can participate in the process.

Environmental Assessment Process and Timeline

Q4 2025	Determine need for the Project
March 2026	Early Engagement and Notice of Upcoming Project
March 2026	Issue of Notice of Study Commencement
March to April 2025	Collect baseline data
April 14, 2026	**Conduct Public Information Session**
April 2026	Review consultation feedback and incorporate results into Environmental Study
April to May 2026	Conduct effects assessment and identify mitigation measures
June - July 2026	Submit draft Environmental Report to the Ontario Pipeline Coordinating Committee (OPCC) and Indigenous communities for review
July 2026	Incorporate results of the OPCC and Indigenous community review period into the Environmental Report
August 2026	Submit final Environmental Report to the OEB

We are here

Consultation and engagement is ongoing throughout the Project

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Imperial's Safety Policy

Imperial's policy is to conduct business in a manner that protects the safety of employees, others involved in our operations, customers, and the public. Imperial strives to prevent all accidents, injuries, and occupational illnesses through the active participation of every employee. Imperial is committed to continuous efforts to identify and eliminate or manage safety risks associated with our activities.

Policies

- Design and maintain facilities, establish management systems, provide training and conduct operations in a manner that safeguards people and property.
- Respond quickly, effectively and with care to emergencies or accidents resulting from their operations, in cooperation with industry organizations and authorized government agencies.
- Comply with all applicable laws and regulations and apply responsible standards where laws and regulations do not exist.
- Work with government agencies and others to develop responsible laws, regulations and standards based on sound science and consideration of risk.
- Conduct and support research to extend knowledge about the safety effects of their operations, and promptly apply significant findings and, as appropriate, share them with employees, contractors, government agencies and other who might be affected.
- Stress to all employees, contractors and others working on the company's behalf their responsibility and accountability for safe performance on the job and encourage safe behaviour off the job.
- Undertake appropriate reviews and evaluations of their operations to measure progress and to foster compliance with this policy.

Pipeline Design



The pipeline will be designed to meet and/or exceed industry best practices (Canadian Standards Association's Oil and Gas Pipeline Systems Code) and the applicable safety regulations administered by the Technical Standards and Safety Authority (TSSA).

Pipeline safety and integrity

Imperial takes many steps to ensure safe and reliable pipeline operations, including:

- Designing, constructing, and testing our pipelines to meet or exceed requirements set by industry standards and regulatory authorities.
- Implementing preventative maintenance and proactive pipeline inspection programs.
- Performing ongoing monitoring and regular field surveys to identify repairs, detect leaks and/or confirm that corrosion prevention methods are working as intended.

The Project's purpose is to replace a segment of existing pipeline that was identified through pipeline inspection as having reached the end of its useful life. The Project will improve the integrity of the Waterdown to Finch pipeline system.

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Constructing a Pipeline

There are two main techniques that can be employed to construct a pipeline, which are selected based on engineering and environmental surveys:

Trenched (Open Cut) Construction

The traditional "dig and fill" method of pipeline installation, which is also typically the fastest.

Key Steps Include:

1. Laying and bending the pipe to match contours of the land
2. Welding, testing and inspecting the pipe
3. Lowering the pipe into the trench and covering it for protection

Trenchless Technology

Horizontal directional drilling (HDD) is a trenchless method of installing underground pipe using a drilling rig at the surface level.

Key Steps Include:

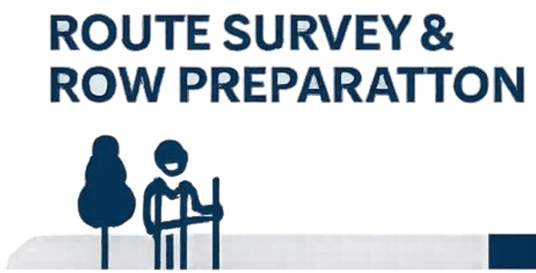
1. Drilling a hole along a designed directional path
2. Enlarging the pilot hole to a diameter suitable for installation of the pipeline
3. Pulling the pipeline back into the enlarged hole

Note: Pipelines can be constructed using a combination of both trenched and trenchless construction methods.

Trenched (Open Cut) Installation Steps

1

Engineering survey is completed; right-of-way cleared, graded, and staked in accordance with permits and environmental controls.





2

Line pipe delivered, stringed along right-of-way, and cold-bent as required to match alignment and profile.

3

Completed pipe string lowered into trench using padded side-booms; alignment and cover verified.



4

Excavate trench to design depth and width; manage spoils, groundwater, and shoring per regulatory and safety requirements.





5

Trench backfilled with approved material and compacted; select padding used where required.



6

ROW restored to original conditions or landowner requirements, including grading, topsoil replacement, and re-vegetation.

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Trenchless (HDD) Installation Steps

1 Planning and Design:

Before any field work begins, geotechnical investigations are performed to understand soil and rock conditions and the bore path is designed.

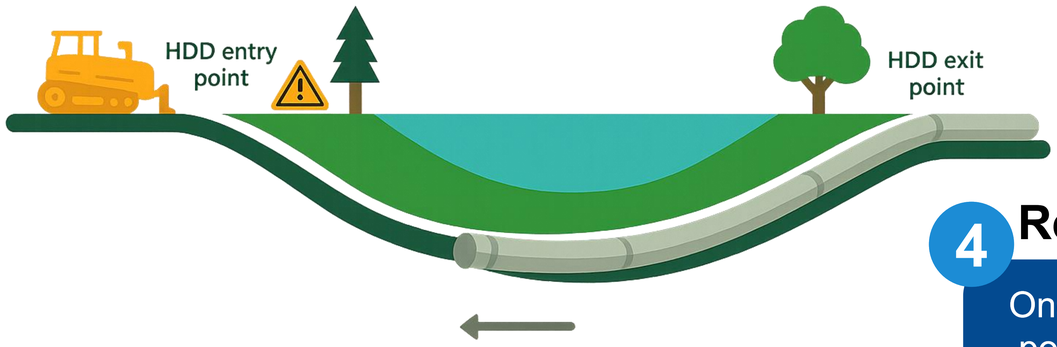
2 Site Preparation:

Entry and exit areas are prepared; drilling fluid and recycling systems are set up, and safety controls and environmental protection measures are put in place.

3 Pilot Hole Drilling:

A steerable drill head is launched from the HDD entry point and along the designed bore path. The drill head position is continuously tracked using a guidance system to maintain alignment.

HDD PIPELINE INSTALLATION



4 Reaming (Hole Enlargement):

Once the pilot hole reaches the HDD exit point, the drill string is pulled back while rotating a reamer to enlarge the borehole to the required diameter.

5 Pipe String Fabrication:

While reaming is ongoing or after it is complete, pipe sections are joined/welded into a continuous string near the exit side. All welds are inspected and tested for integrity.

6 Pullback Installation:

The pipeline is connected to the drill string and is pulled through the borehole from the exit to the entry point. Once the pipe reaches the entry point, installation is complete.

7 Completion and Tie-In:

The pipe is disconnected from the drill string, end sections are trimmed, and tie-ins are completed to connect the new system.

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Access and Land Requirements

Imperial is committed to working collaboratively with our Project neighbors and the community. We respect all landowners' property and will seek to minimize disruptions at all Project phases.

While the proposed pipeline will be constructed within the Imperial right-of-way (ROW), some circumstances requiring access agreements, permanent easement, or temporary working space during construction could result in the need for additional land outside of the ROW.

In these instances, Imperial has a dedicated team who would:

- Provide direct contact and liaison for any affected landowner(s).
- Be available to the affected landowner(s) during the length of the Project and throughout construction activities.
- Act as a singular point of contact for any questions or concerns.
- Facilitate discussions regarding matters relating to land use, the temporary use of property, access agreements, permanent easements, and impacts or remedies to property.

Socio-economic Features



The Project Study Area is within the Flamborough area of Hamilton and is rural in nature with a variety of land uses, including rural and agricultural policy areas.

Areas with natural features include wooded areas, wetlands, watercourses, and waterbodies. Two Areas of Natural and Scientific Interest (ANSIs) occur within the Project Study Area, but both ANSIs are located outside the Project footprint.

The Project will be constructed within the existing Imperial right-of-way. Imperial respects all landowners' property and will seek to minimize disruptions at all Project phases.

Examples of potential effects

- Temporary increase in nuisance noise during construction.
- Temporary traffic disruptions and increased traffic volumes from construction traffic.
- Temporary disruption to residential and/or commercial property driveway access.
- Temporary increase in wastes during construction.

Examples of mitigation measures

- Limit construction activities to daytime hours (7:00 AM to 7:00 PM) in accordance with the City of Hamilton Noise Control By-law.
- An appropriate Traffic Control Plan will be developed and implemented in accordance with Ontario Traffic Manual (OTM) Book 7 – Temporary Conditions.
- Traffic access will be maintained, where possible, during construction. Best management practices will be implemented during construction. If required, temporary detour routes will be provided.
- Solid waste will be collected and disposed of appropriately in accordance with applicable regulations at a licensed waste facility.

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Noise Considerations

- Landowners in proximity to the proposed Project area have previously raised concerns related to HDD construction.
- Activities during the Waterdown to Finch Pipeline Project completed near Concession Road 5 East and east of Beeforth Road, located within approximately 1 km of the current Project footprint, have been noted.
- Previous HDD installation was completed using equipment that did not incorporate noise reduction measures (e.g., unenclosed mud pumps and power units), which contributed to higher noise levels during construction.



- Based on this previous feedback, particular attention has been given to noise management and overall construction approach for this Project.
- For the proposed works on this Project, the construction contractor will utilize its in-house HDD fleet, which is equipped with **modern, purpose-built equipment designed for operation in municipal and residential environments**.
- Key features include:
  - ✓ Enclosed mud pumps and power units to keep noise levels lower
  - ✓ Equipment fitted with high-performance mufflers and integrated noise reduction systems
  - ✓ HDD spreads configured to minimize disturbance to adjacent stakeholders
- In addition, **a site-specific noise assessment** will be completed prior to mobilization to establish expected sound levels and confirm appropriate mitigation measures.

Where required, temporary noise barriers (e.g., acoustic walls) will be installed in advance of HDD operations (such as the one shown here). This also provides visual screening from adjacent roadways and the public.

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Cultural Heritage Resources



Detailed field surveys will be conducted by independent, third-party archaeologists and cultural heritage professionals prior to construction to determine the potential for archaeological and cultural heritage resources, such as archaeological artifacts, heritage buildings, and landscape features.

Examples of potential effects

- Disturbance of previously undiscovered heritage resources (i.e., archaeological resources, built heritage resources, or cultural heritage landscapes) during construction.

Examples of mitigation measures

- Complete archaeological assessments of the construction footprint, with review from the Ministry of Citizenship and Multiculturism (MCM).
- Complete a cultural heritage assessment for built heritage features and cultural heritage landscapes in proximity to the construction footprint with review from the MCM.
- Should previously undocumented (i.e., unknown or deeply buried) archaeological resources be discovered during construction, a stop-work procedure will be implemented to immediately cease alteration of the site, and a licensed archaeologist will be engaged to carry out archaeological fieldwork in compliance with Section 48(1) of the *Ontario Heritage Act.*

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Aquatic Resources



The Project Study Area includes portions of the Lake Medad Valley Provincially Significant Wetland Complex, marshes, swamps, and a watercourse.

No construction activity is currently required within the wetland boundaries, which are located outside of the existing Imperial right-of-way.

Imperial understands the importance of protecting wetlands, watercourses, and fish and fish habitat during construction and will implement recognized mitigation measures to reduce possible environmental impacts.

Examples of potential effects

- Alteration of riparian habitat.
- Temporary reduction in surface water quality due to construction activities.
- Increased sediment and organic loads resulting from vegetation removal and erosion.
- Indirect instream effects from sediment loading and alteration of riparian vegetation, including reduced shade, higher water temperatures, and impacts to aquatic habitat.

Examples of mitigation measures

- Minimize vegetation clearing in the riparian zone; retain buffer vegetation, where possible.
- Employ trenchless construction methods where feasible and/or appropriate, including HDD.
- Limit equipment movement near watercourses and schedule work during dry periods.
- Install and maintain erosion and sediment control measures (e.g., silt fences, sediment traps, or temporary diversion structures) to prevent fine sediment from reaching streams.
- Monitor water quality during and after construction.

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Terrestrial Resources



Natural environment features such as wildlife habitat, wetlands, marshes, swamps and meadows and vegetated/wooded areas occur throughout the Project Study Area.

To the south lies the Medad Valley Life Science ANSI, while to the east lies the Lake Medad Meltwater Channel Earth Science ANSI. Both ANSIs are situated outside the Project footprint.

There is also potential for species at risk (SAR) and/or SAR habitat to occur in the vicinity of the Project.

Examples of potential effects

- Temporary loss or alteration of vegetation during construction.
- Disturbance and temporary relocation of wildlife during construction.
- Temporary alteration of wildlife habitat and/or disruption of wildlife movement during construction.
- Temporary alteration of SAR habitat and/or disruption of SAR movement during construction.

Examples of mitigation measures

- Conduct surveys and habitat assessments in advance of construction to determine extent of potential or confirmed wildlife habitat, including potential for SAR.
- Complete clearing/brushing outside of sensitive wildlife periods, to the extent possible.
- Flag or fence off environmentally sensitive areas prior to construction.
- Install wildlife exclusion fencing and perform wildlife sweeps in advance of work.
- Document wildlife and SAR encounters and notify appropriate regulatory authorities, where required.
- Provide SAR identification sheets and environmental orientation to workers to increase awareness of sensitive species, habitat, and mitigation measures during construction.
- Secure necessary permits and follow conditions of approval.

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Next Steps

After this Public Information Session, Imperial intends to pursue the following schedule of activities:

Q2 2026 — Continue consultation and engagement and draft Environmental Report

Q3 2026 — Complete Environmental Report and file Leave to Construct application with OEB

Q2 2027 — OEB approval, complete permitting, pipeline design and construction planning

Q2 2027 — Start pipeline construction

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Thank you!

- We want to hear from you! Please complete the Project comment form available where you signed in.
- You can also email the Project Team at **SPPL_project@dillon.ca.**
- Please submit your feedback by **Tuesday, April 28, 2026**, so it can be considered in the Environmental Report that will be submitted to the OEB.

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Imperial Oil Limited
225 Concession 2, PO Box 500
Nanticoke, ON

DILLON CONSULTING

Imperial

Public Information Session – Comment Form

We want to hear from you! We encourage you to first review the Public Information Session material, then fill out and submit this comment form. Your input is welcome and appreciated. You can also provide your input by email at SPPL_Project@dillon.ca. Please provide your feedback by **Tuesday, April 28, 2026**, for consideration in the Environmental Report.

If you would like to be kept up to date on the project, please provide your contact information.

1. **Contact Information**

   Name: _____ Email Address: _____

2. **How did you hear about the project? (Select all that apply)**

   Received Notice via Email

   Received Notice via Standard Mail (Canada Post)

   Newspaper

   From a Friend or Neighbour

   Other (please specify below):

   _____

3. **Do you own property, live, or work along the proposed pipeline?**

   ☐ Yes ☐ No, but I am interested in the project

4. **Please explain your interest in the project.**

   _____

   _____

   _____

   _____

Imperial

Imperial Oil Limited
Sarnia Products Pipeline Segments Mitigation Project

Public Information Session
Comment Form

5. Which group represents you best? (Please choose one answer)

☐ Member of an Indigenous community ☐ Landowner or resident in the area

☐ Member of a community interest group ☐ Government employee or official

☐ Other, please specify: _____

6. What is your view of the proposed project?

☐ I am supportive ☐ I am not supportive ☐ No opinion at this time

7. Please explain your view of the project (supportive or not supportive).

_____

_____

8. Are there any environmental, socio-economic, or cultural heritage features along the proposed pipeline that you would like to identify?

_____

_____

9. Are there any potential effects (e.g., to you, your property, business, or otherwise) and any mitigation measures that you think Imperial Oil should consider?

_____

_____

_____

10. Were your questions adequately addressed by a project representative today?

☐ Yes ☐ No

Imperial

Imperial Oil Limited
Sarnia Products Pipeline Segments Mitigation Project

Public Information Session
Comment Form

11. If not, please list your questions below and provide a description on how you think we can best address them.

_____

_____

_____

12. Was sufficient information provided on the Ontario Energy Board and environmental assessment process?

☐ Yes ☐ No

13. Please provide any additional comments, questions, or feedback that you have with regards to the project.

_____

_____

_____

Please drop this comment form off with a project representative before you leave. If you have any questions after you leave today, please email us at SPPL_Project@dillon.ca.

Collection and Use of Personal Information:

Any personal information (PI), such as names and addresses, collected by Imperial Oil on this comment form for this project will be used for the purpose of conducting an environmental assessment and related activities, such as creating an environmental assessment report. Imperial Oil may also share PI with its consultant(s) for this purpose and will share PI with the Ontario Energy Board (OEB) and other government agencies as required for the project. In accordance with the Ontario Freedom of Information and Protection of Privacy Act, PI provided to the OEB will not be disclosed on the public record or to any third parties. However, comments, questions and other information collected may be disclosed on the public record provided that any PI will be redacted.

Appendix H

Indigenous Consultation Logs

1.0 Indigenous Consultation Logs

Line Item	Date of Consultation	Name of Agency and/or Contact	Description of Consultation Activity	Date of Response	Response and Issue Resolution (if applicable)
1.1	March 6, 2025	Haudenosaunee Development Institute Contacts: Todd Williams, Matt Turner, Raechelle Williams, Shannon Hill	Stantec representative, on behalf of Imperial Oil, emailed Haudenosaunee Development Institute (HDI) regarding the Imperial Oil Sarnia Products Pipeline Segments Mitigation Project (the Project). The Stantec representative requested community participation and sought the necessary details to execute an Indigenous Contractor Agreement to facilitate services and compensation. The Stantec representative noted that a target date for the fieldwork is not yet determined, but updates will be provided as information becomes available.	N/A	N/A
1.2	July 31, 2025	Haudenosaunee Development Institute Contacts: Matt Turner	An Imperial Oil representative emailed an HDI representative and noted that work is underway to refine the archaeological study area, secure utility locates, and plough applicable lands. The Imperial Oil representative advised HDI to ensure they are in contact with Stantec, who is managing the work on Imperial's behalf, and requested feedback on the Indigenous Contractor Agreement.	July 31, 2025	The HDI representative emailed the Imperial Oil representative and thanked them for providing the Project update. The HDI representative noted an HDI staff member who coordinates HDI's archaeological program would respond with comments on the Indigenous Contractor Agreement. The HDI representative also requested an update and supporting documentation regarding previously discussed environmental monitoring opportunities for the Project.
1.3	March 10, 2026	Haudenosaunee Development Institute Contacts: Todd Williams, Matt Turner, Raechelle Williams, Shannon Hill	Dillon Consulting Limited (Dillon) representative, on behalf of Imperial Oil, emailed HDI and introduced the Project proposed to be constructed in the City of Hamilton. Dillon representative noted that they have been retained by Imperial Oil to conduct an environmental study for the Project, in accordance with the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023).* Dillon representative indicated that Imperial Oil and Dillon will be hosting an in-person public information session as part of the stakeholder engagement program for the Project, with a notice to be circulated at a later date with further details. Dillon representative noted that they are interested in hearing comments or concerns that HDI may have regarding the Project and provided an email address.	N/A	N/A
1.4	March 12, 2026	Haudenosaunee Development Institute Contact: Matt Turner	HDI emailed Dillon and inquired whether there will be any ecological surveys associated with the Project, and expressed an interest in participating.	March 12, 2026	HDI emailed Dillon asking to disregard their inquiry regarding ecological surveys as they had spoken to another Dillon representative regarding the matter.
1.5	March 20, 2026	Haudenosaunee Development Institute Contacts: Todd Williams, Matt Turner, Raechelle Williams, Shannon Hill	Dillon representative, on behalf of Imperial Oil, emailed HDI and provided the Notice of Study Commencement and Invitation to Public Information Session for the Project, noting that additional details are included in the attached notice. Dillon representative provided contact information to direct any questions or obtain further information about the Project.	N/A	N/A

Line Item	Date of Consultation	Name of Agency and/or Contact	Description of Consultation Activity	Date of Response	Response and Issue Resolution (if applicable)
1.6	April 14, 2026	Haudenosaunee Development Institute Contacts: Todd Williams, Raechelle Williams, Emma Kameka, Danton Miller, John Miller	TMHC representative emailed HDI to start early conversations about using Horizontal Directional Drilling (HDD) on the Project to avoid known archaeological sites, noting that this strategy has been used successfully for numerous sites on the Imperial Waterdown to Finch Project, stating that they hope to use a similar strategy for the Project to avoid and protect sites while still being able to install the infrastructure. TMHC noted they have been working on a Stage 1 Archaeological Assessment (AA) report and have prepared preliminary mapping showing the site locations and areas to avoid, which will be shared for review and comment once the Stage 1 AA report is complete. The TMHC representative requested comment by Friday, April 24, and thanked HDI for their ongoing collaboration.	N/A	N/A
1.7	April 15, 2026	Haudenosaunee Development Institute Contacts: Raechelle Williams, Danton Miller, John Miller	TMHC representative emailed HDI and informed them that TMHC is planning to begin the Stage 2 Archaeological Assessment (AA) for the Project, proposing to begin with the test pit survey on Wednesday, April 22, 2026 and continuing through Friday, April 24, 2026. The TMHC representative shared that they will reach out early the following week to confirm the fieldwork and provide further Project details including start times and meeting location. The TMHC representative provided a brief description of the Project and listed the required PPE.	N/A	N/A
1.8	April 21, 2026	Haudenosaunee Development Institute Contact: Raechelle Williams	HDI emailed a TMHC representative and inquired if TMHC would be on site the following day, and if yes, requested the deployment details to aid in coordination with their monitoring team.	April 21, 2026	TMHC representative emailed HDI and confirmed that TMHC will be on site for 10 AM to begin the Stage 2 AA fieldwork. The TMHC representative noted they are planning to continue through the next week, weather permitting, and are currently waiting for the ploughing to occur. The TMHC representative noted that the work may change day-to-day after the initial week of work. The TMHC representative stated that the Project has two known archaeological sites within close proximity and provided a brief summary of the sites. The TMHC representative noted HDI that they are working on completing and sharing the Stage 1 AA report with them. The TMHC representative provided the requested fieldwork details.
1.9	April 22, 2026	Haudenosaunee Development Institute Contact: Raechelle Williams	HDI emailed TMHC representative and requested confirmation of the meeting time the following day.	April 22, 2026	TMHC representative emailed HDI and confirmed a meeting time of 9 AM the following day.
1.10	April 24, 2026	Haudenosaunee Development Institute Contact: Emma Kameka	HDI representative emailed a TMHC representative and thanked them for sharing the proposed HDD strategy and for including HDI in early discussions. The HDI representative noted they have reviewed the information and requested detailed technical evidence to ensure the total avoidance of known archaeological sites. The HDI representative requested confirmation that all staging, access, and drilling activities will remain outside protective buffers, alongside a request for the data supporting the 5 m vertical separation and “known depth” of deposits. The HDI representative requested comprehensive contingency plans for potential bore deviations or fluid releases, maintenance protocols for future work, and documented examples of this strategy’s success in similar contexts to fully evaluate the protection of cultural resources.	N/A	N/A

Line Item	Date of Consultation	Name of Agency and/or Contact	Description of Consultation Activity	Date of Response	Response and Issue Resolution (if applicable)
1.11	April 28, 2026	Haudenosaunee Development Institute Contacts: Todd Williams, Raechelle Williams, Emma Kameka	TMHC representative emailed HDI and provided the completed Stage 1 AA report draft and requested feedback by May 13, 2026.	May 15, 2026	HDI emailed TMHC representative and indicated they would review the Stage 1 AA report and provide comment by May 27, 2026.
1.12	May 28, 2026	Haudenosaunee Development Institute Contact: Emma Kameka	TMHC representative emailed HDI and followed up regarding the Stage 1 AA report review and requested their feedback.	May 28, 2026	HDI emailed a TMHC representative confirming that the Stage 1 AA report review will be completed by May 29, 2026.
1.13	June 1, 2026	Haudenosaunee Development Institute Contact: Emma Kameka	TMHC representative emailed HDI and followed up regarding the Stage 1 AA report review and requested feedback on June 1, 2026.	June 1, 2026	HDI emailed a TMHC representative confirming their review of the Stage 1 AA report. HDI indicated their general support of the report's findings and recommendations. HDI noted that while they commended TMHC for its meaningful inclusion of Haudenosaunee treaty relationships and community histories, they encouraged the consulting industry to place greater emphasis on recent and contemporary Haudenosaunee experiences and present-day realities.
1.14	June 18, 2026	Haudenosaunee Development Institute Contacts: Todd Williams, Raechelle Williams, Matt Turner, Kris Veltman, Chris Skye	A Dillon representative emailed HDI and provided the draft ER. Dillon representative noted that they have been retained by Imperial Oil to conduct an environmental study for the Project, in accordance with the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023).* Dillon representative requested the submission of feedback by July 30, 2026.	July 7, 2026	HDI emailed the Project inbox in response to the draft ER. and stated that HDI has not been meaningfully engaged on the Project. HDI requested any Crown delegation letters and a meeting to discuss engagement obligations and funding resources. HDI attached a Project Charter and Schedule A for completion prior to meeting.
1.15	July 10, 2026	Haudenosaunee Development Institute Contacts: Tara Greco, Kris Veltman, Chris Skye, Todd Williams, Raechelle Williams	An Imperial Oil representative emailed HDI and proposed dates for an upcoming meeting, provided the Ministry's consultation delegation letter, and shared a timeline of previous Project communications and meetings dating back to February 2025. The Imperial Oil representative also offered to provide any additional Project documentation ahead of the meeting.	July 20, 2026	An Imperial Oil representative emailed HDI and followed up on finalizing a meeting time with the HDI team.
1.16	July 20, 2026	Haudenosaunee Development Institute Contacts: Tara Greco, Kris Veltman, Chris Skye, Todd Williams, Raechelle Williams	An Imperial Oil representative emailed HDI and followed up on finalizing a meeting time with the HDI team.	N/A	N/A
1.17	July 22, 2026	Haudenosaunee Development Institute General Inbox	Imperial Oil representative called HDI and discussed scheduling a meeting to review the Project.	July 22, 2026	An Imperial Oil representative emailed HDI and proposed times for an upcoming meeting.
1.18	July 22, 2026	Haudenosaunee Development Institute Contacts: Tara Greco, Kris Veltman, Chris Skye, Todd Williams, Raechelle Williams, Emma Kameka	HDI emailed an Imperial Oil representative and stated that the proposed times do not work for the HDI team. HDI proposed an alternative meeting time with a reminder to complete the Project Charter and Schedule A ahead of the meeting.	July 23, 2026	An Imperial Oil representative emailed HDI and confirmed a meeting scheduled for August 14, 2026 at 1:00 PM and requested the meeting invite to forward to the rest of the Imperial team.

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1.19	July 22, 2026	Haudenosaunee Development Institute Contacts: Raechelle Williams, Danton Miller, John Miller	TMHC representative emailed HDI and provided the draft Segment 2 Stage 2 AA report for review and requested feedback by August 6, 2026.	August 5, 2026	TMHC representative emailed HDI with a reminder to submit feedback regarding the draft Segment 2 Stage 2 AA report by August 6, 2026.
1.20	July 23, 2026	Haudenosaunee Development Institute Contacts: Tara Greco, Kris Veltman, Chris Skye, Todd Williams, Raechelle Williams, Emma Kameka	HDI emailed an Imperial Oil representative and provided a virtual invite for the meeting scheduled for August 14, 2026 at 1:00 PM.	N/A	N/A
1.21	August 5, 2026	Haudenosaunee Development Institute Contacts: Raechelle Williams, Danton Miller, John Miller	HDI emailed a THMC representative regarding the draft Segment 2 Stage 2 AA report, identifying a representative who is responsible for overseeing the report-review process, and noting that they may require additional time to provide feedback.	N/A	N/A
1.22	August 11, 2026	Haudenosaunee Development Institute Contacts: Tara Greco, Kris Veltman, Chris Skye, Todd Williams, Raechelle Williams, Emma Kameka	An Imperial Oil Representative emailed HDI and attached the completed Project Charter and Schedule A documents that were requested ahead of the meeting scheduled for August 14, 2026 at 1 PM.	N/A	N/A
1.23	August 14, 2026	Haudenosaunee Development Institute Contacts: Raechelle Williams, Danton Miller, John Miller	Imperial Oil and Dillon representatives met with representatives from HDI to discuss the Project, engagement with HDI, and capacity funding.	N/A	N/A
1.24	August 24, 2026	Haudenosaunee Development Institute Contacts: Emma Kameka, Raechelle Williams, Danton Miller, John Miller	HDI emailed a TMHC representative and stated that their review of the draft Segment 2 Stage 2 AA report has not been completed because a capacity funding agreement has not been finalized with Imperial Oil. HDI noted that discussions with Imperial Oil are ongoing and requested that TMHC continue sharing Project reports in the interim.	August 24, 2026	HDI emailed a TMHC representative and clarified that a Project-specific capacity funding agreement with Imperial Oil was executed in March 2026, retracting a previous statement. HDI confirmed that a review of the draft Segment 2 Stage 2 AA report for the Project will proceed and noted that they will follow up with an updated review timeline.
1.25	August 24, 2026	Haudenosaunee Development Institute Contacts: Kris Veltman, Emma Kameka, Raechelle Williams, Danton Miller, John Miller	Imperial Oil representative emailed HDI and followed-up after the meeting held on August 14, 2026. Imperial Oil representative inquired if there was any update from the HDI team on their request for capacity funding.	August 25, 2026	HDI emailed an Imperial Oil representative and indicated they were aiming to send the workplan for the Project capacity funding by the end of the week.
1.26	August 28, 2026	Haudenosaunee Development Institute Contacts: Kris Veltman, Emma Kameka, Raechelle Williams, Danton Miller, John Miller	HDI representative emailed Imperial representative and provided the Project capacity funding workplan.	August 31, 2026	Imperial Oil representative emailed HDI and thanked them for providing the workplan and budget for Project capacity funding. Imperial Oil representative advised they would review as a team and provide an update.

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2.1	February 4, 2025	Six Nations of the Grand River Contact: Lonny Bomberry	An Imperial Oil representative emailed Six Nations of the Grand River and introduced the Project. The Imperial representative noted that construction is planned between 2025 and 2026, contracting opportunities will be handled by Imperial, and Stantec will manage the archaeology assessments and associated fieldwork monitoring.	N/A	N/A
2.2	February 20, 2025	Six Nations of the Grand River Contacts: Lonny Bomberry, Peter Graham, Dawn Russell	An Imperial Oil representative emailed Six Nations of the Grand River and followed up to confirm that they received the email from February 4, 2025 which introduced the Project.	February 20, 2025	A representative of Six Nations of the Grand River emailed the Imperial Oil representative regarding the Project introduction and requested that any natural environment reports and overview documents be sent to the community.
2.3	March 10, 2026	Six Nations of the Grand River Contacts: Sherri-Lyn Hill, Tanya Hill-Montour, Dawn LaForme, Tierra Henhawk, Lonny Bomberry, Peter Graham	Dillon representative, on behalf of Imperial Oil, emailed Six Nations of the Grand River and introduced the Project. Dillon representative noted that they have been retained by Imperial Oil to conduct an environmental study for the Project, in accordance with the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023).* Dillon representative indicated that Imperial Oil and Dillon will be hosting an in-person public information session as part of the stakeholder engagement program for the Project, with a notice to be circulated at a later date with further details. Dillon representative noted that they are interested in hearing comments or concerns that Six Nations of the Grand River may have regarding the Project and provided an email address.	March 10, 2026	Six Nations of the Grand River emailed an automated response to Dillon, thanking for contacting them and noting that due to the high volume of electronic mail received and read, it is not always possible to respond to, or action, every inquiry immediately, and that patience is appreciated.
2.4	March 23, 2026	Six Nations of the Grand River Contacts: Sherri-Lyn Hill, Tanya Hill-Montour, Dawn LaForme, Tierra Henhawk, Lonny Bomberry, Peter Graham	Dillon representative emailed Six Nations of the Grand River and provided the Notice of Study Commencement and Invitation to Public Information Session for the Project, noting that additional details regarding the Project and the upcoming public information session are included in the attached notice. Dillon representative provided contact information to direct any questions or obtain further information about the Project.	N/A	N/A
2.5	March 26, 2026	Six Nations of the Grand River Contact: Peter Graham	Six Nations of the Grand River emailed a Dillon representative, and thanked them for providing the Notice of Study Commencement. Six Nations of the Grand River stated that they had a brief meeting with Imperial Oil about capacity funding for project review in December 2025, and that although Imperial Oil seemed agreeable, no confirmation was received, and requested confirmation of capacity funding. Six Nations of the Grand River stated that they do not attend Public Information Session meetings but asked Dillon to send any natural environment studies as soon as possible as they typically trigger their active involvement in consultation.	April 2, 2026	Dillon representative emailed Six Nations of the Grand River, and stated that they spoke in December 2025 and confirmed that capacity funding for Project review will be supported. Dillon representative informed Six Nations of the Grand River that another Dillon contact who is helping Imperial Oil manage the Project will be reaching out shortly to discuss details. Dillon representative noted they look forward to working with Six Nations of the Grand River on the Project and advised to let them know if they have any questions.

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2.6	April 14, 2026	Six Nations of the Grand River Contact: Tanya Hill-Montour	TMHC representative emailed Six Nations of the Grand River to start early conversations about using Horizontal Directional Drilling (HDD) on the Project to avoid known archaeological sites, noting that this strategy has been used successfully for numerous sites on the Imperial Waterdown to Finch Project, stating that they hope to use a similar strategy for the Project to avoid and protect sites while still being able to install the infrastructure. The TMHC representative noted that they have been working on a Stage 1 AA report and have prepared preliminary mapping showing the site locations and areas to avoid, which will be shared for review and comments once the full Stage 1 AA is complete. The TMHC representative requested comment by Friday, April 24, and thanked Six Nations of the Grand River for their ongoing collaboration.	N/A	N/A
2.7	April 15, 2026	Six Nations of the Grand River Contact: Tanya Hill-Montour	TMHC representative emailed Six Nations of the Grand River and informed them that TMHC is planning to begin the Stage 2 AA for the Project, proposing to begin with the test pit survey on Wednesday, April 22, 2026 and continuing through Friday, April 24, 2026. The TMHC representative shared that they will reach out early the following week to confirm the fieldwork and provide further Project details including start times and meeting location. The TMHC representative provided a brief description of the Project and listed the required PPE.	N/A	N/A
2.8	April 16, 2026	Six Nations of the Grand River Contacts: Peter Graham	Imperial Oil and Dillon representatives met with Six Nations of the Grand River to discuss environmental involvement. The Six Nations of the Grand River representative clarified that they prefer to review environmental reports rather than participate in active monitoring. The Dillon representative and Imperial Oil representative confirmed that the Environmental Report (ER) is the primary deliverable unless species-specific surveys become necessary. The Six Nations of the Grand River representative expressed concurrence with the proposed deliverables and involvement level.	N/A	N/A
2.9	April 21, 2026	Six Nations of the Grand River Contact: Tanya Hill-Montour	TMHC representative emailed Six Nations of the Grand River and confirmed the Stage 2 AA fieldwork details. The TMHC representative noted that they are planning to continue through the next week, weather permitting, and are currently waiting for the ploughing to occur. The TMHC representative noted that the work may change day-to-day after the initial week of work. The TMHC representative stated that the Project has two sites within close proximity and provided a brief summary of the sites. The TMHC representative assured Six Nations of the Grand River that they are working on completing and sharing the Stage 1 AA report with them. The TMHC representative provided the requested fieldwork details.	N/A	N/A
2.10	April 22, 2026	Six Nations of the Grand River Contact: Tanya Hill-Montour	A TMHC representative emailed Six Nations of the Grand River and confirmed that TMHC will continue the Stage 2 AA fieldwork the following day, April 23, 2026, meeting at 9 AM at the same location as April 22, 2026.	N/A	N/A
2.11	April 28, 2026	Six Nations of the Grand River Contact: Tanya Hill-Montour	TMHC representative emailed Six Nations of the Grand River and provided the draft Stage 1 AA report and requested feedback by May 13, 2026.	June 1, 2026	TMHC representative emailed Six Nations of the Grand River and followed up regarding the draft Stage 1 AA report review and requested feedback by June 1, 2026.
2.12	June 18, 2026	Six Nations of the Grand River Contacts: Sherri-Lyn Hill, Tanya Hill-Montour, Dawn LaForme, Lonny Bomberry, Peter Graham	A Dillon representative emailed Six Nations of the Grand River and provided the draft ER. Dillon representative noted that they have been retained by Imperial Oil to conduct an environmental study for the Project, in accordance with the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023).* Dillon representative requested the submission of feedback by July 30, 2026.	June 23, 2026	Six Nations of the Grand River emailed a Dillon representative and requested access to the draft ER.

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2.13	June 23, 2026	Six Nations of the Grand River Contact: Peter Graham	Dillon representative emailed Six Nations of the Grand River and provided an alternative link and password to the draft ER.	N/A	N/A
2.14	July 22, 2026	Six Nations of the Grand River Contact: Tanya Hill-Montour	TMHC representative emailed Six Nations of the Grand River and provided the draft Stage 2 AA report for review and requested feedback by August 6, 2026.	N/A	N/A
2.15	July 29, 2026	Six Nations of the Grand River Contacts: Sherri-Lyn Hill, Tanya Hill-Montour, Dawn LaForme, Lonny Bomberry, Peter Graham, Lauren Jones	Dillon representative emailed Six Nations of the Grand River with a reminder to submit feedback regarding the draft ER by July 30, 2026.	July 30, 2026	Six Nations of the Grand River emailed the Project inbox and submitted comments regarding the draft ER for the Project. Six Nations of the Grand River requested clarification on tree removal, provided recommendations for an invasive species management plan, proposed species-specific baseline wildlife monitoring, and requested five years of post-construction monitoring.
2.16	August 4, 2026	Six Nations of the Grand River Contacts: Tressa Hill, Peter Graham, Lauren Jones	Dillon representative emailed Six Nations of the Grand River and thanked them for providing their comments on the draft ER for the Project. Dillon representative advised that the letter will be reviewed and a response will be provided in the following weeks.	N/A	N/A
2.17	August 5, 2026	Six Nations of the Grand River Contact: Tanya Hill-Montour	TMHC representative emailed Six Nations of the Grand River with a reminder to submit feedback regarding the draft Segment 2 Stage 2 AA report by August 6, 2026.	N/A	N/A
2.18	August 18, 2026	Six Nations of the Grand River Contacts: Tressa Hill, Peter Graham, Lauren Jones	Dillon representative emailed the Six Nations of the Grand River and provided a comment response matrix regarding the draft ER for the Project. The matrix addressed community feedback regarding environmental mitigation, outlining protocols for managing invasive species, evaluating tree replacement and offsite planting options, delivering worker environmental orientations, and clarifying wildlife relocation procedures. Additionally, the Dillon representative clarified their conservative approach to Species at Risk habitat assessments, outlined regulatory authorization requirements, and confirmed post-construction revegetation and operations monitoring plans.	N/A	N/A
3.1	February 4, 2025	Huron Wendat Nation Contact: Benjamin Labbé	An Imperial Oil representative emailed Huron Wendat Nation (HWN) and introduced the Project. The Imperial Oil representative noted that construction is planned between 2025 and 2026, contracting opportunities will be handled by Imperial, and Stantec will manage the archaeology assessments and associated fieldwork monitoring.	N/A	N/A
3.2	February 20, 2025	Huron Wendat Nation Contact: Benjamin Labbé	An Imperial Oil representative emailed Six Nations of the Grand River and followed up to confirm that they received the email from February 4, 2025 which introduced the Project.	N/A	N/A
3.3	February 24, 2025	Huron Wendat Nation Contact: Benjamin Labbé	An HWN representative emailed an Imperial Oil representative and thanked them for the Project notice, noting they will track the work through the AAs and requested that Stantec reach out early to invite Field Liaison Representatives to participate in the archaeological fieldwork.	N/A	N/A

Line Item	Date of Consultation	Name of Agency and/or Contact	Description of Consultation Activity	Date of Response	Response and Issue Resolution (if applicable)
3.4	March 10, 2026	Huron Wendat Nation Contact: Dominique Lesage	Dillon representative, on behalf of Imperial Oil, emailed a representative from HWN and introduced the Project. Dillon representative noted that they have been retained by Imperial Oil to conduct an environmental study for the Project, in accordance with the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023).* Dillon representative indicated that Imperial Oil and Dillon will be hosting an in-person public information session as part of the stakeholder engagement program for the Project, with a notice to be circulated at a later date with further details. Dillon representative noted that they are interested in hearing comments or concerns that the HWN may have regarding the Project and provided an email address.	N/A	N/A
3.5	March 20, 2026	Huron Wendat Nation Contact: Dominique Lesage	Dillon representative emailed HWN and provided the Notice of Study Commencement and Invitation to Public Information Session for the Project, noting that additional details regarding the Project and the upcoming public information session are included in the attached notice. Dillon provided contact information to direct any questions or obtain further information about the Project.	N/A	N/A
3.6	April 15, 2026	Huron Wendat Nation Contact: Marie-Sophie Gendron	TMHC representative emailed HWN and informed them that TMHC is planning to begin the Stage 2 AA for the Project, proposing to begin with the test pit survey on Wednesday, April 22, 2026 and continuing through Friday, April 24, 2026. TMHC shared that they will reach out early the following week to confirm the fieldwork and provide further project details including start times and meeting location. The TMHC representative provided a brief description of the Project and listed the required PPE.	N/A	N/A
3.7	April 17, 2026	Huron Wendat Nation Contact: Marie-Sophie Gendron	TMHC representative emailed a HWN to start early conversations about using Horizontal Directional Drilling (HDD) on the Project to avoid known archaeological sites, noting that this strategy has been used successfully for numerous sites on the Imperial Waterdown to Finch Project, stating that they hope to use a similar strategy for the Project to avoid and protect sites while still being able to install the infrastructure. TMHC noted that they have been working on a Stage 1 AA report and have prepared preliminary mapping showing the site locations and areas to avoid, which will be shared for review and comments once the Stage 1 is complete. The TMHC representative requested comment by Friday, April 24, and thanked HWN for their ongoing collaboration.	N/A	N/A
3.8	April 21, 2026	Huron Wendat Nation Contact: Dominique Lesage	HWN representative emailed TMHC representative and thanked them for sending the notification of fieldwork commencement for the Stage 2 AA, inquiring whether the fieldwork is still scheduled to take place on April 22, 2026, and requested to fill out a list of information relating to the fieldwork.	April 21, 2026	TMHC representative emailed HWN and confirmed that TMHC is planning to be on site at 10:00 AM on April 22, 2026 to begin the Stage 2 AA fieldwork. The TMHC representative noted that they are planning to continue through the next week, weather permitting, and are currently waiting for the ploughing to occur. The TMHC representative noted that the work may change day-to-day after the initial week of work. The TMHC representative stated that the Project has two sites within close proximity and provided a brief summary of the sites. The TMHC representative assured HWN that they are working on completing and sharing the Stage 1 AA report with them. The TMHC representative provided the requested fieldwork details.

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3.9	April 21, 2026	Huron Wendat Nation Contact: Dominique Lesage	HWN representative emailed the THMC representative and thanked them for sending the fieldwork details HWN noted a monitor will be joining TMHC the following day, and provided their contact information. The HWN representative inquired about how much of a notice can be given regarding the following week's schedule.	N/A	N/A
3.10	April 21, 2026	Huron Wendat Nation Contact: Dominique Lesage	TMHC representative emailed HWN and noted that TMHC will be continuing the test pit survey Monday to Friday the following week, and indicated this will be confirmed on Thursday, April 23, 2026 by 3:00 PM in case of any delays. The TMHC representative stated that the ploughed areas are not expected to be ready until the week of May 4, 2026 to May 8, 2026 due to a wet spring, and committed to an update the following week.	N/A	N/A
3.11	April 21, 2026	Huron Wendat Nation Contact: Dominique Lesage	HWN representative emailed the TMHC representative and thanked them for a prompt response and noted they will wait for confirmation of the following week's schedule.	N/A	N/A
3.12	April 23, 2026	Huron Wendat Nation Contact: Dominique Lesage	TMHC representative emailed HWN and provided an update regarding the fieldwork details for the following day.	N/A	N/A
3.13	April 22, 2026	Huron Wendat Nation Contact: Dominique Lesage	HWN representative emailed a TMHC representative and expressed interest in meeting to discuss the proposed HDD strategy for the Project. The HWN representative requested preliminary documentation including a detailed project description, a list of planned equipment, and the locations and depths of the work. The HWN representative requested clarification on any anticipated ancillary activities, such as heavy machinery access routes, that might cause ground disturbance. The HWN representative provided several availability windows for late April, 2026 and early May, 2026 to continue the discussion.	N/A	N/A
3.14	April 23, 2026	Huron Wendat Nation Contact: Dominique Lesage	The TMHC representative emailed the HWN representative noting availability on April 29, 2026 at 1 PM, and confirmed that they are working with their team to provide the requested information.	April 23, 2026	The HWN representative emailed the TMHC representative confirming their availability at this proposed time and offered to send a meeting invite.
3.15	April 23, 2026	Huron Wendat Nation Contact: Dominique Lesage	TMHC representative emailed HWN and requested they send a meeting invitation and noted their appreciation.	N/A	N/A
3.16	April 28, 2026	Huron Wendat Nation Contact: Dominique Lesage	TMHC representative emailed HWN and provided the draft Stage 1 AA report and requested feedback by May 13, 2026.	April 29, 2026	HWN emailed the TMHC representative and thanked them for sending the draft Stage 1 AA report and noted they will need additional time to review it. The HWN representative stated they will provide comments by May 27, 2026.
3.17	April 29, 2026	Huron Wendat Nation Contact: Dominique Lesage	Representatives from Imperial Oil, Dillon and TMHC met with representatives from HWN to discuss the proposed HDD strategy for the Project and to provide information previously requested by an HWN representative.	N/A	N/A
3.18	May 28, 2026	Huron Wendat Nation Contact: Mathieu Larivière	A THMC representative emailed HWN and followed up regarding the Stage 1 AA report review and requested to receive feedback on May 28, 2026.	N/A	N/A
3.19	June 1, 2026	Huron Wendat Nation Contact: Mathieu Larivière	A THMC representative emailed HWN and followed up regarding the Stage 1 AA report review and requested to receive feedback on June 1, 2026.	N/A	N/A
3.20	June 2, 2026	Huron Wendat Nation Contact: Mathieu Larivière	HWN emailed a TMHC representative and confirmed that a letter regarding the Stage 1 AA report review has been sent for signature. HWN noted that the letter will be shared on June 3, 2026.	N/A	N/A

Line Item	Date of Consultation	Name of Agency and/or Contact	Description of Consultation Activity	Date of Response	Response and Issue Resolution (if applicable)
3.21	June 3, 2026	Huron Wendat Nation Contact: Mathieu Larivière	HWN emailed a TMHC representative and provided their letter regarding the draft Stage 1 AA report review. HWN noted that while the Stage 1 AA report aligns with applicable guidelines, the majority of the study area holds elevated archaeological potential due to its proximity to Grindstone Creek, historical routes, and nine nearby registered archaeological sites, including two (AiGx-437 and AiGx-438) directly within the Project limits. HWN explained that because these internal sites retain unevaluated cultural heritage value, HWN supports the recommendation to proceed to a Stage 2 field assessment and explicitly requested that HWN Field Liaison Representatives be involved in the upcoming fieldwork to protect their archaeological heritage.	N/A	N/A
3.22	June 18, 2026	Huron Wendat Nation Contact: Dominique Lesage	A Dillon representative emailed HWN and provided the draft ER. Dillon representative noted that they have been retained by Imperial Oil to conduct an environmental study for the Project, in accordance with the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023).* Dillon representative requested the submission of feedback by July 30, 2026.	June 23, 2026	A Dillon Representative emailed HWN and provided an alternative link and password for the draft ER following multiple reports of access issues.
3.23	July 22, 2026	Huron Wendat Nation Contact: Dominique Lesage	HWN emailed the Project inbox and attached an invoice for Stage 1 and Stage 2 AA fieldwork.	N/A	N/A
3.24	July 22, 2026	Huron Wendat Nation Contact: Dominique Lesage, Mathieu Lariviere	TMHC representative emailed HWN and provided the draft Segment 2 Stage 2 AA report for review and requested feedback by August 6, 2026.	July 22, 2026	HWN emailed a TMHC representative and thanked them for providing the draft Segment 2 Stage 2 AA report for review, noting that the August 6, 2026 feedback deadline may be challenging and proposing to submit feedback by August 22, 2026.
3.25	July 29, 2026	Huron Wendat Nation Contact: Dominique Lesage	A Dillon representative emailed HWN with a reminder to submit feedback regarding the draft ER by July 30, 2026.	N/A	N/A
3.26	July 29, 2026	Huron Wendat Nation Contact: Dominique Lesage	HWN emailed a Dillon representative and confirmed they have no comments or questions regarding the draft ER at this time. HWN also confirmed they are currently reviewing the Stage 2 AA report for Segment 2, and that their comments will be submitted to THMC once the review is complete.	July 29, 2026	A Dillon representative emailed HWN and thanked them for their response regarding the draft ER.
3.27	August 20, 2026	Huron Wendat Nation Contact: Justine Gros-Louis	HWN emailed a TMHC representative and attached their letter of review and recommendations for the draft Stage 2 AA report for the Project. HWN confirmed agreement with the proposed methodology and recommendations, but recommended adding descriptive text to the historical background section to provide further context beyond the tabular presentation.	N/A	N/A
4.1	February 4, 2025	Mississaugas of the Credit First Nation Contact: Megan DeVries	An Imperial Oil representative emailed Mississaugas of the Credit First Nation (MCFN) and introduced the Project. The Imperial Oil representative noted that construction is planned between 2025 and 2026, contracting opportunities will be handled by Imperial, and Stantec will manage the archaeology assessments and associated fieldwork monitoring.	February 5, 2025	An MCFN representative emailed an Imperial Oil representative and attached their letter of response regarding the upcoming Project.

Line Item	Date of Consultation	Name of Agency and/or Contact	Description of Consultation Activity	Date of Response	Response and Issue Resolution (if applicable)
4.2	March 10, 2026	Mississaugas of the Credit First Nation Contacts: Margaret Sault, Adam LaForme, Megan DeVries, Lindsay Wong	A Dillon representative, on behalf of Imperial Oil, emailed MCFN and introduced the Project. Dillon representative noted that they have retained Dillon to conduct an environmental study for the Project, in accordance with the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023).* Dillon representative indicated that Imperial Oil and Dillon will be hosting an in-person public information session as part of the stakeholder engagement program for the Project, with a notice to be circulated at a later date with further details. Dillon representative noted that they are interested in hearing comments or concerns that the MCFN may have regarding the Project and provided an email address.	March 11, 2026	MCFN emailed Dillon representative in response to the advanced Notice regarding the Project. The MCFN representative provided a letter of response confirming receipt of the Project-related correspondence sent on March 10, 2026. The MCFN letter stated that the Project has been flagged for review, and that until the review has been completed and questions, concerns, and/or interests have been satisfactorily addressed, the Project must not receive approval or proceed with any ground-altering activities. The letter also stated that MCFN expects to be notified of future Project updates and/or changes. The MCFN noted they look forward to meaningful engagement with Dillon on the Project as Treaty Holders of the land on which the Project is situated.
4.3	March 20, 2026	Mississaugas of the Credit First Nation Contacts: Margaret Sault, Adam LaForme, Megan DeVries, Lindsay Wong	Dillon representative emailed MCFN and provided the Notice of Study Commencement and Invitation to Public Information Session for the Project, noting that additional details regarding the Project and the upcoming public information session are included in the attached notice. Dillon representative provided contact information to direct any questions or obtain further information about the Project.	N/A	N/A
4.4	April 14, 2026	Mississaugas of the Credit First Nation Contacts: Adam LaForme	TMHC representative emailed MCFN to start early conversations about using Horizontal Directional Drilling (HDD) on the Project to avoid known archaeological sites, noting that this strategy has been used successfully for numerous sites on the Imperial Waterdown to Finch Project, and stating that they hope to use a similar strategy for the Project to avoid and protect sites while still being able to install the infrastructure. The TMHC representative noted they have been working on a Stage 1 AA report and have prepared preliminary mapping showing the site locations and areas to avoid, which will be shared for review and comments once the Stage 1 is complete. The TMHC representative requested comment by Friday, April 24, and thanked MCFN for their ongoing collaboration.	N/A	N/A
4.5	April 14, 2026	Mississaugas of the Credit First Nation Contacts: Adam LaForme	MCFN emailed TMHC representative and inquired how future maintenance or emergency repairs to the pipeline would be managed, particularly within or near the identified archaeological sites. MCFN representative noted they will discuss the use of HDD internally after a response is received regarding their question.	April 23, 2026	A Dillon representative emailed MCFN and explained how Imperial Oil's CFO Operations, Pipeline Integrity, and Damage Prevention teams manage known archaeological sites through established work-planning and emergency procedures. The Dillon representative stated that any future work near archaeological sites is managed in compliance with regulatory and Indigenous commitments.
4.6	April 15, 2026	Mississaugas of the Credit First Nation Contacts: Adam LaForme, Megan DeVries	TMHC representative emailed MCFN and informed them that TMHC is planning to begin the Stage 2 AA for the Project, proposing to begin with the test pit survey on Wednesday, April 22, 2026 and continuing through Friday, April 24, 2026. The TMHC representative shared that they will reach out early the following week to confirm the fieldwork and provide further Project details including start times and meeting location. The TMHC representative provided a brief description of the Project and listed the required PPE.	N/A	N/A

Line Item	Date of Consultation	Name of Agency and/or Contact	Description of Consultation Activity	Date of Response	Response and Issue Resolution (if applicable)
4.7	April 21, 2026	Mississaugas of the Credit First Nation Contacts: Adam LaForme, Megan DeVries	TMHC representative emailed MCFN and confirmed that TMHC is planning to be on site at 10 AM on April 22, 2026 to begin the Stage 2 AA. The TMHC representative noted that they are planning to continue through the next week, weather permitting, and are currently waiting for the ploughing to occur. The TMHC representative noted that the work may change day-to-day after the initial week of work. The TMHC representative stated that the Project has two sites within close proximity and provided a brief summary of the sites. The TMHC representative assured HWN that they are working on completing and sharing the Stage 1 AA report with them. The TMHC representative provided the requested fieldwork details.	April 21, 2026	MCFN emailed the TMHC representative and thanked them for the details and noted that they scheduled a Field Liaison Representative for the fieldwork the following day.
4.8	April 22, 2026	Mississaugas of the Credit First Nation Contacts: Matthew LaForme	TMHC representative emailed MCFN and confirmed that TMHC is continuing the test pit survey on April 23, 2026 at 9:00 AM. The TMHC representative noted the location will be the same as April 22, 2026.	N/A	N/A
4.9	April 28, 2026	Mississaugas of the Credit First Nation Contacts: Adam LaForme, Megan DeVries	TMHC representative emailed MCFN and provided the draft Stage 1 AA report and requesting feedback by May 13, 2026.	April 29, 2026	MCFN emailed a TMHC representative and thanked them for sharing the draft Stage 1 AA report, noting they will try to review and provide feedback by May 13, 2026.
4.10	April 30, 2026	Mississaugas of the Credit First Nation Contacts: Matthew LaForme	TMHC representative emailed MCFN and provided an update regarding the continuation of the Stage 2 test pit survey on May 1, 2026 at 9:00 AM. The TMHC representative noted that they anticipate the Segment 1 Stage 2 pedestrian survey to commence on May 4, 2026 at 9:00 AM and continue through May 6, 2026, and provided the meeting location.	N/A	N/A
4.11	May 15, 2026	Mississaugas of the Credit First Nation Contacts: Adrian Blake	MCFN emailed a TMHC representative and thanked for sending the draft Stage 1 AA report. MCFN advised that they reviewed the report, and they do not have any questions, comments or concerns.	May 15, 2026	TMHC representative emailed MCFN and acknowledged receipt of their review of the draft Stage 1 AA report.
4.12	June 18, 2026	Mississaugas of the Credit First Nation Contacts: Margaret Sault, Adam LaForme, Megan DeVries, Lindsay Wong,	A Dillon representative emailed MCFN and provided the draft ER. Dillon representative noted that they have been retained by Imperial Oil to conduct an environmental study for the Project, in accordance with the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023).* Dillon representative requested the submission of feedback by July 30, 2026.	N/A	N/A
4.13	June 21, 2026	Mississaugas of the Credit First Nation Contacts: Megan DeVries	MCFN emailed a Dillon representative and requested access to the draft ER.	June 23, 2026	A Dillon representative emailed MCFN and provided access to the draft ER.
4.14	June 23, 2026	Mississaugas of the Credit First Nation Contacts: Megan DeVries	MCFN emailed a Dillon representative and confirmed they have access to the draft ER.	June 23, 2026	A Dillon representative emailed MCFN and acknowledged their confirmation regarding their access to the draft ER.
4.15	July 22, 2026	Mississaugas of the Credit First Nation Contacts: Megan DeVries	MCFN emailed the Project inbox and attached their letter of response regarding the draft ER. MCFN comments included environmental questions concerning terrestrial invasive species removal, operational spill notification, connectivity of a man-made pond, and assessment triggers for dry or ephemeral agricultural channels. MCFN requested a response within three weeks and noted that Project approvals or ground-altering activities should not proceed until their feedback is satisfactorily addressed.	July 23, 2026	A Dillon representative emailed MCFN and thanked them for their response regarding the draft ER. The Dillon representative noted that they will review the feedback and respond within the timeline outlined in the letter.
4.16	July 22, 2026	Mississaugas of the Credit First Nation Contacts: Megan DeVries, Adam LaForme	TMHC representative emailed MCFN and provided the draft Segment 2 Stage 2 AA report for review and requested feedback by August 6, 2026.	N/A	N/A

Line Item	Date of Consultation	Name of Agency and/or Contact	Description of Consultation Activity	Date of Response	Response and Issue Resolution (if applicable)
4.17	August 18, 2026	Mississaugas of the Credit First Nation Contacts: Megan DeVries, Lindsay Wong, Adam LaForme	Dillon Representative emailed MCFN and provided the comment response matrix regarding the draft ER for the Project. The matrix addressed community feedback regarding environmental management, confirming protocols for controlling invasive vegetation, notification procedures for operational pipeline spills, and the status of man-made ponds and ephemeral watercourses within the study area.	N/A	N/A
4.18	August 20, 2026	Mississaugas of the Credit First Nation Contacts: Adrian Blake	MCFN emailed a TMHC representative and thanked them for providing the draft Segment 2 Stage 2 AA report for review. MCFN confirmed they have no comments or questions regarding the report and requested to continue informing the community of any fieldwork that may arise as a result of the report's recommendations.	N/A	N/A

Appendix I

Aquatic Habitat Crossing Assessment Results

Crossing ID	Description	Photograph	LIO ARA Data	Aquatic Assessment Results	Mapped Significant Natural Heritage Features	Fish Community Data
WC1	**Photo 1** March 10, 2026 Representative photo of the upstream area of the mapped watercourse, depicting where surface water enters the property from the adjacent lands to the west. **Photo 2** March 10, 2026 Representative photo of pooling water observed within the project footprint west of the private road, within the area identified as a mapped watercourse. **Photo 3** March 10, 2026 Representative view of the channelized drainage ditch situated adjacent to the gravel access laneway. The feature is hydrologically connected to a culvert that serves as a direct discharge point into the adjacent wetland complex.	**Photo 1**  **Photo 2**  **Photo 3** 	**ARA Ident** AU-9999-TMP **OGF ID** 167,700,523.00 **Waterbody Name** Unnamed tributary of Grindstone Creek **Thermal Regime** Unknown	WC1 is located along a mapped watercourse northwest of Concession 5 Road 5 East and connects to the Lake Medad Valley PSW Complex via a culvert beneath an existing gravel laneway. During the spring freshet, surface pooling was observed within the manicured lawn; however, the feature lacks a defined channel, suggesting it functions primarily as an ephemeral drainage path. Defined bed and bank morphology are absent for the majority of its length, appearing only as localized features adjacent to the laneway where the area has been historically graded for roadside drainage. While the assessment confirmed water conveyance toward the wetland to the southeast, the feature is not anticipated to support sustained baseflow. Due to the absence of permanent morphological characteristics—such as scoured banks, a sorted mineral bed, or established emergent vegetation—the feature is expected to remain dry outside of seasonal melts and high-intensity precipitation events.	WC1 supports mapped woodlands, the Lake Medad Valley Wetland Complex, which is an Evaluated PSW and Swamp wetland type. The area also includes the Medad Valley (Life Science ANSI) of Provincial Significance, and the Lake Medad Meltwater Channel (Earth Science ANSI) of Regional Significance.	Closest fish results are from downstream survey points with Grindstone Creek: • Blacknose Dace • Central Mudminnow • Creek Chub • Pumpkinseed • White Sucker

Appendix J

Background Master Flora and Fauna List

Table J-1: Background Review Flora and Fauna

Notes:

1. SARA: Status identified by the Committee on the Status of Endangered Wildlife in Canada under federal Species at Risk Act, 2002

2. SCA: SAR in Ontario List under the provincial Species Conservation Act, 2025

3. Ontario SRank:

- S5 = secure
- S4 = apparently secure
- S3 = vulnerable
- S2 = imperiled
- S1 = critically imperiled
- SX = extirpated
- SH = possibly extirpated
- SNA = non-native or exotic species in Ontario
- S#B = Breeding status rank
- S#N = non-breeding status rank
- S#? = rank uncertain

4. Information Sources: Christmas Bird Count (CBC), Ontario Breeding Bird Atlas (OBBA), Mammals of the Western Hemisphere (MWH), Natural Heritage Centre (NHIC), Ontario Herptile Atlas (OHA), Ontario Butterfly Atlas (OBA), Ministry of Natural Resources Regulated Habitat Area Mapping (MNRF Reg. Habitat)

Birds

Scientific Name	Common Name	SARA Status[1]	SCA Status[2]	Srank[3]	Information Source[4]
Chaetura pelagica	Chimney Swift	THR	---	S4B,S4N	OBBA
Hirundo rustica	Barn Swallow	THR	---	S4B	OBBA, NHIC
Hylocichla mustelina	Wood Thrush	THR	---	S4B	OBBA, NHIC
Dolichonyx oryzivorus	Bobolink	THR	---	S4B	OBBA
Coccothraustes vespertinus	Evening Grosbeak	SC	---	S4	CBC
Falco peregrinus	Peregrine Falcon	SC	---	S3B	CBC

Scientific Name	Common Name	SARA Status[1]	SCA Status[2]	Srank[3]	Information Source[4]
Riparia riparia	Bank Swallow	THR	---	S4B	OBBA
Cardellina canadensis	Canada Warbler	THR	---	S4B	OBBA
Parkesia motacilla	Louisiana Waterthrush	THR	---	S2B	OBBA
Vermivora chrysoptera	Golden-winged Warbler	THR	---	S4B	OBBA
Euphagus carolinus	Rusty Blackbird	SC	---	S4B	CBC
Podiceps auritus	Horned Grebe	---	---	S1B,S4N	CBC
Ixobrychus exilis	Least Bittern	THR	---	S4B	NHIC
Haliaeetus leucocephalus	Bald Eagle	---	---	S2N,S4B	CBC
Chordeiles minor	Common Nighthawk	SC	---	S4B	OBBA
Aix sponsa	Wood Duck	---	---	S5	CBC
Anas acuta	Northern Pintail	---	---	S5	CBC
Anas americana	American Wigeon	---	---	S4	CBC
Anas clypeata	Northern Shoveler	---	---	S4	CBC
Anas crecca	Green-winged Teal	---	---	S4	CBC
Anas platyrhynchos	Mallard	---	---	S5	CBC
Anas rubripes	American Black Duck	---	---	S4	CBC
Anas strepera	Gadwall	---	---	S4	CBC
Anser albifrons	Greater White-fronted Goose	---	---	SNA	CBC
Aythya affinis	Lesser Scaup	---	---	S4	CBC
Aythya americana	Redhead	---	---	S2B,S4N	CBC
Aythya collaris	Ring-necked Duck	---	---	S5	CBC
Aythya marila	Greater Scaup	---	---	S4	CBC
Aythya valisineria	Canvasback	---	---	S1B,S4N	CBC
Branta canadensis	Canada Goose	---	---	S5	CBC
Branta hutchinsii	Cackling Goose	---	---	S4N	CBC
Bucephala albeola	Bufflehead	---	---	S4	CBC
Bucephala clangula	Common Goldeneye	---	---	S5	CBC

Scientific Name	Common Name	SARA Status[1]	SCA Status[2]	Srank[3]	Information Source[4]
Bucephala islandica	Barrow's Goldeneye	---	---	SNA	CBC
Chen rossii	Ross's Goose	---	---	S1B	CBC
Clangula hyemalis	Long-tailed Duck	---	---	S3B	CBC
Cygnus buccinator	Trumpeter Swan	---	---	S4	CBC
Cygnus columbianus	Tundra Swan	---	---	S4	CBC
Cygnus olor	Mute Swan	---	---	SNA	CBC
Histrionicus histrionicus	Harlequin Duck	---	---	SNA	CBC
Lophodytes cucullatus	Hooded Merganser	---	---	S5B,S5N	CBC
Melanitta fusca	White-winged Scoter	---	---	S4B,S4N	CBC
Melanitta nigra	Black Scoter	---	---	S4B,S4N	CBC
Melanitta perspicillata	Surf Scoter	---	---	S4B,S4N	CBC
Mergus merganser	Common Merganser	---	---	S5B,S5N	CBC
Mergus serrator	Red-breasted Merganser	---	---	S4B,S5N	CBC
Oxyura jamaicensis	Ruddy Duck	---	---	S4B,S4N	CBC
Somateria spectabilis	King Eider	---	---	SHB	CBC
Bonasa umbellus	Ruffed Grouse	---	---	S4	CBC
Meleagris gallopavo	Wild Turkey	---	---	S5	CBC
Gavia immer	Common Loon	---	---	S5B,S5N	CBC
Gavia pacifica	Pacific Loon	---	---	S3B	CBC
Gavia stellata	Red-throated Loon	---	---	S1N,S3B	CBC
Podiceps grisegena	Red-necked Grebe	---	---	S3B,S4N	CBC
Podilymbus podiceps	Pied-billed Grebe	---	---	S4B,S4N	CBC
Phalacrocorax auritus	Double-crested Cormorant	---	---	S5B	CBC
Phalacrocorax carbo	Great Cormorant	---	---	SNA	CBC
Ardea herodias	Great Blue Heron	---	---	S4	CBC
Nycticorax nycticorax	Black-crowned Night-heron	---	---	S3B,S3N	CBC
Cathartes aura	Turkey Vulture	---	---	S5B	CBC

Scientific Name	Common Name	SARA Status[1]	SCA Status[2]	Srank[3]	Information Source[4]
Accipiter cooperii	Cooper's Hawk	---	---	S4	CBC
Accipiter striatus	Sharp-shinned Hawk	---	---	S5	CBC
Buteo jamaicensis	Red-tailed Hawk	---	---	S5	CBC
Buteo lagopus	Rough-legged Hawk	---	---	S1B,S4N	CBC
Buteo lineatus	Red-shouldered Hawk	---	---	S4B	CBC
Circus cyaneus	Hen Harrier	---	---	S4B	CBC
Fulica americana	American Coot	---	---	S4B	CBC
Grus canadensis	Sandhill Crane	---	---	S5B	CBC
Gallinago delicata	Wilson's Snipe	---	---	S5B	CBC
Larus argentatus	Herring Gull	---	---	S5B,S5N	CBC
Larus delawarensis	Ring-billed Gull	---	---	S5B,S4N	CBC
Larus fuscus	Lesser Black-backed Gull	---	---	SNA	CBC
Larus glaucoides	Iceland Gull	---	---	S4N	CBC
Larus hyperboreus	Glaucous Gull	---	---	S4N	CBC
Larus marinus	Great Black-backed Gull	---	---	S2B	CBC
Columba livia	Rock Pigeon	---	---	SNA	CBC
Streptopelia decaocto	Eurasian Collared-Dove	---	---	SNA	CBC
Zenaida macroura	Mourning Dove	---	---	S5	CBC
Aegolius acadicus	Northern Saw-whet Owl	---	---	S4	CBC
Asio otus	Long-eared Owl	---	---	S4	CBC
Bubo scandiacus	Snowy Owl	---	---	SNA	CBC
Bubo virginianus	Great Horned Owl	---	---	S4	CBC
Megascops asio	Eastern Screech-Owl	---	---	S4	CBC
Strix varia	Barred Owl	---	---	S5	CBC
Megaceryle alcyon	Belted Kingfisher	---	---	S4B	CBC
Colaptes auratus	Northern Flicker	---	---	S4B	CBC
Dryocopus pileatus	Pileated Woodpecker	---	---	S5	CBC

Scientific Name	Common Name	SARA Status[1]	SCA Status[2]	Srank[3]	Information Source[4]
Melanerpes carolinus	Red-bellied Woodpecker	---	---	S4	CBC
Melanerpes erythrocephalus	Red-headed Woodpecker	END	--	S3	OBBA
Picoides pubescens	Downy Woodpecker	---	---	S5	CBC
Picoides villosus	Hairy Woodpecker	---	---	S5	CBC
Sphyrapicus varius	Yellow-bellied Sapsucker	---	---	S5B	CBC
Falco columbarius	Merlin	---	---	S5B	CBC
Falco sparverius	American Kestrel	---	---	S4	CBC
Contopus virens	Eastern Wood-pewee	SC	---	S4B	OBBA, NHIC
Lanius excubitor	Northern Shrike	---	---	SNA	CBC
Corvus brachyrhynchos	American Crow	---	---	S5B	CBC
Corvus corax	Common Raven	---	---	S5	CBC
Corvus ossifragus	Fish Crow	---	---	SNA	CBC
Cyanocitta cristata	Blue Jay	---	---	S5	CBC
Eremophila alpestris	Horned Lark	---	---	S5B	CBC
Baeolophus bicolor	Tufted Titmouse	---	---	S4	CBC
Poecile atricapillus	Black-capped Chickadee	---	---	S5	CBC
Sitta canadensis	Red-breasted Nuthatch	---	---	S5	CBC
Sitta carolinensis	White-breasted Nuthatch	---	---	S5	CBC
Certhia americana	Brown Creeper	---	---	S5B	CBC
Cistothorus palustris	Marsh Wren	---	---	S4B	CBC
Thryothorus ludovicianus	Carolina Wren	---	---	S4	CBC
Troglodytes troglodytes	Winter Wren	---	---	S5B	CBC
Regulus satrapa	Golden-crowned Kinglet	---	---	S5B	CBC
Catharus guttatus	Hermit Thrush	---	---	S5B	CBC
Sialia sialis	Eastern Bluebird	---	---	S5B	CBC
Turdus migratorius	American Robin	---	---	S5B	CBC
Dumetella carolinensis	Gray Catbird	---	---	S4B	CBC

Scientific Name	Common Name	SARA Status[1]	SCA Status[2]	Srank[3]	Information Source[4]
Mimus polyglottos	Northern Mockingbird	---	---	S4	CBC
Sturnus vulgaris	European Starling	---	---	SNA	CBC
Anthus rubescens	American Pipit	---	---	S4	CBC
Bombycilla cedrorum	Cedar Waxwing	---	---	S5B	CBC
Plectrophenax nivalis	Snow Bunting	---	---	SNA	CBC
Geothlypis trichas	Common Yellowthroat	---	---	S5B	CBC
Oreothlypis celata	Orange-crowned Warbler	---	---	S4B	CBC
Setophaga coronata	Yellow-rumped Warbler	---	---	S5B	CBC
Ammodramus savannarum	Grasshopper Sparrow	SC	---	S4B	OBBA
Junco hyemalis	Dark-eyed Junco	---	---	S5B	CBC
Melospiza georgiana	Swamp Sparrow	---	---	S5B	CBC
Melospiza melodia	Song Sparrow	---	---	S5B	CBC
Passerella iliaca	Fox Sparrow	---	---	S4B	CBC
Pipilo erythrophthalmus	Eastern Towhee	---	---	S4B	CBC
Spizella passerina	Chipping Sparrow	---	---	S5B	CBC
Spizelloides arborea	American Tree Sparrow	---	---	S4B	CBC
Zonotrichia albicollis	White-throated Sparrow	---	---	S5B	CBC
Zonotrichia leucophrys	White-crowned Sparrow	---	---	S4B	CBC
Cardinalis cardinalis	Northern Cardinal	---	---	S5	CBC
Agelaius phoeniceus	Red-winged Blackbird	---	---	S4	CBC
Molothrus ater	Brown-headed Cowbird	---	---	S4B	CBC
Quiscalus quiscula	Common Grackle	---	---	S5B	CBC
Sturnella magna	Eastern Meadowlark	THR	---	S4B	CBC, OBBA
Carduelis flammea	Common Redpoll	---	---	S4B	CBC
Carduelis pinus	Pine Siskin	---	---	S4B	CBC
Carduelis tristis	American Goldfinch	---	---	S5B	CBC
Carpodacus mexicanus	House Finch	---	---	SNA	CBC

Scientific Name	Common Name	SARA Status[1]	SCA Status[2]	Srank[3]	Information Source[4]
Carpodacus purpureus	Purple Finch	---	---	S4B	CBC
Loxia curvirostra	Red Crossbill	---	---	S4B	CBC
Loxia leucoptera	White-winged Crossbill	---	---	S5B	CBC
Pinicola enucleator	Pine Grosbeak	---	---	S4B	CBC
Passer domesticus	House Sparrow	---	---	SNA	CBC
Larus glaucoides kumlieni	Iceland Gull	---	---	S4N	CBC

Lepidoptera

Scientific Name	Common Name	SARA Status[1]	SCA Status[2]	Srank[3]	Information Source[4]
Danaus plexippus	Monarch	END	---	S2N,S4B	OBA
Pieris virginiensis	West Virginia White	---	---	S3	OBA
Erynnis martialis	Mottled Duskywing	END	END	S2	OBA

Fish

Scientific Name	Common Name	SARA Status[1]	SCA Status[2]	Srank[3]	Information Source[4]
Clinostomus elongatus	Redside Dace	END	---	S2	MNRF Reg. Habitat

Herptiles

Scientific Name	Common Name	SARA Status[1]	SCA Status[2]	Srank[3]	Information Source[4]
Chelydra serpentina	Snapping Turtle	SC	---	S3	OHA, NHIC
Sternotherus odoratus	Eastern Musk Turtle	SC	---	S3	OHA
Chrysemys picta marginata	Midland Painted Turtle	---	---	S4	NHIC
Emydoidea blandingii	Blanding's Turtle	THR	THR	S3	OHA, NHIC
Graptemys geographica	Northern Map Turtle	SC	SC	S3	OHA
Pseudacris triseriata pop. 2	Western Chorus Frog (Carolinian Population)	---	---	S4	OHA
Ambystoma jeffersonianum	Jefferson Salamander	END	END	S2	OHA, MNRF Reg. Habitat
Thamnophis sauritus	Eastern Ribbonsnake (Great Lakes population)	SC	---	S4	OHA

Mammals

Scientific Name	Common Name	SARA Status[1]	SCA Status[2]	Srank[3]	Information Source[4]
Lasionycteris noctivagans	Silver-haired Bat	---	END	S4	MWH
Microtus pinetorum	Woodland Vole	SC	---	S3?	MWH
Didelphis virginiana	Virginia Opossum	---	---	S4	MWH
Blarina brevicauda	Northern Short-tailed Shrew	---	---	S5	MWH
Sorex cinereus	Masked Shrew	---	---	S5	MWH
Sorex fumeus	Smoky Shrew	---	---	S5	MWH
Sorex hoyi	Pygmy Shrew	---	---	S4	MWH
Condylura cristata	Star-nosed Mole	---	---	S5	MWH
Parascalops breweri	Hairy-tailed Mole	---	---	S4	MWH
Eptesicus fuscus	Big Brown Bat	---	---	S5	MWH
Lasiurus borealis	Eastern Red Bat	---	END	S4	MWH
Lasiurus cinereus	Hoary Bat	---	END	S4	MWH
Myotis leibii	Eastern Small-footed Myotis	---	END	S2S3	MWH
Myotis lucifugus	Little Brown Myotis	END	END	S4	MWH
Myotis septentrionalis	Northern Myotis	END	END	S3	MWH
Pipistrellus subflavus	Tri-colored Bat	END	END	S3?	MWH
Sylvilagus floridanus	Eastern Cottontail	---	---	S5	MWH
Castor canadensis	Beaver	---	---	S5	MWH
Clethrionomys gapperi	Southern Red-backed Vole	---	---	S5	MWH
Microtus pennsylvanicus	Meadow Vole	---	---	S5	MWH
Ondatra zibethicus	Muskrat	---	---	S5	MWH
Peromyscus leucopus	White-footed Mouse	---	---	S5	MWH
Peromyscus maniculatus	Deer Mouse	---	---	S5	MWH
Napaeozapus insignis	Woodland Jumping Mouse	---	---	S5	MWH
Zapus hudsonius	Meadow Jumping Mouse	---	---	S5	MWH
Erethizon dorsatum	Porcupine	---	---	S5	MWH
Glaucomys volans	Southern Flying Squirrel	---	---	S4	MWH

Scientific Name	Common Name	SARA Status[1]	SCA Status[2]	Srank[3]	Information Source[4]
Marmota monax	Woodchuck	---	---	S5	MWH
Sciurus carolinensis	Eastern Gray Squirrel	---	---	S5	MWH
Tamias striatus	Eastern Chipmunk	---	---	S5	MWH
Tamiasciurus hudsonicus	Red Squirrel	---	---	S5	MWH
Canis latrans	Coyote	---	---	S5	MWH
Urocyon cinereoargenteus	Gray Fox	THR	THR	S1	MWH
Vulpes vulpes	Red Fox	---	---	S5	MWH
Lynx rufus	Bobcat	---	---	S4	MWH
Mephitis mephitis	Striped Skunk	---	---	S5	MWH
Lontra canadensis	North American River Otter	---	---	S5	MWH
Mustela erminea	Ermine	---	---	S5	MWH
Mustela frenata	Long-tailed Weasel	---	---	S4	MWH
Mustela nivalis	Least Weasel	---	---	SU	MWH
Mustela vison	American Mink	---	---	S4	MWH
Procyon lotor	Northern Raccoon	---	---	S5	MWH
Ursus americanus	American Black Bear	---	---	S5	MWH
Odocoileus virginianus	White-tailed Deer	---	---	S5	MWH

Vascular Plants

Scientific Name	Common Name	SARA Status[1]	SCA Status[2]	Srank[3]	Information Source[4]
Trichophorum planifolium	Few-flowered Club-rush/Bashful Bullrush	END	END	S1	MNRF Reg. Habitat
Uvularia perfoliata	Perfoliate Bellwort	---	---	S1	NHIC
Cornus florida	Eastern Flowering Dogwood	END	END	S2?	MNRF Reg. Habitat
Juglans cinerea	Butternut	END	END	S2?	NHIC, Dillon
Gillenia trifoliata	Bowman's-root or Indian Physic	---	---	SX	NHIC
Fraxinus nigra	Black Ash	---	END	S4	NHIC, Dillon

Appendix K

Candidate Significant Wildlife Habitat within the Project Footprint and Study Area

Table K- 1: Candidate Significant Wildlife Habitat within the Project Footprint and Study Area

Significant Wildlife Habitat	Species	Habitat Criteria/Description	Potential Presence within Project Study Area
Seasonal Concentration Areas			
Bat Maternity Colonies	Big Brown Bat Silver-haired Bat	Supported by mixed and deciduous forests and swamps with large diameter dead or dying trees with cavities. Areas that have the potential to support bat maternity habitat include treed communities in the Study Area and Project footprint (i.e., all FOD, FOM, SWM, SWD communities).	Potential
Rare Vegetation Communities or Specialized Habitats for Wildlife			
Waterfowl Nesting Area	American Black Duck Wood Duck Hooded Merganser Mallard	A waterfowl nesting area extends 120 m from a wetland (> 0.5 ha) or a wetland (>0.5 ha) and any small wetlands (0.5ha) within 120 m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur. Areas that have the potential to support waterfowl nesting area include upland habitats adjacent to wetlands in the Study Area and Project footprint.	Potential
Woodland Raptor Nesting Habitat	Cooper's Hawk Sharp-shinned Hawk Barred Owl	All natural or conifer plantation woodland/forest stands >30 ha with >10 ha of interior habitat. Interior habitat determined with a 200 m buffer. Areas that have the potential to support woodland raptor nesting habitat include large forested communities in the Study Area and Project footprint (i.e., all FO or SW communities).	Potential
Amphibian Breeding Habitat (Woodland)	All amphibian species	Suitable specialized habitat type includes wetlands, ponds or areas that are likely to support vernal (seasonal) pooling that are within or adjacent to a woodland. Areas in the Study Area that have the potential to support amphibian breeding habitat include all FO communities.	Potential
Amphibian Breeding Habitat (Wetland)	All amphibian species	Suitable habitat types include swamps and marshes (i.e., SW and MA communities) which support high species diversity and contain presence of shrubs and logs to support structure for calling, foraging and concealment. Areas may contain permanent water bodies with abundant emergent vegetation.	Potential
Turtle Nesting Areas	Midland Painted Turtle (Special Concern) Northern Map Turtle (Special Concern) Snapping Turtle (Special Concern)	May be found where exposed mineral soil (sand or gravel) is found adjacent (less than 100 m) or within ELC communities such as shallow marshes (MAS) as documented within the Study Area. Best nesting habitat is close to water and away from roads and sites less prone to loss of eggs by predation. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not considered to be SWH.	Potential
Seeps and Springs	White Tailed Deer Wild Turkey Ruffed Grouse Salamander spp.	Suitable habitat occurs where ground water comes to the surface, often within headwater areas within any forested communities. Any forested area with less than 25 percent meadow/field/pasture which is located within headwater areas have the potential for this habitat.	Potential
Woodland Area-Sensitive Bird Breeding Habitat	Red-breasted Nuthatch Winter Wren Pileated Woodpecker Canada Warbler (Special Concern)	Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30 ha. Interior forest habitat is at least 200 m from forest edge habitat. Areas in the Study Area that have the potential to support woodland area-sensitive bird breeding habitat include all forested communities that meet the size criteria (i.e., FO, and SW communities).	Potential

Significant Wildlife Habitat	Species	Habitat Criteria/Description	Potential Presence within Project Study Area
Habitats of Species of Conservation Concern Excluding the Habitats of Endangered and Threatened Species			
Special Concern and Rare Wildlife Species	All Special Concern and Provincially Rare species (S1 to S3, SH). List of these species are tracked by the NHIC. Preliminary list of species based on background review identified eight SCC with potential habitat features in the Study Area.	As a result, and in the absence of detailed field surveys being completed, natural or naturalized features have been carried forward as Candidate habitat for SCC.	Potential
Marsh Breeding Bird Habitat	American Coot Common Loon Trumpeter Swan	All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present. Areas in the Study Area that have the potential to support marsh breeding bird habitat include all swamp and marsh communities (i.e., SW and MA communities).	Potential
Shrub/Early Successional Bird Breeding Habitat	Eastern Towhee Golden-winged Warbler (Special Concern)	Large field areas succeeding to shrub and thicket habitats >10 ha in size. Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (i.e., no row- cropping, haying or live- stock pasturing in the last five years). Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species. Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands. Areas in the Study Area that have the potential to support shrub/early successional bird breeding habitat include all thicket communities that meet the size criteria (i.e., TH communities).	Potential
Terrestrial Crayfish	Chimney or Digger Crayfish (*Fallicambarus fodiens)* Devil or Meadow Crayfish (*Cambrarus Diogenus*)	Suitable habitat occurs in wet meadow and edges of shallow marshes (no minimum size) in ecosistes MA, SWT, SWD and SWM.	Potential

L – a

Appendix L

SAR Species List

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Table L-1: SAR Species List

Notes:

1. Status Identified by the Committee on the Status of Endangered Wildlife in Canada under the federal *Species at Risk Act, 2002*
2. SAR in Ontario List under provincial *Species Conservation Act, 2025*
3. Ontario SRank: S5 – secure, S4 = apparently secure, S3 = vulnerable, S2 = imperiled, S1 = critically imperiled, SX = extirpated, SH = possibly extirpated
4. Information Sources: Christmas Bird Count (CBC), Ontario Breeding Bird Atlas (OBBA), Mammals of the Western Hemisphere (MWH), Natural Heritage Centre (NHIC), Ontario Herptile Atlas (OHA), Ontario Butterfly Atlas (OBA), Ministry of Natural Resources Regulated Habitat Area Mapping (MNRF Reg. Habitat)

Scientific Name	Common Name	SARA Status[1]	SCA Status[2]	SRank[3]	Information Source[4]	Habitat Requirements	Potential Habitat in the Study Area Rationale
Chaetura pelagica	Chimney Swift	THR	---	S4B, S4N	OBBA	Commonly found in urban areas near buildings and man-made structures with vertical faces, of which are used as surfaces for nest-building. Nests and roosts are most common in chimneys with preference for larger chimneys with open tops. This species will also nest and roost in hollow trees and crevices of rock cliffs. Nesting and roosting sites are situated near areas of water with an abundance of insects for feeding.	No - suitable chimney structures were not observed
Hirundo rustica	Barn Swallow	THR	---	S4B	OBBA, NHIC	Farmlands or rural areas; cliffs, caves, rock niches; buildings or other man-made structures for nesting; open country near body of water.	Yes – buildings present may support nesting Barn Swallow
Hylocichla mustelina	Wood Thrush	THR	---	S4B	OBBA, NHIC	Carolinian and Great Lakes-St. Lawrence forest zones; undisturbed moist mature deciduous or mixed forest with deciduous sapling growth; near pond or swamp; hardwood forest edges; must have some trees higher than 12 m.	Yes – Deciduous woodland associated with the adjacent ANSI and PSW may support Wood Thrush
Dolichonyx oryzivorus	Bobolink	THR	---	S4B	OBBA	Large, open expansive grasslands with dense ground cover; hayfields, meadows or fallow fields; marshes	Yes – Grassy areas associated with Horse Pasture in the Study Area may support nesting Bobolink
Riparia riparia	Bank Swallow	THR	---	S4B	OBBA	Sand, clay or gravel riverbanks or steep riverbank cliffs; lakeshore bluffs of easily crumbled sand or gravel; gravel pits, road-cuts, grassland or cultivated fields that are close to water; nesting sites are limiting factor for species presence.	No – suitable cliffs, bluffs were not observed in the Study Area
Cardellina canadensis	Canada Warbler	THR	---	S4B	OBBA	An interior forest species; dense, mixed coniferous, deciduous forests with closed canopy, wet bottomlands of cedar or alder; shrubby undergrowth in cool moist mature woodlands; riparian habitat usually requires at least 30 ha.	Yes – larger woodlands associated with the adjacent PSW and ANSI may support Canada Warbler
Parkesia motacilla	Louisiana Waterthrush	THR	---	S2B	OBBA	Prefers wooded ravines with running streams; also woodlands swamps; large tracts of mature deciduous or mixed forests; canopy cover is essential; has strong affinity to nest sites; nests on ground.	Yes – wooded swamp associated with the adjacent ANSI and PSW may support this species

Scientific Name	Common Name	SARA Status[1]	SCA Status[2]	SRank[3]	Information Source[4]	Habitat Requirements	Potential Habitat in the Study Area Rationale
Vermivora chrysoptera	Golden-winged Warbler	THR	---	S4B	OBBA	Early successional habitat; shrubby, grassy abandoned fields with small deciduous trees bordered by low woodland and wooded swamps; alder bogs; deciduous, damp woods; shrubbery clearings in deciduous woods with saplings and grasses; brier-woodland edges; requires >10 ha of habitat.	No – early successional habitat was not observed
Ixobrychus exilis	Least Bittern	THR	---	S4B	NHIC	Deep marshes, swamps, bogs; marshy borders of lakes, ponds, streams, ditches; dense emergent vegetation of cattail, bulrush, sedge; nests in cattails; intolerant of loss of habitat and human disturbance.	No – marsh habitats are small in size and cattail is not abundant
Erynnis martialis	Mottled Duskywing	END	END	S2	OBA	The mottled duskywing tends to live in dry habitats with sparse vegetation. These include open barrens, sandy patches among woodlands, and alvars. In Ontario, the mottled duskywing will only deposit their eggs on two closely-related plants: New Jersey Tea and Prairie Redroot.	No – Suitable habitat and host plants were not observed in Study Area
Trichophorum planifolium	Few-flowered Club-rush	END	END	S1	MNRF Reg. Habitat	Steep slopes of oak forests. In Ontario, it grows at just two sites, at the Royal Botanical Gardens near Hamilton and Rouge Park in Toronto.	No – oak forests were not observed
Cornus florida	Eastern Flowering Dogwood	END	END	S2?	MNRF Reg. Habitat	Grows under taller trees in mid-age to mature deciduous or mixed forests. It most commonly grows on floodplains, slopes, bluffs and in ravines, and is also sometimes found along roadsides and fencerows.	Yes – mixed forest may support this dogwood species
Juglans cinerea	Butternut	END	END	S2?	NHIC, Dillon	Usually grows alone or in small groups in deciduous forests. It prefers moist, well-drained soil and is often found along streams. It is also found on well-drained gravel sites and rarely on dry rocky soil. This species does not do well in the shade and often grows in sunny openings and near forest edges.	Yes – species may be present along forest edges and within the greater woodlands associated with the ANSI
Melanerpes erythrocephalus	Red-headed Woodpecker	END	--	S3	OBBA	Open, deciduous forest with little understory; fields or pasture lands with scattered large trees; wooded swamps; orchards, small woodlots or forest edges; groves of dead or dying trees; feeds on insects and stores nuts or acorns for winter; loss of habitat is limiting factor; requires cavity trees with at least 40cm dbh; require about 4 ha for a territory.	Yes – mixed forest and deciduous woodland may support Red-headed Woodpecker
Sturnella magna	Eastern Meadowlark	THR	---	S4B	CBC, OBBA	open, grassy meadows, farmland, pastures, hayfields or grasslands with elevated singing perches; cultivated land and weedy areas with trees; old orchards with adjacent, open grassy areas >10 ha in size.	No – grasslands present in the Study Area are small and unlikely to support breeding meadowlark
Myotis lucifugus	Little Brown Myotis	END	END	S4	MWH	Uses caves, quarries, tunnels, hollow trees or buildings for roosting; winters in humid caves; maternity sites in dark warm areas such as attics and barns; feeds primarily in wetlands, along waterways, forest edges, and in gaps in the forest. Large open fields or clearcuts generally are avoided.	Yes – cavity trees may be present in the adjacent woodland that could support roosting bats
Myotis septentrionalis	Northern Myotis	END	END	S3	MWH	Hibernates during winter in mines or caves; during summer males roost alone and females form maternity colonies of up to 60 adults; roosts in houses, manmade structures but prefers hollow trees or under loose bark; hunts within forests, below canopy.	Yes – cavity trees may be present in the adjacent woodland that could support roosting bats

Scientific Name	Common Name	SARA Status[1]	SCA Status[2]	SRank[3]	Information Source[4]	Habitat Requirements	Potential Habitat in the Study Area Rationale
Pipistrellus subflavus	Tri-colored Bat	END	END	S3?	MWH	Can be found in a variety of forested habitats. They form day roosts and maternity colonies in older forest and occasionally in barns or other structures and overwinter in caves. They forage over water and along streams in the forest.	Yes – cavity trees may be present in the adjacent woodland that could support roosting bats
Urocyon cinereoargenteus	Gray Fox	THR	THR	S1	MWH	Hardwood forests with a mix of fields and woods; swamps; wooded, brushy or rocky habitats; woodland farmland edge; old fields with thickets; dens in hollow log or tree; individual has numerous winter dens throughout its range which is > 40 ha.	No – Gray Fox is only known to occur in a few small populations and its documented range does not extend to the Study Area
Emydoidea blandingii	Blanding's Turtle	THR	THR	S3	OHA, NHIC	Shallow water marshes, bogs, ponds or swamps, or coves in larger lakes with soft, muddy bottoms and aquatic vegetation; basks on logs, stumps, or banks; surrounding natural habitat is important in summer as they frequently move from aquatic habitat to terrestrial habitats; hibernates in bogs; not readily observed.	Yes – adjacent PSW may support Blanding's Turtle
Ambystoma jeffersonianum	Jefferson Salamander	END	END	S2	OHA, MNRF Reg. Habitat	This species resides in deciduous or mixed upland forests containing or adjacent to suitable breeding ponds, which are used for spring breeding and larval development. Breeding ponds are typically ephemeral/vernal pools that dry in late summer and are free of predatory fish. These seasonal pools must contain suitable attachment sites for egg masses, such as twigs or submerged vegetation. Most of their lives are spent in their terrestrial habitat, on the forest floors under cover habitat, including logs, stumps, woody debris as well as small animal burrows or rock fissures (beneath the frost line), all of which supports summering and overwintering habitat for mature adults. This species will move form their forested habitat in the early spring to deposit their eggs in the aquatic habitat, returning to their forested habitat by late spring/summer. Adults may travel as much as one kilometre from breeding sites.	Yes – adjacent mixed forest may have vernal pools that could support Jefferson Salamander