



Enbridge Gas Inc.

Environmental Report

2025 Waubuno Well Drilling Project

December 2024, Rev. 0 – 24-8218

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Acronyms and Abbreviations

Abbreviation	Definition
AAQC	Ambient Air Quality Criteria
ANSI	Area of Natural and Scientific Interest
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CHVI	cultural heritage value or interest
DSA	Designated Storage Area
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 Gas	Enbridge Gas Inc.
EPP	Environmental Protection Plan
ER	Environmental Report
ESA	<i>Endangered Species Act</i>
GHG	greenhouse gas
HIA	Heritage Impact Assessment
HVA	Highly Vulnerable Aquifer
IPZ	Intake Protection Zone
LIO	Land Information Ontario
masl	metres above sea level
mbgs	metres below ground surface
MBCA	<i>Migratory Birds Convention Act</i>
MCM	Ministry of Citizenship and Multiculturalism
MECP	Ministry of the Environment, Conservation and Parks
MMAH	Ministry of Municipal Affairs and Housing
MNR	Ministry of Natural Resources
MOEE	Ministry of Energy and Electrification
NHIC	Natural Heritage Information Centre
NRCan	Natural Resources Canada
NPS	Nominal Pipe Size
O. Reg.	Ontario Regulation
OEB	Ontario Energy Board

Abbreviation	Definition
OEB Guidelines	Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023)
OGS	Ontario Geological Survey
OHT	Ontario Heritage Trust
OMAFRA	Ontario Ministry of Agriculture, Food and Agribusiness
OPCC	Ontario Pipeline Coordinating Committee
<i>OWRA</i>	<i>Ontario Water Resources Act</i>
PTTW	Permit to Take Water
SAR	Species at Risk
<i>SARA</i>	<i>Species at Risk Act</i>
SARO	Species at Risk in Ontario (List)
SCC	Species of Conservation Concern
SCN	Soybean cyst nematode
SCRCA	St. Clair Region Conservation Authority
SWH	Significant Wildlife Habitat
the Project	2025 Waubuno Well Drilling Project
the Study	environmental and cumulative effects assessment
TMHC	TMHC Inc.
WHPA	Well Head Protection Area

Executive Summary

Enbridge Gas Inc. (Enbridge Gas) retained Dillon Consulting Limited (Dillon) to conduct an environmental and cumulative effects assessment (the Study) for the 2025 Waubuno Well Drilling Project (the Project), located in Lambton County, Ontario. Pre-construction activities on the proposed access road and drilling pad are planned to begin as early as Fall 2024 and drilling construction and pipeline installation is planned to begin in Spring 2025.

The Project will involve the drilling of one new natural gas storage well and installation of approximately 100 metres of nominal pipe size (NPS) 8-inch lateral natural gas pipeline in the Waubuno Designated Storage Area (DSA). The proposed well and pipeline location is approximately 650 metres southwest of the intersection of Telfer Road and Oil Springs Line in the Township of St. Clair. Project activities will commence with the construction of a temporary gravel drilling pad measuring up to 60 metres by 100 metres. Upon completion of drilling activities, a permanent gravel pad measuring 8 metres by 12 metres will be installed around the well and the new natural gas pipeline will be installed.

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

Stakeholder engagement and Indigenous consultation are an important component of the Project. Early and frequent consultation with directly and indirectly affected Indigenous communities, property owners, government agencies, and the public was an integral part of the Study.

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 construction and operation. The location of the proposed storage well and other Project components was selected based on the location of the DSA, environmental and socio-economic concerns, as well as technical and economic feasibility requirements. The Project components are sited in rural

agricultural land, previously disturbed by agricultural activities, which greatly reduces the potential for adverse effects to the natural environment.

Included in this report are recommended mitigation measures to reduce the potential adverse effects of the Project. These measures will be incorporated into the forthcoming Environmental Protection Plan and Well Drilling Program, and are anticipated to effectively protect the physical, natural, and socio-economic features located in the Project Study Area. With the implementation of the mitigation measures recommended in this report, Dillon does not anticipate any significant adverse effects from construction and operation of the Project.

1.0 Introduction

Enbridge Gas Inc. (Enbridge Gas) retained Dillon Consulting Limited (Dillon) to conduct an environmental and cumulative effects assessment (the Study) for the proposed 2025 Waubuno Well Drilling Project (the Project), located in Lambton County, Ontario. Pre-construction activities on the access road and drilling pad are planned to begin as early as Fall 2024 and drilling and installation of the pipeline are planned to begin in Spring 2025. It is anticipated that work will be completed by the end of 2025 and construction will be non-continuous over this period.

1.1 Description of the Project

The Project will involve the drilling of one new natural gas storage well and installation of approximately 100 metres of nominal pipe size (NPS) 8-inch lateral natural gas pipeline in the Waubuno Designated Storage Area (DSA)¹.

The proposed well and pipeline location is approximately 650 metres southwest of the intersection of Telfer Road and Oil Springs Line in the Township of St. Clair. Project activities will commence with the construction of a temporary gravel drilling pad measuring up to 60 metres by 100 metres. Upon completion of drilling activities, a permanent gravel pad measuring 8 metres by 12 metres will be installed around the well and the new natural gas pipeline will be installed.

An overview of the Project is shown in **Figure 1**.

¹ Area of land designated by the Ontario Energy Board under section 36.1(1)(a) of the *Ontario Energy Board Act*, which contains geological formations suitable for the storage of natural gas underground.

Figure 1: Project Overview



2025 Waubuno Well Drilling Project

ENBRIDGE GAS
ENVIRONMENTAL REPORT

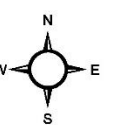
PROJECT OVERVIEW

FIGURE 1

- Study Area (125m)
- Project Footprint (30m)
- Proposed Natural Gas Storage Well
- Waubuno Designated Storage Area
- Proposed Permanent Pad (approx. 8m by 12m)
- Proposed Temporary Pad (approx. 60m by 100m)
- Proposed Permanent Access Road (approx. 6m wide)
- Proposed Lateral Pipeline (approx. 100 m)
- Road

SCALE 1:2,500

0 25 50 100 Meters



MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR, ESRI BASEMAPS, DILLON CONSULTING LIMITED,
ENBRIDGE GAS INC.

MAP CREATED BY: RB/AEE
MAP CHECKED BY: KG
MAP PROJECTION: NAD 1983 CSRS UTM Zone 17N



PROJECT: 24-8218
STATUS: FINAL
DATE: 2024-09-16

FILE LOCATION: K:\2024\24R218\Project\Client\EnvironmentalReport\EnvironmentalReport\EnvironmentalReport.aprx

1.2 Project Purpose and Rationale

The natural gas storage well will inject or withdraw natural gas, as needed, throughout its operation. During periods of low demand, natural gas will be injected into storage and withdrawn from storage during periods of peak demand. The Project is needed to replace the deliverability lost in the Waubuno Storage Pool due to well relines and abandonments and contribute to the continued safe and reliable delivery of natural gas to existing and future Enbridge Gas customers.

1.3 Environmental and Cumulative Effects Assessment

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

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

For the Project to proceed, a favourable report from the OEB to the Minister of Natural Resources is required, pursuant to section 40(1) of the *OEB Act*. The OEB serves as a regulatory body to protect the public interest, to determine that the Project is necessary, and to ensure that Enbridge Gas obtains the necessary approvals to meet health, safety, and environmental standards and regulations. The OEB Guidelines requires that Enbridge Gas complete an ER, which includes an environmental assessment of the proposed works.

Prior to filing the ER with the OEB, a draft copy of the report was submitted to the Ontario Pipeline Coordinating Committee (OPCC) for review and comment. The OPCC coordinates the Ontario government's review of natural gas facility projects that require OEB approval. The OPCC's goal is to reduce adverse environmental effects that could arise from projects by reviewing environmental reports. During the OPCC review process, the draft ER was also circulated to Indigenous communities, municipalities, and the local conservation authority, and landowners directly or indirectly impacted by the Project, and community members, if requested. The aim of the draft ER circulation is to resolve all outstanding issues prior to submission of an application to the OEB.

The OEB will review the ER for the Project (including details of engagement and consultation) as part of the proceeding to obtain a well drilling licence under section 40(1) of the *OEB Act*. Once the Ministry of Natural Resources (MNR) refers the well drilling licence applications to the OEB for a report, the OEB may order a written or oral hearing based upon the complexity of the Project and the level of public concern. During the hearing, any party with an interest in the Project may apply to the Board to become 'intervenor' or 'interested parties' in order to participate in the decision-making process. Following their review of the application, the OEB will determine whether the Project is in the public interest.

For the Project to proceed, Enbridge Gas will also submit a Well Drilling Licence Application to the MNR. Submission of the Final ER to the OEB and Application submission to the MNR is planned for December 2024. Pre-construction activities on the proposed access road and temporary well drilling pad will begin as early as Fall 2024. Other activities, including drilling of the proposed well and installation of the pipeline, are anticipated to begin in Spring 2025 once the well drilling licence and other approvals have been obtained.

1.4.2

Other Potential Permits, Approvals, or Notifications

In addition to MNR and OEB approval, other regulatory (federal, provincial, and municipal) approvals, permits, and notifications may be required for the Project, as shown in **Table 1-1**. An appropriate amount of time should be scheduled to obtain necessary permits and approvals prior to construction.

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

Agency	Legislation, Regulation, or Standard	Permit, Approval, or Notification
Environment and Climate Change Canada (ECCC)	<p><i>Species at Risk Act, 2002 (SARA) (SC 2002, c. 29)</i></p> <p><i>Migratory Birds Convention Act, 1994 (MBCA) (SC 1994, c. 22)</i></p>	<p>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 and 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.</p> <p>See Section 4.0 of this report for more information on federally-listed SAR species with the potential to occur in the Project study area.</p>
Ministry of the Environment, Conservation and Parks (MECP)	<p><i>Endangered Species Act, 2007 (ESA) (SO 2007, c. 6) and Ontario Regulation (O. Reg.) 242/08</i></p>	<p>A permit or approval is required for activities that may affect provincially listed SAR (Endangered or Threatened) and/or their habitat.</p> <p>See Section 4.0 of this report for more information on provincially-listed SAR with the potential to occur in the Project study area.</p>
MECP	<p><i>Ontario Water Resources Act (OWRA) (RSO 1990, c. O.40) and O. Reg. 387/04: Water Taking Regulation</i></p>	<p>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) but less than 400,000 L/day. A Permit to Take Water (PTTW) will be required if water taking is greater than 400,000 L/day.</p>

Agency	Legislation, Regulation, or Standard	Permit, Approval, or Notification
MECP	<i>Environmental Protection Act, R.S.O. 1990, c. E.1: On-Site and Excess Soil Management</i> O. Reg. 406/19	Applies to all construction projects that involve generation of soil, on-site soil management, and/or import of soil other than virgin material including from a pit or quarry licensed under the <i>Aggregated Resources Act</i> . The Project will follow the framework for the excavation, removal, transport, and management of excess soils, as defined in Ontario Regulation 406/19.
Ministry of Citizenship and Multiculturalism (MCM)	<i>Ontario Heritage Act (RSO 1990, c. O.18)</i>	<p>Archaeological Resources</p> <p>Archaeological assessment(s) are required for areas of archaeological potential. Archaeological concerns have not been addressed until MCM's letter has been received indicating that all reports have been entered into the Ontario Public Register of Archaeological Reports and those reports recommend that:</p> <ul style="list-style-type: none"> • The archaeological assessment of the Study Area is complete; and • All archaeological sites identified by the assessment are either of no further cultural heritage value or interest (CHVI) (as per Section 48(3) of the <i>Ontario Heritage Act</i>) or that mitigation of impacts has been accomplished through an excavation or avoidance and protection strategy. <p>A Stage 1 archaeological assessment (AA) (under Project Information Form (PIF) P1048-0164-2024) dated July 12, 2024 and undertaken by TMHC Inc. (TMHC), was entered into the Ontario Public Register of Archaeological Reports and is included in Appendix A-1.</p>

Agency	Legislation, Regulation, or Standard	Permit, Approval, or Notification
		<p>A Stage 2 AA (under PIF P1048-0165-2024) dated October 22, 2024 and undertaken by TMHC, was entered into the Public Register of Archaeological Reports and is included in Appendix A-2.</p> <p>Built Heritage Resources and Cultural Heritage Landscapes</p> <p>A Cultural Heritage Screening - Technical Memorandum (dated July 3, 2024) by TMHC (included in Appendix B-1) was undertaken for the Project. The Cultural Heritage Screening Memorandum did not identify any known or potential heritage concerns with the Project Study Area and, as a result, no further heritage studies are recommended.</p> <p>See Section 4.4.5 of this report for more information on cultural heritage resources.</p>
St. Clair Region Conservation Authority (SCRCA)	Development and Instructure Permits under the <i>Conservation Authorities Act</i> (RSO 1990, c. C.27) and O. Reg. 41/24 <i>Prohibited Activities, Exemptions and Permits</i>	SCRCA regulation mapping (2024) confirmed that approximately 1.9 hectares of the Project Footprint occur in lands regulated by the SCRCA in an area regulated under O. Reg. 41/24 (SCRCA, 2024). Enbridge Gas obtained a SCRCA permit for the Project (issued October 16, 2024; Reference No.: R#2024-0648).
Township of St. Clair	Noise Control By-Law (No. 44 of 2014)	Project activities should adhere to St. Clair Township Noise Control By-Law. A Noise By-law Exemption is required if construction noises will occur outside of the allowable hours identified in the By-law (for example, between 8:00 pm and 7:00 am)

Agency	Legislation, Regulation, or Standard	Permit, Approval, or Notification
Township of St. Clair	Idling Control By-Law (No. 48 of 2018)	Project activities should adhere to Township of St. Clair Idling Control By-Law which states that no person shall permit a vehicle or engine to idle continuously for more than one minute. Exemptions under section 3.1 of the By-Law are given for work vehicles which must remain in operation, provided the work vehicle is engaged in its basic work function.
Township of St. Clair	Waste Collection Regulations	Project activities should adhere to the Township of St. Clair Waste Collection Regulations which states that all hazardous waste and all construction materials should be properly disposed of at an appropriate waste facility and are not acceptable refuse for municipal garbage collection.
Township of St. Clair	Comprehensive Parking By-Law (No. 21-2024)	Project activities should adhere to the Township of St. Clair Comprehensive Parking By-law for the parking of construction vehicles on local roads.

2.0 Study Process

The Study process followed two main steps:

- Identification of Study Area and Environmental Inventory; and
- Effects Assessment and Proposed Mitigation Measures.

Stakeholder engagement and Indigenous consultation was conducted throughout the Study (see **Section 3.0**). The Study process is described in further detail in the following subsections.

2.1 Study Methods

The Study methods were designed to achieve the following objectives:

- Select a Study Area;
- Collect data on the physical, natural, and socio-economic environment to evaluate the potential effects related to the proposed natural gas storage well and associated infrastructure (for example, the access road and temporary and permanent well drilling pad);
- Provide opportunities for Indigenous communities, agencies, potentially-affected landowners, and the general public to comment on the Project;
- Identify and recommend environmental protection and mitigation measures to be implemented during construction; and
- The Study was conducted between May 2024 and September 2024.

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 by applying a 125-metre buffer from the Project components as, based on Dillon's experience on projects of similar size and scope, this area was determined to be most likely to be directly or indirectly affected by the Project (**Figure 1**). The 125-metre buffer includes the Project Footprint, encompassing the Project components as well as the temporary workspaces that will be required for Project construction. Beyond this 125-metre buffer, the potential environmental, cultural, and socio-economic effects of the Projects are predicted to be non-detectable.

During the initial phase of the Study, the Project team also identified the boundaries of the Project Footprint by applying a 30-metre buffer from the Project components. This 30-metre buffer encapsulates the area that will be occupied by permanent Project components, as well as additional area that may be used by Enbridge Gas as a temporary workspace. For the purposes of this assessment, the Project Footprint can be considered the area most likely to be directly affected by the Project.

Dillon used the 125-metre Study Area to determine the existing conditions and potential impacts to the physical, natural, and socio-economic environment. The boundaries of the Project Footprint were used to refine the assessment and more accurately determine direct effects and recommended mitigation measures.

A physical, natural, and socio-economic environment constraints inventory and a features mapping exercise was conducted. The features were mapped based on both primary and secondary sources, including data collected through site reconnaissance activities, contacts with local, provincial, and federal agencies, and discussions with stakeholders. In accordance with the OEB Guidelines and based on Dillon's experience conducting studies of a similar nature, the mapping generally included 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, Enbridge Gas, 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 evaluation and for assessing the potential adverse effects resulting from construction and operation of the Project.

To confirm potential adverse effects on directly affected Indigenous communities, stakeholders, and landowners, Dillon undertook a field program that encompassed walking along the proposed access road and pipeline alignment and walking within the agricultural field where the storage well and pad will be constructed.

Primary and secondary source data was collected and used to develop the physical, natural, and socio-economic environment baseline setting for the Project. Primary sources include data collected 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 agencies and

stakeholders. Proper record-keeping practices were exercised to maintain data and results for future use. A list of key secondary sources is included in **Table 2-1**. Secondary sources reviewed as part of the Stage 1 AA and Cultural Heritage Screening - Technical Memorandum are included in **Appendix A-1** and **Appendix B-1**, respectively.

Table 2-1: Key Data Records and Sources

Source	Records Reviewed
Provincial	
Land Information Ontario (LIO) (MNR 2024a)	<ul style="list-style-type: none"> Interactive Online Mapping Tool (accessed June 2024)
Natural Heritage Information Centre (NHIC) (MNR 2023)	<ul style="list-style-type: none"> GIS database of occurrence records for natural heritage features. Uses 1-kilometre squares based on the military grid reference system. Reviewed to determine historical occurrence records of: <ul style="list-style-type: none"> Species of Conservation Concern (SCC) and SAR; Rare and exemplary plant communities; Wildlife concentration areas; and Natural areas. NHIC 1-kilometre squares reviewed: 17LH9237, 17LH9337
O. Reg. 230/08 (Species at Risk in Ontario [SARO] List)	<ul style="list-style-type: none"> Reviewed to confirm status of SAR/SCC
Significant Wildlife Habitat Eco-region 7E Criterion Schedules (MNR 2015)	<ul style="list-style-type: none"> Reviewed to assess potential for significant wildlife habitat within the Study Area
Federal	
SAR Public Registry (Government of Canada 2024a)	<ul style="list-style-type: none"> Schedule 1 of SARA reviewed to confirm status of SAR/SCC
Fisheries and Oceans Canada (DFO)	<ul style="list-style-type: none"> Aquatic SAR Map
Conservation Authority	
SCRCA (2018)	<ul style="list-style-type: none"> Watershed Report Card for Lower Bear Creek

Source	Records Reviewed
Wildlife Atlases	
Atlas of the Mammals of Ontario (Dobbyn 1994) and Mammals of the Western Hemisphere (NatureServe 2007)	<ul style="list-style-type: none"> Distribution data for mammals overlapping the Study Area.
Ontario Breeding Bird Atlas (Cadman et al. 2007)	<ul style="list-style-type: none"> Breeding bird historical occurrence records for the 10-kilometre grid squares overlapping the Study Area: 17LH9237 and 17LH9337
Ontario Reptile and Amphibian Atlas (Ontario Nature 2024)	<ul style="list-style-type: none"> List of reptile and amphibian species occurrences for the 10-kilometre grid squares overlapping the Study Area: 17LH9237 and 17LH9337
Ontario Moth Atlas (Toronto Entomologists' Association 2020)	<ul style="list-style-type: none"> Lepidoptera historical occurrence records for the 10-kilometre grid squares overlapping the Study Area: 17LH9237 and 17LH9337
Ontario Butterfly Atlas (Toronto Entomologists' Association 2022)	<ul style="list-style-type: none"> Lepidoptera historical occurrence records for the 10-kilometre grid squares overlapping the Study Area: 17LH9237 and 17LH9337
Planning and Policy	
Provincial Policy Statement (Ministry of Municipal Affairs and Housing [MMAH] 2020)	<ul style="list-style-type: none"> Policy directions related to infrastructure development and the environment
County of Lambton Official Plan (last consolidated 2020)	<ul style="list-style-type: none"> Policy directions related to infrastructure development and the environment
Township of St. Clair Official Plan (2011) (last consolidated 2023)	<ul style="list-style-type: none"> Policy directions related to infrastructure development and the environment Land use designations (various) – refer to Schedule A (2011) (last consolidated 2023)
Township of St. Clair Zoning By-Law (No. 17 of 2003)	<ul style="list-style-type: none"> Implements the objectives and policies of the municipality's official plan

2.1.2

Effects Assessment and Proposed Mitigation Measures

The next step in the Study process involved an assessment of the potential effects of the Project on the physical, natural, and socio-economic environment, along with the identification of mitigation measures. 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 (that is, residual effects), including the significance of combined effects (where applicable).

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

- Construction – approximate duration of 1 year (non-continuous), from ground preparation to construction of the access road and temporary pad, to well drilling, construction of the permanent pad, construction of the pipeline, and clean-up and testing; and
- Operations and Maintenance – begins following the operational date of the natural gas storage well and extends for the useful life of the well and pipeline (typically 40+ years).

The methods for the cumulative effects assessment are described in **Section 7.0**.

2.1.2.1

Criteria for Characterizing Residual Effects

The qualitative criteria defined in **Table 2-2** were used to characterize residual effects (an environmental effect of a Project that remains, or is predicted to remain, after mitigation measures have been implemented) and assess the likelihood of a significant effect.

Table 2-2: Characterization Criteria for Evaluation of Significance

Assessment Criteria	Rating and Definition
Duration	<ul style="list-style-type: none"> • Immediate – Effect is limited to 2 days or less. • Short-term – Effect is limited to the construction phase or any 1 year during the life of the natural gas storage well. • Medium-term – Effect extends into the operations phase of the natural gas storage well for up to 10 years. • Long-term – Effect extends into the operations phase of the natural gas storage well for more than 10 years, but ceases before or upon decommissioning or abandonment. • Extended-term – Effect extends beyond decommissioning or abandonment of the Project.

Assessment Criteria	Rating and Definition
Frequency	<ul style="list-style-type: none"> • 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 (for example, during construction). • Occasional – Effect occurs intermittently and sporadically over the assessment period. • Periodic – Effect occurs intermittently but repeatedly over the assessment period. • Continuous – Effect occurs regularly throughout the assessment period.
Reversibility	<ul style="list-style-type: none"> • Reversible – Effect is reversible to pre-construction or equivalent conditions. • Irreversible – Effect is permanent.
Magnitude	<ul style="list-style-type: none"> • 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. • 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 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 all 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 or extended-term residual effect of high magnitude that has a high probability of occurrence and cannot be technically or economically mitigated.

2.1.2.3 Identification of Mitigation Measures

Mitigation measures for construction and well drilling activities were identified which will conform to the American Petroleum Institute for industry standards for wellhead design, relevant permitting authority and regulatory requirements, and industry standards. The mitigation measures will be incorporated in the forthcoming Environmental Protection Plan (EPP) and Well Drilling Program being developed for the Project. The development of the mitigation measures 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**.

2.1.2.4 Project Activities Considered in the Effects Assessment

Enbridge Gas plans to begin pre-construction activities on the proposed access road and temporary well drilling pad as early as Fall 2024 and have Project construction completed by the end of 2025. Construction will involve specific steps that may have physical, natural, and socio-economic environmental effects. These steps are described below and depicted in **Appendix C**.

- **Site Preparation** – Site preparation is the first step of the construction process. It involves: staking or marking the location of the proposed access road, proposed temporary pad, natural gas well, and pipeline; identifying where other utilities are located; clearing vegetation (limited to the shoulder of the gravel laneway); tree pruning (select pruning to allow for the safe passage of vehicles); sweeping for wildlife; installing dual-purpose sediment and wildlife exclusion fencing; and grading to allow for the movement of equipment and preparation of workspaces. In vegetated areas and on agricultural land, topsoil will be stripped and stored in piles until construction is complete. After construction, topsoil will be replaced in temporary work areas and any remaining topsoil that cannot be replaced where

permanent facilities are installed, will be placed for re-use according to landowner instructions or removed from site in accordance with O. Reg. 406/19.

- Pre- Construction Activities – Once prepped, construction will start with the permanent access road and temporary gravel drill pad. The access road will be approximately 6 metres wide and approximately 100 metres in length and the temporary pad will be approximately 60 metres by 100 metres. To install the new access road and temporary pad, topsoil will be excavated and crushed gravel will be placed on top of geotextile material. These construction activities are proposed to commence in as early as Fall 2024.
- Well Drilling Activities – The new natural gas well will then be drilled with a rotary rig (which is essentially a rotating drill bit). This method of drilling will involve the removal of drill cuttings via injection fluid. The well will be drilled from surface to the planned total depth (approximately 640 metres below ground surface [mbgs]). It is a sequential operation that involves drilling holes, running casing, and cementing the hole in place from larger to smaller diameters. The casing set depth selection process is designed to protect the environment. The surface casing sections protect the water bearing zones and the intermediate and production casings isolates the gas zones.
- Installation of a Permanent Pad – Once the well is installed, the temporary pad will be reduced in size by removing excess crushed gravel and the underlying geotextile cloth and replacing the stockpiled topsoil. The remaining area is the permanent graveled well pad that will be approximately 8 metres by 12 metres in size. It is anticipated that well drilling activities, including pad construction, will take approximately 4 to 8 weeks (continuous) and will occur continuously until the approximate depth is achieved.
- Installation of the Proposed Pipeline – Pipeline construction will involve the general steps of pipe delivery and preparation, joining of pipe sections, trenching, lowering of the pipe, and backfilling. Construction of the pipeline (ground preparation to clean-up and testing) will occur over an approximate duration of to 2 to 3 months.
 - Pipe Delivery and Pipe Preparation – Trucks will deliver sections of the pipe and the construction crew will lay out or string sections of the pipe along the proposed route.
 - Joining Pipe Sections – Pipe sections are then welded into one long piece, following the contour of the land. X-rays and visual inspections will be

- undertaken to confirm the integrity of the joints. Where welded joints are required, the welded joints are coated.
- Trenching – The pipeline will be installed via open trench. Backhoes, excavators, or other machinery are used to dig the trench along the staked or marked points.
 - Lowering the Pipe – Crews use side booms or cranes to lower the pipe into the trench.
 - 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 is repaired and restored (i.e., areas disturbed within the agricultural field will be restored or reseeded according to landowner preference).
 - Testing – An American Petroleum Institute pressure rated wellhead will be installed along with telemetry to control the flow of gas into and out of the underground storage formation. Following installation, the wellhead will be tested in accordance with applicable regulatory requirements. 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.
 - Clean-up – The construction area is then carefully cleaned up after the well is installed and tested and construction activities are complete. All construction material and equipment will then be removed. A final grading of the area will be done followed by excess soil removal. Enbridge Gas will complete any reclamation work necessary following construction.

Activities during operations and maintenance phase include, but are not limited to, periodic site visits, periodic integrity assessment related activities, vehicle use, remote surveillance, and monitoring.

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 information presented in **Section 4.0**

provides the context and rationale for these 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
Surficial Geology and Soils	Y	N
Bedrock	Y	N
Groundwater	Y	Y
Atmospheric Environment	Y	N
Aquatic Environment	N	N
Wetlands	N	N
Areas of Natural and Scientific Interest and Other Environmentally Significant Areas	N	N
Vegetation	Y	N
Wildlife and Wildlife Habitat	Y	N
Species at Risk	Y	Y
Planning Policies	N	N
Existing and Planned Land Use	N	N
Population, Employment, and Economic Activities	N	N
Human Occupancy and Resource Use	Y	Y
Infrastructure and Services	Y	N
Indigenous Community Land and Resource Use	N	N
Cultural Heritage Resources	Y	N

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; and
- Integrate information received into the decision-making process.

To achieve these objectives, the following methods were utilized:

- Identification of key community members, including the local conservation authority, utility companies, government agencies, as well as directly and indirectly impacted landowners;
- Preparation and completion of a stakeholder engagement program (Section 3.0);
- The provision of key Project information to Indigenous communities identified in the Duty to Consult delegation letter from the Ministry of Energy and Electrification (MOEE);
- Circulation of notices via Canada Post to approximately 10 residents within the Waubuno DSA which informed recipients of the upcoming Project, the Study, and the virtual public information session;
- Advertisement of the Project in a local newspaper (The Independent of Petrolia and Central Lambton) prior to the virtual public information session;
- One virtual public information session to present the Project and facilitate public and stakeholder participation;
- Provision of Project information and updates via the Enbridge Gas website;
- Receipt of, and response to public input through letters, e-mails, and phone calls;
- Analysis of Project comment forms from the virtual public information session; and
- Circulation of information at key points in the process to Indigenous communities and all stakeholders including municipal governments, government agencies, residents, and other interested parties.

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

3.0 Stakeholder Engagement and Indigenous Consultation

This section provides an overview of the consultation and engagement activities undertaken as part of the Study.

3.1 Objectives

The objectives of the consultation and engagement program were to:

- Inform potentially affected Indigenous communities as well as government agencies, landowners, and community members about the Project;
- Recognize Aboriginal and Treaty Rights;
- Seek and facilitate the involvement of potentially affected individuals, agencies, and organizations;
- Make all reasonable efforts to identify the interests and meet the needs of participants;
- Provide participants with the information they require to engage in a meaningful way;
- Consider participants' issues or 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 (for example, Project design and review and approval decisions).

3.2 Consultation Activities

From the outset, and throughout the Study process, Enbridge Gas emphasized the importance of consulting with Indigenous communities, and engaging government agencies, area residents, and community members. Stakeholder and Indigenous engagement and consultation 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, Enbridge Gas' consultation

objectives, Enbridge Gas's Indigenous Peoples Policy, as well as the legal duty to consult with Indigenous communities.

3.2.1 Contact List

As part of the engagement and consultation process, a list of regulatory agencies was compiled using a variety of sources, including government listings (for example, the MECP's Environmental Assessment Government Review Team Master Distribution List and the OEB's OPCC Members List), previous studies completed in the area and online sources.

A contact list was then developed that divided the groups into the following categories:

- Indigenous communities;
- Federal and Provincial Elected Officials;
- Federal Agencies;
- Provincial Agencies, including the OPCC, and local Conservation Authority (SCRCA);
- Municipal Agencies and Elected Officials; and
- Landowners within and directly adjacent to the Project location and DSA.

A copy of the Project's Contact List is provided in **Appendix D-1**.

3.2.2 Project Webpage and Project Email

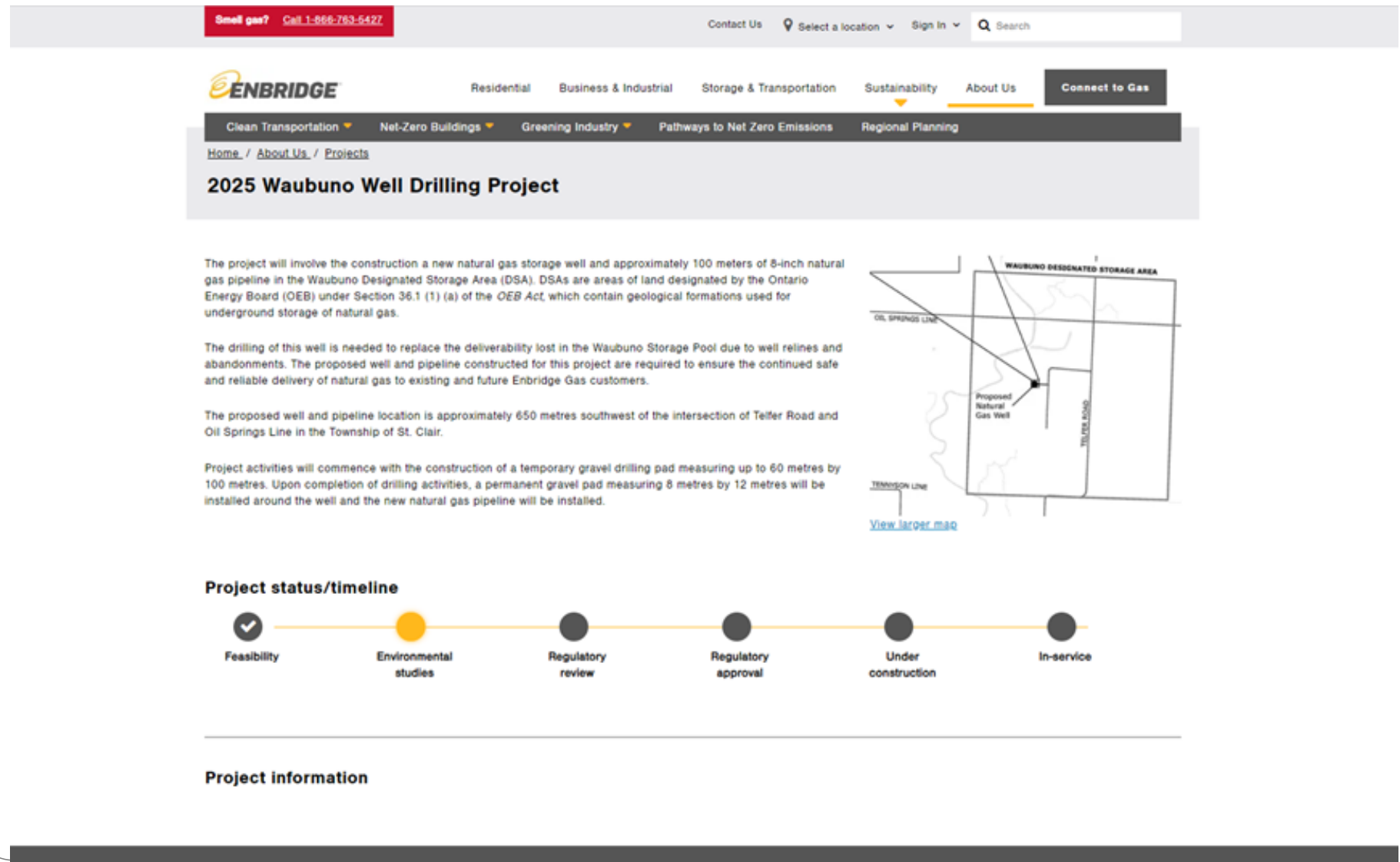
In order to make information accessible to as many groups as possible, Enbridge Gas created a Project-specific webpage. All materials presented at the virtual public information session, in Project notices, and Project reports were (or in the case of the ER, will be) posted on the Project webpage at www.enbridgegas.com/2025WellProject. By including all information in an accessible, downloadable format, Enbridge Gas provided a simple and expeditious method of communicating with stakeholders.

Dillon also hosted a separate Project webpage to facilitate the virtual public information session; further details on the virtual public information session and associated webpage are provided in **Section 3.2.5**.

In addition to the Project webpage, a Project-specific email (2025WaubunoWellProject@dillon.ca) was created by Dillon and used to communicate directly with stakeholders. The Project-specific email will be monitored, and emails will continue to be responded to throughout the OEB process and until substantial construction on the Project is complete.

The final ER will be posted on the Enbridge Gas Project webpage in an accessible, downloadable format once it has been submitted to the OEB for review. **Image 1** shows a snapshot of the Enbridge Gas Project webpage.

Image 1: Snapshot of Enbridge Gas Project Webpage



3.2.3 Project Notices

3.2.3.1 Notice of Upcoming Project

A Notice of Upcoming Project was mailed to select agency representatives (such as members of the OPCC and SCRCA) prior to the commencement of the Study on May 17, 2024. The intent of the notice was to begin engagement as early as possible, inform recipients of the upcoming Project, and gather initial comments and questions on the Project. It provided a high-level summary of construction and well drilling activities and the MNR and OEB review process. A copy of the Notice of Upcoming Project is provided in **Appendix E**.

3.2.3.2 Notice of Commencement

A Notice of Study Commencement and Virtual Public Information Session (Notice of Commencement) was created for the Project which provided a map of the Project and a high-level summary of construction and well drilling activities. The Notice of Commencement was emailed to identified Indigenous communities, and select agency representatives (members of the OPCC, SCRCA, Bluewater Power, Hydro One Networks Inc. [HONI], Infrastructure Ontario) and municipal elected officials and representatives during the week of August 18, 2024. Landowners within the Waubuno DSA received a hand-delivered copy of the Notice of Commencement on August 19, 2024.

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

The Notice of Commencement was also published in the local newspaper and ran in The Independent of Petrolia and Central Lambton on August 22, 2024.

3.2.4 Agency Letters

The Notice of Commencement was sent out with letters to government agencies on August 20, 2024. The letters detailed information on the virtual public information session and requested physical, natural, and socio-economic environmental data and information related to the Study Area.

Copies of the letters sent to agencies are provided in **Appendix G**.

3.2.5 Virtual Public Information Session

The purpose of the virtual public information session was to provide an opportunity for the public and stakeholders to comment on the Study, planning process, and the Project. The public information session was designed to achieve the following objectives:

- Introduce participants to the Project, the Study process, the MNR and OEB review process, and consultation plans; and
- Seek feedback from participants on local physical, natural, and socio-economic environment considerations, issues, or concerns that should be addressed as part of the Study.

The virtual public information session was hosted by Dillon via the Project-specific webpage: www.WaubunoWellDrilling.ca. The webpage was active for a 1-week period and was live from Thursday, August 29, 2024, to Friday, September 6, 2024.

On the virtual public information session webpage, a video presentation was available providing an overview of the Project and environmental assessment process. The presentation slides and a copy of the video transcript of the virtual public information session were provided for download. The presentation discussed the following:

- Introduction to Enbridge Gas and their commitment to meaningful engagement, environmental sustainability, and safe work practices;
- Purpose of the public information session;
- Enbridge Gas' Indigenous Peoples Policy;
- Project purpose and overview of the proposed construction activities;
- Project map;
- Physical and natural environment considerations;

- Cultural and socio-economic considerations;
- Cultural heritage resource considerations;
- Wellhead and pipeline design and safety;
- Well drilling and pipeline construction sequence;
- Mitigation and monitoring;
- Regulatory framework (MNR review/OEB);
- Environmental assessment process and Project schedule;
- Continuous stakeholder engagement; and
- Information on how to stay informed.

Copies of the presentation and video transcript for the virtual public information session are provided in **Appendix H**.

3.2.5.1 Results from the Virtual Public Information Session

The virtual information session webpage was viewed by 11 unique visitors. Visitors to the virtual information session were encouraged to submit comments – either through the online Project comment form, or by downloading a PDF version of the Project comment form and submitting it to the Project email. A copy of the comment form provided on the virtual information session webpage is included in **Appendix H** (following the copy of the presentation and transcript). No completed comment forms were received through the virtual public information session webpage or Project email.

The Notice of Commencement similarly resulted in minimal stakeholder engagement. Correspondence with government agencies (for example, HONI, and OPPC representatives from the Ministry of Transportation [MTO], Technical Standards & Safety Authority [TSSA], and Source Protection Screening Branch of the MECP) was captured through the Project email. This correspondence is provided in the Stakeholder Engagement Log in **Appendix** .

3.3 Indigenous Consultation

On June 6, 2024, an email was sent to the MOEE providing notification of Enbridge Gas' intention to apply to the OEB for a favourable recommendation for the 2025 Waubuno Well Drilling Project and to request the MOEE's assessment of Duty-to-Consult requirements.

In a letter dated August 12, 2024, the MOEE 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:

- Aamjiwnaang First Nation;
- Bkejwanong (Walpole Island First Nation);
- Chippewas of Kettle and Stony Point First Nation;
- Chippewas of the Thames First Nation; and
- Oneida Nation of the Thames Six Nations of the Grand River.

Notice of Commencement letters were provided on August 19, 2024 via email to the five Indigenous communities. The notices introduced the Project and invited communities to participate in the virtual public information session. The Notice of Commencement letter also invited communities to provide input and comments 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.

Consultation with Indigenous communities, up to September 25, 2024 is summarized in **Appendix I**.

3.4 Project Refinements Resulting from Input

Through the Notice of Commencement, virtual public information session, and OPCC 42-day review period no suggestions or concerns were made that would result in a change to the proposed Project scope.

3.5 Ongoing Engagement Activities

Upon completion of the ER, Enbridge Gas is committed to ongoing communication with Indigenous communities, government agencies, landowners, and community members.

Enbridge Gas 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. Enbridge Gas 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 will be documented in the Indigenous Consultation Report (ICR), to be submitted as part of the OEB Application, under separate cover.

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 Study Area established for the Project.

4.1 Physical Environment

This subsection provides baseline information on the following physical environment components:

- Physiography and Topography;
- Surficial Geology and Soil;
- Bedrock; and
- Groundwater.

Physical environment features (notably, groundwater features) identified from background data sources are shown on **Figure 2**.

4.1.1 Physiography and Topography

The Project is located within the Bevelled Till Plains physiographic region of southern Ontario, a region characterized as having relatively flat, reworked plains that were deposited and then over-ridden by a subsequent glacial event (Chapman and Putnam 1984; 2007).

Topography in the Project Study Area is generally flat, and ranges from 186 metres above sea level (masl) to 190 masl, decreasing in elevation to the west, nearing Bear Creek.

4.1.2 Surficial Geology and Soil

Surficial geologic mapping indicates the Project Study Area lies primarily within a clay to silt-textured till (derived from glaciolacustrine deposits or shale).

Caistor Clay is the soil type identified in the Study Area (LIO, Ontario Ministry of Agriculture, Food and Agribusiness [OMAFRA] 2024a). Caistor Clay is an imperfectly drained soil that belongs to the Grey-Brown Podzolic Great Soil Group. Caistor soils are best adapted to livestock type of farming and rotations that include few row crops (Ministry of Agriculture and Food 1957). The production of legumes is recommended on Caistor soils as they improve the structure of the topsoil and their deep roots penetrate the “tight” subsoil, creating a more porous layer (Ministry of Food and Agriculture 1957). As these soils are moderately acidic, lime is required for good growth of alfalfa and clovers and fertilizer high in phosphorous is required for all crops (Ministry of Agriculture and Food 1957).

The Project is located in a rural setting that is comprised mainly of agricultural land. Soil capability for agriculture is mapped by Agriculture and Agri-Food Canada (2005). Lands classified as Class 1 are the most agriculturally productive, while those classified as Class 7 have the lowest capacity for agriculture. Class 1 to 5 agricultural lands are generally arable, while Classes 1 through 3 are defined by OMAFA to be prime agricultural soils for common field crop production.

Most rural land in Lambton County is comprised of prime agricultural lands (Classes 1-3), including speciality crop areas that are suitable to produce fruits and vegetables.

Soils in the Study Area have been classified as Class 3D. Class 3 soils have moderately severe limitations that restrict the range of crops or require special conservation practices. Subclass D soils have undesirable soil structure and/or low permeability, and are typically difficult to till, absorb or release water very slowly, or in which the depth or rooting zone is restricted by conditions other than a high-water table or consolidated bedrock (OMAFRA 2024).

A search of the Federal Contaminated Sites Inventory revealed no records of historical contamination (closed and active sites) within the Study Area (Treasury Board of Canada Secretariat 2024). A search of the MECP records of site condition website (2024a), also found no previous record of soil or groundwater contaminations exceeding the allowable levels in the Study Area.

4.1.2.1 Soybean Cyst Nematode (SCN)

In southwestern Ontario, soybean cyst nematode (SCN) is present in the topsoil of many agricultural fields in populations large enough to impact soybean yields. SCN is a parasitic pest that negatively affects soybean crop production on agricultural lands. It can spread in many ways such as wind, animals, or in topsoil stuck to machinery as the machinery passes from an impacted field to a non-impacted field. Once a field has been infested, there is significant potential for soybean crop yield reductions (Olechowski 1990). SCN is common in agricultural lands in Lambton County and may be present within the Study Area. In order to confirm presence of SCN, sampling would be required.

4.1.2.2 Agricultural Tile Drains

Agricultural fields in Lambton County commonly have tile drainage to increase agricultural productivity. Approximately 100 per cent of the Study Area contains random agricultural tile drainage (LIO, OMAFA 2024b). Unlike systematic drainage, which is used to control excess subsurface water over an entire field, a random system is used to drain isolated wet spots caused by springs or ponding. According to AGinvest Canada (2018), “randomly” tiled farms are more susceptible to inconsistent yields and poor drainage overtime.

4.1.3 Bedrock

The bedrock in Lambton County is primarily Kettle Point bituminous shale strata with occurrence of shales and limestones of the Hamilton Group Formation (Vandenberg et al, 1977). The bedrock of the Study Area is uniform in nature and lays over the Kettle Point Group formation where the bedrock is comprised of dolostone and shale (Ontario Geological Survey [OGS] 1991).

In the Project Study Area, drift thickness ranges from 26 metres to 36 metres. Based on available MECP well records, the closest water supply well (MECP Well Record No. 3404811), located approximately 400 metres southeast of the Project Study Area, encountered shale bedrock at approximately 36 mbgs.

The target depth of the proposed natural gas storage well is approximately 640 mbgs, meaning bedrock will be encountered during the well drilling process.

4.1.4 Groundwater

Source water protection information and water well information was reviewed in the vicinity of the Study Area to better understand local groundwater conditions. Details on source water protection and water well information is discussed in the subsections below, and captured on **Figure 2**.

4.1.4.1 Source Water Protection

Detailed policy information for new development within mapped Well Head Protection Areas (WHPAs) and Intake Protection Zones (IPZs) have been developed by the Thames-Sydenham and Region Drinking Water Source Protection Committee (2015) and County of Lambton (2020). WHPAs and IPZs have been identified as areas that are particularly sensitive to surface water contamination (for example, spills, leaks, surface leaching, etc.). As shown on mapping provided by these sources, the Project does not overlap any WHPAs or IPZs (Thames-Sydenham and Region Drinking Water Source Protection Committee 2015). The nearest IPZ is located 13 kilometres west of the Project and is associated with the St. Clair River.

Highly Vulnerable Aquifer (HVA) areas are also considered particularly susceptible to contamination due to shallow, near-surface groundwater, or a permeable soil layer above the aquifer (MECP 2020). An aquifer can be considered highly vulnerable based on several factors, such as how deep it is underground and the characteristics of the soil or rock surrounding it (Central Lake Ontario Conservation Authority [CLOCA] 2022). The nearest HVA area to the Project is located 2 kilometres southeast of the Study Area.

Significant Groundwater Recharge Area (SGRA) is another important source water protection feature. A SGRA is a recharge area that helps maintain the water level in an aquifer that supplies a community with drinking water. The soils in these areas is typically characterized by permeable, loosely packed, coarse materials, which allows the water to seep easily into the ground. Areas with shallow fractured bedrock are also often recharge areas (Lake Simcoe Region Conservation Authority [LSRCA] 2022). The nearest SGRA area to the Project is located approximately 2.7 kilometres northwest.

4.1.4.2

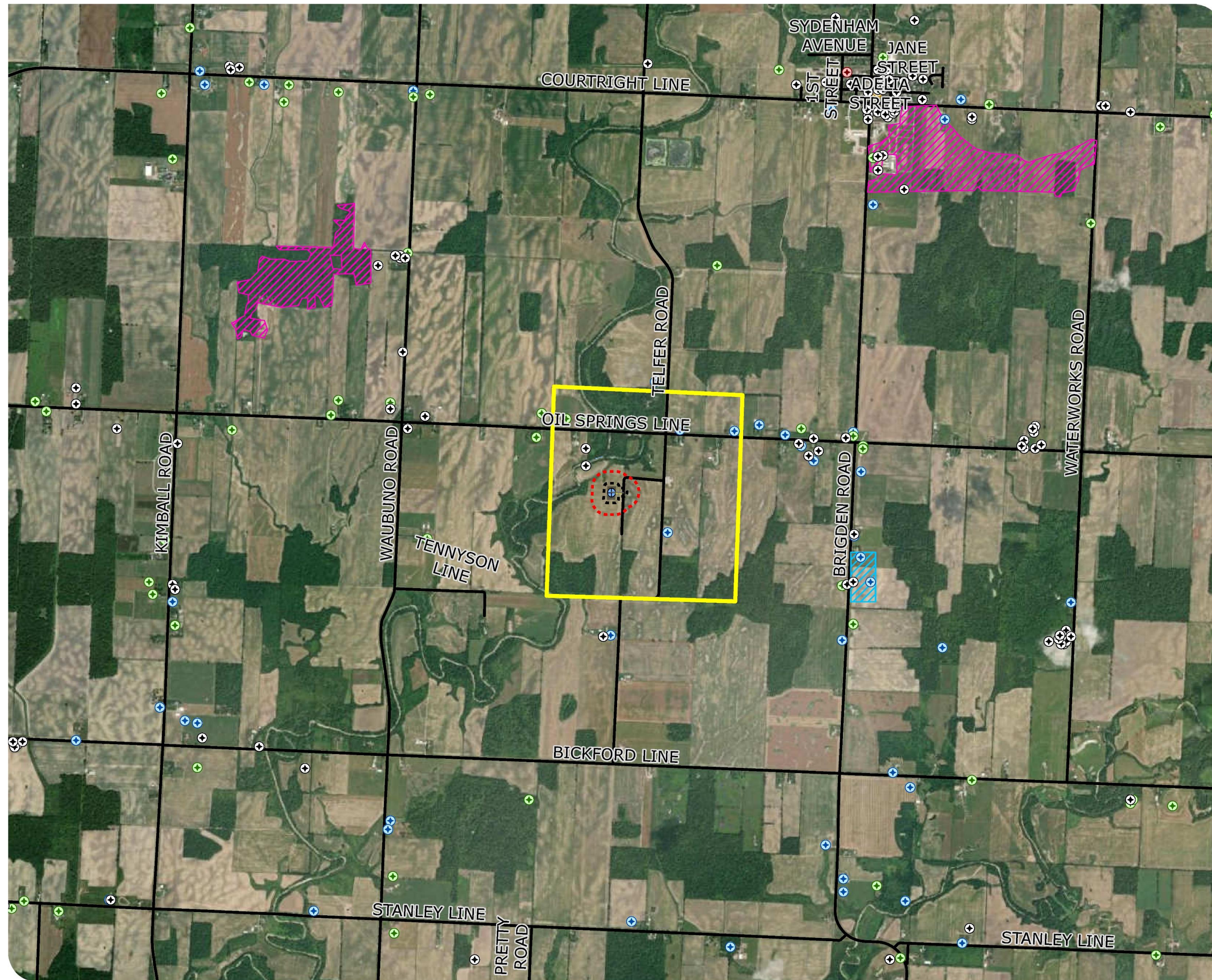
Water Well Information

Well information contained in the MECP (2024b) Water Well Information System was reviewed in the vicinity of the Project. Information on depth to bedrock and static water levels recorded within 500 metres of the Project includes a total of 7 unique well IDs consisting of:

- two domestic water supply wells;
- one livestock water supply well; and
- four unknown well records.

The wells identified within 500 metres of the Project range in depth between 34 mbgs and 41 mbgs, with an average depth of approximately 38 mbgs. Static water was recorded in two of the available water well records and was recorded at an average depth of 26 mbgs. Average depth to bedrock was recorded at approximately 33 mbgs.

Figure 2: Source Water Protection and Water Well Information



2025 Waubuno Well Drilling Project

ENBRIDGE GAS
ENVIRONMENTAL REPORT

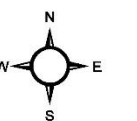
SOURCE WATER PROTECTION AND WATER WELL INFORMATION

FIGURE 2

- Study Area (125m)
- Project Footprint (30m)
- Proposed Natural Gas Storage Well
- Waubuno Designated Storage Area
- Proposed Permanent Pad (approx. 8m by 12m)
- Proposed Permanent Access Road (approx. 6m wide)
- Proposed Lateral Pipeline (approx. 100 m)
- Road
- Watercourse
- Waterbody
- Highly Vulnerable Aquifer
- Significant Groundwater Recharge Area
- Water Well Supply
- Industrial
- Livestock
- Monitoring and Test Hole
- Other

SCALE 1:30,000

0 250 500 1,000 Meters



MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR, ESRI BASEMAPS, DILLON CONSULTING LIMITED,
ENBRIDGE GAS INC.

MAP CREATED BY: RB/AEE
MAP CHECKED BY: KG
MAP PROJECTION: NAD 1983 CSRS UTM Zone 17N



PROJECT: 24-8218
STATUS: FINAL
DATE: 2024-09-16

FILE LOCATION: K:\2024\248218\Project\Client\EnvironmentalReport\EnvironmentalReport\EnvironmentalReport.aspx

4.2 Natural Environment

This subsection provides baseline information on the following natural environment components:

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

Existing natural environment features identified from background data sources are shown on **Figure 3**, **Figure 4**, and **Figure 5**. A complete list of flora and fauna species identified through background review and observed during the preliminary field investigation is included in **Appendix J** and incidental observations are included in **Appendix K**.

Figure 3: Existing Natural Features



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EXISTING NATURAL FEATURES FIGURE 3

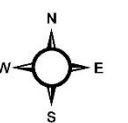
- Study Area (125m)
- Project Footprint (30m)
- Proposed Natural Gas Storage Well
- Waubuno Designated Storage Area
- Proposed Permanent Pad (approx. 8m by 12m)
- Proposed Temporary Pad (approx. 60m by 100m)
- Proposed Permanent Access Road (approx. 6m wide)
- Proposed Lateral Pipeline (approx. 100 m)
- Road

Ministry of Natural Resources (MNR)

- Wooded Area
- Waterbody
- Watercourse

SCALE 1:2,500

0 25 50 100 Meters



MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR, ESRI BASEMAPS, DILLON CONSULTING LIMITED,
ENBRIDGE GAS INC.

MAP CREATED BY: RB/AEE
MAP CHECKED BY: KG
MAP PROJECTION: NAD 1983 CSRS UTM Zone 17N



PROJECT: 24-8218
STATUS: FINAL
DATE: 2024-09-16

FILE LOCATION: K:\2024\248218\Product\Client\EnvironmentalReport\EnvironmentalReport\EnvironmentalReport.aprx

4.2.1 Atmospheric Environment

4.2.1.1 Climate

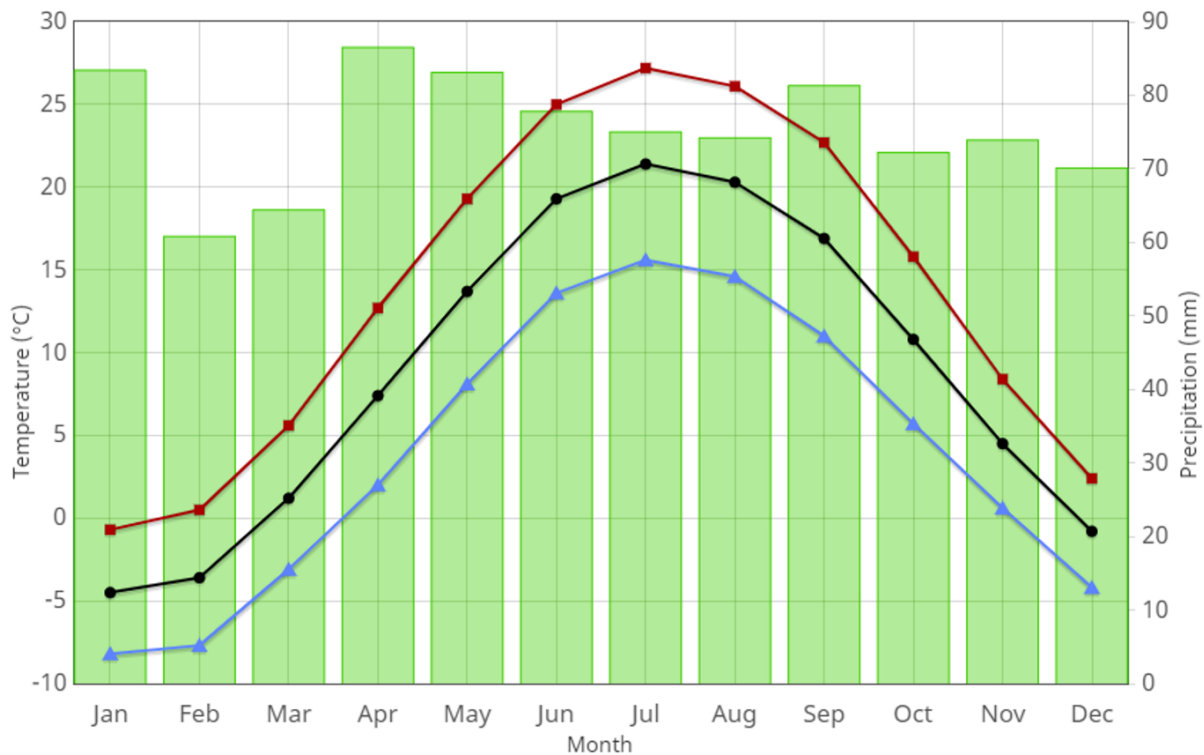
Climate averages are commonly used to describe the climatic conditions of a particular location in Canada. At the end of each decade, ECCC updates its climate averages for several locations across Canada and for as many climatic characteristics as possible. The climate averages and extremes are obtained from Canadian climate stations with at least 15 years of data between 1991 and 2020 (ECCC 2024).

The nearest ECCC climate station to the Project with available annual data was identified as the Ridgetown station, located approximately 70 kilometres south of the Project Study Area.

Image 2 shows temperature and precipitation data averaged over the 29-year period of 1991 to 2020 recorded at the Ridgetown station.

Image 2: Temperature and Precipitation Graph for 1991 to 2020 – Ridgeway

Temperature and Precipitation Graph for 1991 to 2020 Canadian Climate Normals
RIDGETOWN



■	Daily Maximum Temperature (°C)
●	Daily Average Temperature (°C)
▲	Daily Minimum Temperature (°C)
■	Precipitation (mm)

The historical climate data is summarized below based on averages for the period of 1991 to 2020 (ECCC 2024):

- The annual daily average temperature recorded at the Ridgetown station was 8.9 degrees Celsius (°C), with January being the coldest month (average daily temperature of -4.5°C) and July being the warmest month (average daily temperature of 21.4°C). The extreme minimum temperature on record was -31.9.0°C on February 20, 2015 and the extreme maximum temperature was 40°C on June 25, 1988.
- The annual average precipitation recorded at the Ridgetown station was 902.8 millimetres, with April being the rainiest month (average rainfall of 85.5 millimetres) and January being the snowiest month (average snowfall of 83.4 millimetres). The extreme daily rainfall recorded for Ridgetown station was 75.8 millimetres on April 20, 2000 and the extreme daily snowfall was 49 centimetres on February 2, 2009.

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 health and the environment. The MECP has established a network of 39 ambient air monitoring stations across Ontario that collect air pollution data (MECP 2010). Annually, MECP prepares an Air Quality Report which assesses the state of air quality in Ontario.

Based on a review of the most recent Air Quality Report, over the 9-year period of 2012 to 2021, air quality in Ontario has improved due to the decrease of ambient concentrations of common air pollutants and emissions (MECP 2021). During this 10-year period, concentrations of nitrogen dioxide decreased by 28 per cent, sulphur dioxide concentrations decreased by 54 per cent, fine particulate matter concentrations decreased by 18 per cent, and maximum ground-level ozone levels did not trend over the 9-year period (MECP 2024).

Although the 9-year trend shows a general improvement in air quality, in 2021, there were exceedances of the provincial Ambient Air Quality Criteria (AAQC) and/or Canadian Ambient Air Quality Standard for ground-level ozone, fine particulate matter, and sulphur dioxide in some Ontario communities (MECP 2024).

Due to the variety of factors that influence air quality, such as pollutant emissions, weather, natural events, and the long-range transport of air pollutants, air quality can vary year to year across Ontario. As such, long-term trends provide a better reflection of air quality in Ontario and the improvements or deterioration in air quality over time (MECP 2022).

Ambient air quality in the Study Area is influenced by local sources, distant processes through the transport of contaminants from other regions, vehicles, and other transportation sources including road particulate matter. The Study Area is centrally located in proximity to the following Air Quality Health Index (AQHI) monitoring station:

- Sarnia (urban station) – The Project Study Area is located approximately 24 kilometres southeast from the urban Sarnia AQHI monitoring station. The monitoring station is located within an area of the City known as Chemical Valley. The area is classified as “Air Zone Category 3”, that is, an area with a concentration of large industrial sources (nitrogen dioxide and sulfur dioxide) due to the number of industrial companies operating within the area. The 10-year trend (2010 to 2019) for Sarnia shows a decrease in the annual mean of nitrogen dioxide and a decrease of fine particulate matter (MECP 2019). Improvement of air quality in Sarnia may be attributed to the reduction in industrial emissions in the area in conjunction with the elimination of coal-fired power plants in Ontario. For example, levels of sulfur dioxide and total reduced sulphur measured in 2016 are approximately 60 per cent less compared to levels measures 10 years ago in Sarnia and are now well below the Ontario annual acceptable levels (SLEA 2016).

Similar to air quality, greenhouse gases (GHGs) in the Study Area may be influenced by local sources, as well as long-range transport of GHGs from outside the Study Area. Due to the long-lived nature of GHGs and long-range transport, GHGs are considered at local, provincial, and national levels, and where data is available.

Through the federal Facility Greenhouse Gas Emissions Reporting Program, administered by ECCC, large industrial emitters that emit 10 kilotons or more must submit an annual report of their GHG emissions based on a reporting threshold. The Green Electron Power Plant, a fossil-fuel electric power generation facility owned and operated by Greenfield South Power Corporation, located approximately 9.8 kilometres from the Study Area, is the nearest large industrial emitter of GHGs (ECCC 2024a).

In 2022, Greenfield South Power Corporation reported a total annual emission of 144.46 kilotonnes carbon dioxide equivalent (ECCC 2024b).

4.2.2 Aquatic Environment

A combination of desktop review of available agency resources and a preliminary field investigation was conducted to determine the location of existing surface water features and the potential for fish habitat within the Study Area.

The desktop review confirmed that the Project is located within the jurisdiction of the SCRCA, which manages the watersheds of all streams draining into southern Lake Huron, the St. Clair River, and northeastern Lake St. Clair. A total of 14 subwatersheds are located within the SCRCA watershed. The Study Area lies within the larger St. Clair Watershed, and in the subwatershed of Lower Bear Creek. According to the SCRCA St. Clair Watershed Report Card (2018), surface water quality is generally poor within this watershed, largely due to the lack of wetland features which help reduce flooding and filter water.

Based on air photo evaluation and the desktop review of agency resources, no unmapped or mapped aquatic feature were identified within the Study Area. The nearest watercourse feature, Bear Creek, is located approximately 275 metres to the north from the proposed natural gas storage well (LIO; Watercourse Dataset 2022). This watercourse feature is shown on **Figure 3**. Based on the topographic conditions described in **Section 4.1.1**, the Study Area drains southwest across active agricultural row crop lands into Bear Creek.

Based on a review of DFO mapping, Bear Creek has potential for several aquatic SAR and has mapped critical habitat for two species of SAR mussels (DFO n.d.).

The preliminary field investigation completed on June 18, 2024 confirmed that the location of the watercourse feature is outside the Study Area.

4.2.3 Wetlands

A desktop review of available agency resources was conducted to determine the potential presence of wetlands within the Study Area. No mapped wetland features were identified in the Study Area (MNR 2024a) during desktop assessment or the preliminary field investigation.

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

Based on a review of available agency mapping, no ANSIs or other environmentally sensitive areas are present within the Study Area. The nearest ANSI is the Plum Creek Life Science ANSI, located approximately 2 kilometres to the east of the Project Footprint.

4.2.5 Vegetation

4.2.5.1 Ecological Land Classification

Preliminary ELC surveys were conducted using the ELC System for Southern Ontario, and second approximation classifications (Lee et al. 1998; 2008) were used to classify and map ecological communities (as well as potential wetland communities) within the Study Area. The ecological community polygon boundaries were determined through a review of aerial photography and further refined during the preliminary field investigation conducted on June 18, 2024.

The ELC survey confirmed that lands overlapping with the Study Area are primarily classified as ‘cultural’ communities with some natural communities occurring in the north and northwest portion of the Study Area. The predominant cultural ELC community is annual row crop (OAGM1), defined as a community type which consists of lands designated for active annual row crops. At the time of the June 18, 2024 preliminary field investigation, the two row crop fields were planted with soybean (*Glycine max*) and winter wheat (*Triticum aestivum*).

A treed hedgerow (TAGM5) is located along the existing gravel access and a cultural thicket/meadow is located to the north/northwest of the proposed natural gas storage well location and appears to be connected to the riparian areas of Bear Creek. Current ELC mapping is provided on **Figure 4**. A full list of ELC community types and their total area within the Study Area is provided in **Table 4-1**, below.

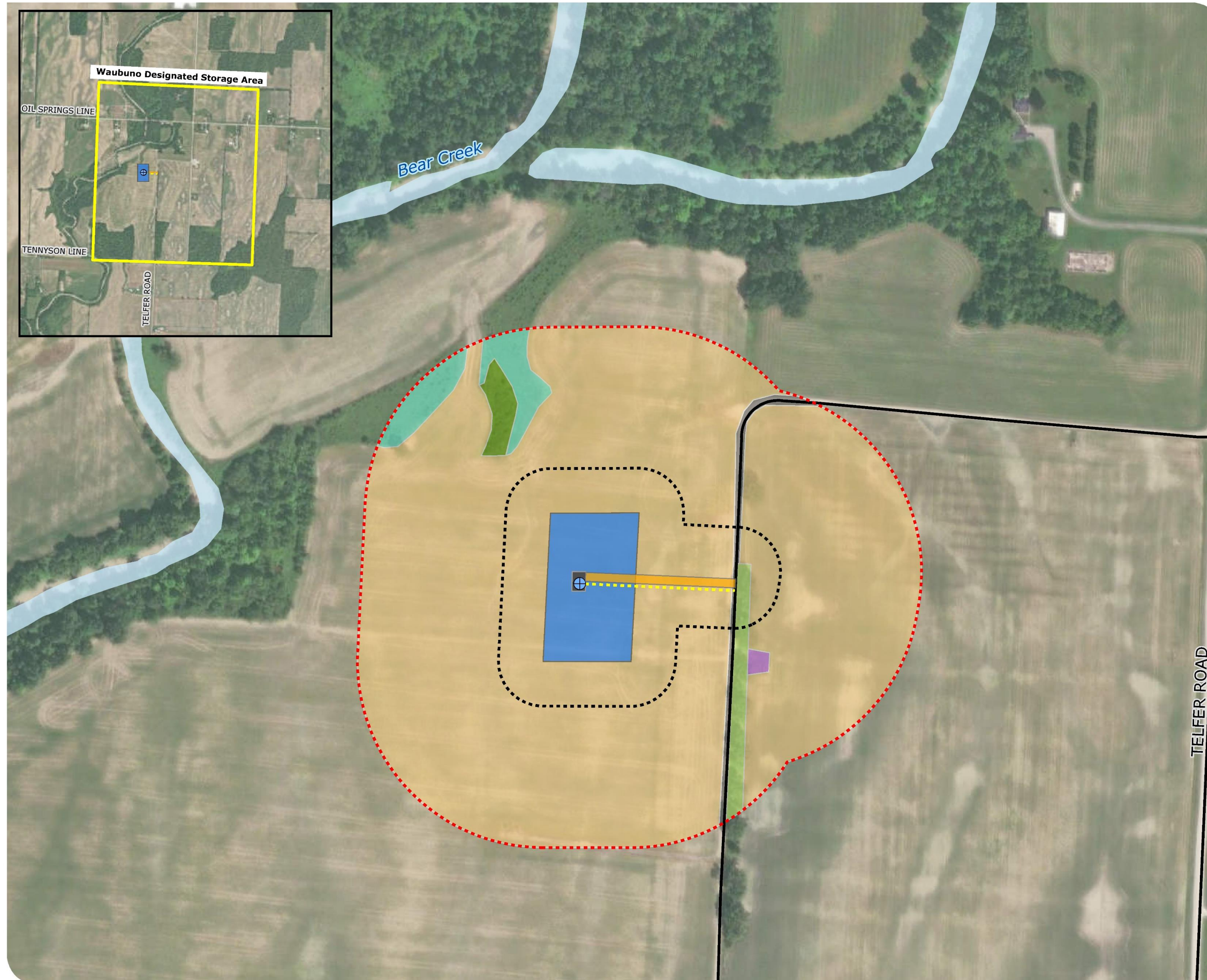
Table 4-1: Ecological Land Classification

ELC Community Code & Type	Total Area (hectares) Present in Study Area	Total Area (hectares) Present in Project Footprint	General Community Description
Cultural			
CUM1 Cultural Meadow	0.30	0	This community type consists of herb-dominated communities with sparse tree and shrub cover.
CVI Utility	0.02	0	This community type consists of utilities, such as power and telecommunication lines.
CVI_1 Transportation	0.14	0	This community type consists of roads, pathways, and railways.
OAGM1 Annual Row Crops	9.95	2.18	This community type consists of lands designated for active annual row crops.
TAGM5 Hedgerow	0.17	0.42	This community type consists of a small linear section of trees and shrubs.
Natural (Upland)			
Thicket			
THD Deciduous Thicket	0.10	0	This community type consists of small deciduous trees and shrubs.

A list of vegetation species (vascular plants) was recorded during the preliminary field investigation.

A total of 29 vascular plant species were documented within the Study Area. Of the 29 species identified, 13 (45%) are listed as native species considered to be Secure (SRank of S5) in the province of Ontario, and 16 species (55%) are listed as introduced species (SRank of SE and SNA). A full list of the botanical species observed within the Study Area during the preliminary field investigation is included in **Appendix K**.

Figure 4: Ecological Land Classification



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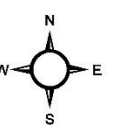
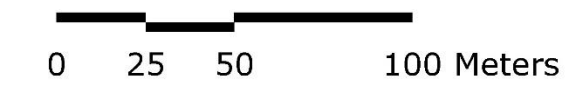
ECOLOGICAL LAND CLASSIFICATION
FIGURE 4

- Study Area (125m)
- Project Footprint (30m)
- Proposed Natural Gas Storage Well
- Waubuno Designated Storage Area
- Proposed Permanent Pad (approx. 8m by 12m)
- Proposed Temporary Pad (approx. 60m by 100m)
- Proposed Permanent Access Road (approx. 6m wide)
- Waterbody
- Proposed Lateral Pipeline (approx. 100 m)
- Road

Ecological Land Classification

- CUM1 - Cultural Meadow
- CVI - Utility
- CVI_1 - Road
- OAGM1 - Annual Row Crops
- TAGM5 - Fencerow
- THD - Deciduous Thicket

SCALE 1:2,500



MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR, ESRI BASEMAPS, DILLON CONSULTING LIMITED,
ENBRIDGE GAS INC.

MAP CREATED BY: RB/BT/AEE
MAP CHECKED BY: KG
MAP PROJECTION: NAD 1983 CSRS UTM Zone 17N



PROJECT: 24-8218
STATUS: FINAL
DATE: 2024-09-16

4.2.5.2 Woodlands

A review of available agency mapping did not identify woodland features within the Study Area.

During the preliminary field investigation conducted on June 18, 2024, no woodland communities were identified within the Study Area.

4.2.6 Wildlife and Wildlife Habitat

A records review of the information included in **Table 2-1** identified flora and fauna species with historical occurrence records within 1 kilometre of the Study Area. The majority of species identified through background review within the Study Area are considered Secure or Apparently Secure (SRank of S5 or S4) in the province of Ontario. A complete list of flora and fauna species identified through background review and observed during the preliminary field investigation is included in **Appendix J** and **Appendix K**, respectively.

4.2.6.1 Fauna

- Birds – the records review and preliminary field investigation identified 78 bird species as having the potential to occur in the vicinity of the Study Area (Table J-1; Appendix J). Of these 78 species, four are provincially listed as SAR and five are characterized as SCC. Six of the 78 bird species are also afforded protection under SARA as a migratory bird listed under Schedule 1 of SARA.
- Mammals – the records review and preliminary field investigations identified 42 species as having the potential to occur in the general vicinity of the Study Area (Table J-4; Appendix J). Of the 42 species, six are provincially listed as SAR and two are characterized as SCC.
- Herptiles – the records review and preliminary field investigations identified 16 species as having the potential to occur in the general vicinity of the Study Area (Table J-5; Appendix J). Of the 16 species, two are provincially listed as SAR and two are characterized as SCC.
- Carabidae – the records review and preliminary field investigations identified one species as having the potential to occur in the general vicinity of the Study Area (Table J-6; Appendix J). This species is provincially listed as a SAR.

- Lepidoptera – the records review and preliminary field investigations identified three species as having the potential to occur in the general vicinity of the Study Area (Table J-7; Appendix J). Of the three species, two are provincially listed as SAR and one is characterized as a SCC.

4.2.6.2 Incidental Wildlife Observations

Incidental wildlife observations recorded during the preliminary field investigation completed on June 18, 2024, included live wildlife observations and indirect wildlife evidence (sounds, tracks).

A total of 21 bird species (**Table K-2; Appendix K**), one mammal (**Table K-3; Appendix K**) and three herptiles (**Table K-4; Appendix K**) were observed during the preliminary field investigation within the Study Area. With the exception of Barn Swallow (*Hirundo rustica*) and Bald Eagle (*Haliaeetus leucocephalus*), which were observed as flyovers (typical of avian surveys for this area of Ontario), and are listed as Special Concern provincially under the SARO list (O. Reg. 230/08), no SAR or SCC were observed in the Study Area. The Study Area does not provide suitable habitat for Barn Swallow or Bald Eagle, and no nests for either species were observed.

4.2.6.3 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 (SWH) Technical Guide (MNR 2000) which 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. Under the Criteria Schedule for Ecoregion 7E (MNR 2015), 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 initial field assessment and ELC mapping. Areas identified as having the potential to support SWH have been identified as candidate SWH.

1. 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 preliminary field assessment conducted on June 18, 2024, no candidate seasonal conservation areas have the potential to occur in the Study Area.

2. Rare Vegetation Communities or Specialized Habitats

This category consists of two separate components. Rare habitats are those with vegetation communities that are considered rare in the province. SRanks are rarity rankings applied to species at the provincial level. Generally, SRanks of S1 to S3 (that is, extremely rare to rare-uncommon in Ontario), as defined by the NHIC, could qualify. Specialized habitats are microhabitats that are critical to some wildlife species.

Based on the preliminary field investigation conducted on June 18, 2024, no rare habitats or specialized habitats were identified in the Study Area.

3. 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 initial site assessments conducted on June 18, 2024, including the records reviewed in **Table 2-1**, no animal movement corridors were identified in the Study Area.

4. Habitat for Species of Conservation Concern

The SWH Technical Guide (MNR 2000) defines SCC as globally, nationally, provincially, regionally, or locally rare (SRank 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 of S1-S3 by the NHIC;

- Species that are listed as Special Concern on the SARO list;
- 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.

Based on the results of the records review, a total of 12 SCC were identified through background review with known occurrences in the vicinity of the Study Area (**Appendix J**). However, following the preliminary field investigation results for the Study Area, the habitat requirements associated with each of the 12 SCC identified during the background review, the Study Area was assessed as having no potential to support SCC.

Consideration of SCC habitat potentially present in the Study Area was determined based on existing land uses, the general habitat requirements of the species, and the ELC communities identified during the preliminary field assessment conducted June 18, 2024.

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 *Migratory Birds Convention Act, 1994*. 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”.

Provincial

The provincial *Endangered Species Act, 2007* applies to species listed as Extirpated, Endangered, or Threatened under O. Reg. 230/08 on private and public lands under provincial jurisdiction and provides both species protection (Section 9) and habitat protection (Section 10). In this ER, SAR refers to those species with designations of

Threatened or Endangered that are afforded species and habitat protection under the Act. Under the Act, habitat is defined as either General Habitat or Regulated Habitat. General Habitat is defined as the area a species currently depends on, either directly or indirectly, to carry out its life processes (under clause 2(1)(b) of the Act), including: dens, nests, hibernacula, or other residences. General Habitat does not include areas where a species once lived and/or where it may be re-introduced. General Habitat protection is in place until a regulation is made prescribing an area as Regulated Habitat.

Regulated Habitat is the area prescribed for a species in a habitat regulation (under clause 2(1)(a) of the Act) and may include: specific features or boundaries and areas where the species lives, used to live, or is believed to be capable of living.

4.2.7.2 Potential for Species at Risk in the Study Area

Based on the results of the records review, a total of 18 provincially-listed SAR were identified through background review with known occurrences in the vicinity of the Study Area (**Appendix J**). However, following the preliminary field investigation for the Study Area and a review of the habitat requirements associated with each of the 18 SAR identified during the background review, it was determined that the Study Area does not have the potential to support SAR or their habitat.

Consideration of potential SAR and SAR habitat that may be present in the Study Area was determined based on the general habitat requirements of the species and the existing conditions identified during the preliminary field investigation conducted on June 18, 2024. The Project is located in the documented range for two SAR (Butler's Gartersnake [*Thamnophis butleri*] and Eastern Foxsnake [*Pantherophis gloydi pop. 2*]). Although direct habitat features for these SAR are not in the Study Area, these two SAR have the potential to be encountered during Project activities if moving across the landscape (agricultural lands) between natural features (watercourse, thickets, meadows, forests) that have the potential to provide direct habitat. Significant Natural Features, including mapping of potential SAR habitat is provided on **Figure 5**.

Figure 5: Significant Natural Features



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SIGNIFICANT NATURAL FEATURES
FIGURE 5

- Study Area (125m)
 - Proposed Natural Gas Storage Well
 - Waubuno Designated Storage Area
 - Proposed Permanent Pad (approx. 8m by 12m)
 - Proposed Temporary Pad (approx. 60m by 100m)
 - Proposed Permanent Access Road (approx. 6m wide)
 - Waterbody
 - Proposed Lateral Pipeline (approx. 100 m)
 - Road
- Potential SAR Habitat**
- Grassland Bird
 - Fox/Garter Snake

SCALE 1:2,500
0 25 50 100 Meters

MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR, ESRI BASEMAPS, DILLON CONSULTING LIMITED,
ENBRIDGE GAS INC.

MAP CREATED BY: RB/BT/AEE
MAP CHECKED BY: KG
MAP PROJECTION: NAD 1983 CSRS UTM Zone 17N



PROJECT: 24-8218
STATUS: FINAL
DATE: 2024-09-16

FILE LOCATION: K:\2024\248218\Project\Client\EnvironmentalReport\EnvironmentalReport\EnvironmentalReport.env

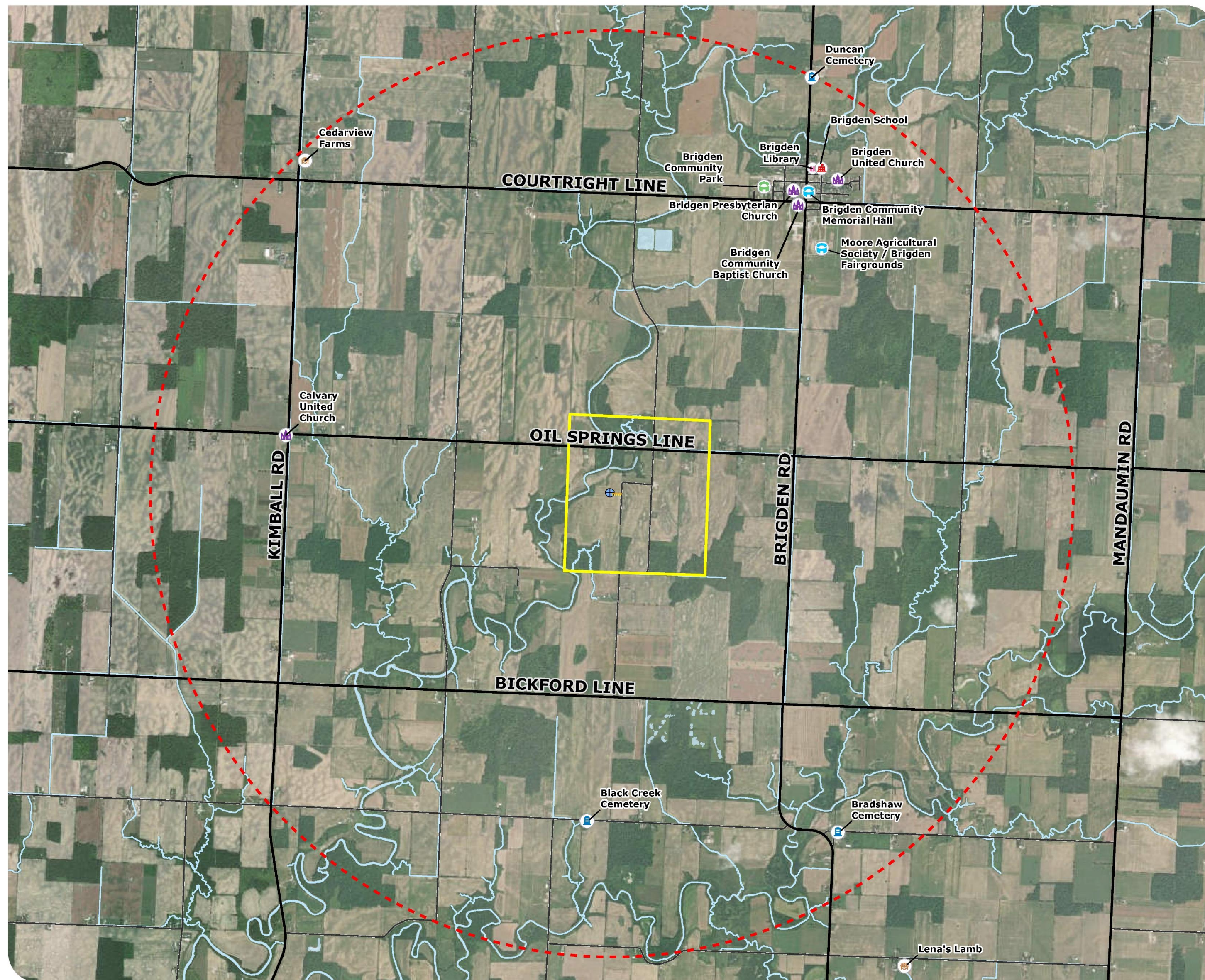
4.3 Socio-Economic Environment

This subsection provides baseline information on the following socio-economic environment components:

- Planning Policies;
- Existing and Planned Land Use;
- Population, Employment, and Economic Activities;
- Human Occupancy and Resource Use;
- Infrastructure and Services;
- Indigenous Community Land and Resource Use; and
- Cultural Heritage Resources.

Socio-economic features are shown on **Figure 6**.

Figure 6: Socio-Economic Features



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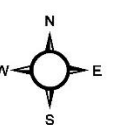
SOCIO-ECONOMIC FEATURES

FIGURE 6

- Proposed Natural Gas Storage Well
- Arenas, Halls & Community Centres
- Cemetery
- Libraries
- Place of Worship
- Schools
- Specialty Farms & Facilities
- Sports Fields
- Proposed Project Location 5 km Buffer
- Waubuno Designated Storage Area
- Proposed Permanent Access Road (approx. 6m wide)
- Proposed Lateral Pipeline (approx. 100 m)
- Major Road
- Minor Road
- Watercourse
- Waterbody

SCALE 1:40,000

0 375 750 1,500 m



MAP DRAWING INFORMATION:
 DATA PROVIDED BY MNR, ESRI BASEMAPS, DILLON CONSULTING LIMITED,
 ENBRIDGE GAS INC., AND LAMBTON COUNTY OPEN DATA

MAP CREATED BY: RB/BT/AEE
 MAP CHECKED BY: KG
 MAP PROJECTION: NAD 1983 CSRS UTM Zone 17N



PROJECT: 24-8218
 STATUS: FINAL
 DATE: 2024-09-16

4.3.1 Planning Policies

Municipalities are the primary decision-makers for their communities and are required to implement provincial policies through municipal official plans and planning-related decisions.

Plans and policies reviewed as part of the Project include:

- Provincial Policy Statement, 2020 (MMAH, 2020);
- County of Lambton Official Plan, 2020 (County of Lambton 2020); and
- Township of St. Clair Official Plan, 2023 (St. Clair Township 2023).

4.3.1.1 Provincial Policy Statement

The Provincial Policy Statement, 2020 (PPS) is issued under Section 3 of the *Planning Act* (RSO 1990, c. P.13) and came into effect on May 1, 2020. As with the previous Provincial Policy Statement, 2014, the new policy provides direction on matters of provincial interest related to land use planning and development. According to MMAH (2020), the goals of the proposed changes to the policy were to:

- Encourage an increase in the mix and supply of housing;
- Protect the environment and public safety;
- Reduce barriers and costs for development and provide greater certainty;
- Support rural, northern, and Indigenous communities; and
- Support the economy and job creation.

Natural gas pipelines and associated facilities (such as natural gas storage areas and natural gas storage wells) are defined as “infrastructure” and “petroleum resource operations” in the PPS.

In reviewing the intent of the PPS against the Project, Dillon is of the opinion that the Project is consistent with the PPS direction for achieving efficient and resilient development and land use patterns as well as supporting long-term economic prosperity.

Section 1.1 provides direction that “healthy, liveable and safe communities are sustained by ensuring that necessary infrastructure and public service facilities are or will be available to meet current and projected needs” (MMAH 2020). Section 1.7.1 provides direction that “long-term economic prosperity should be supported by

optimizing the long-term availability and use of land, resources, infrastructure and public service facilities” (MMAH 2020). The natural gas storage well constructed for the Project will be used to replace the deliverability lost in the Waubuno Storage Pool due to well relines and abandonments and will help contribute to the continued safe and reliable operation of Enbridge Gas storage facilities.

4.3.1.2 County of Lambton Official Plan

The County of Lambton Official Plan is a key part of the overall planning policy structure for the 11 lower-tier municipalities located within the County (including the Township of St. Clair). It is a multipurpose document that provides a framework to guide economic, environmental, social, and land use planning decision-making. The County of Lambton Official Plan aims to satisfy the needs of each of the 11 municipalities within the County in a way that is consistent with the PPS (County of Lambton 2020).

The County’s economy is supported by electrical generation, petroleum refining, and natural gas storage, transmission, and distribution. The County possesses a large amount of provincially significant natural gas storage (County of Lambton 2020).

The Project is in alignment with the policies in Chapter 3 – County Development and Growth of the Official Plan, which outlines the policies and strategies related to growing the County in a sustainable manner, as well as the importance of ensuring the protection of existing investments in infrastructure and development of infrastructure to support future growth. The Project supports the County’s Growth-Ready Environment goal, outlined in Section 5.4, to “provide the services and infrastructure needed to support existing and new business and industry” (County of Lambton 2020).

The Project conforms to the County’s policies in Chapter 9 – Mineral Resources of the Official Plan, which provides direction to ensure the long-term protection and proper development of petroleum resources including provincially significant reservoir storage (such as OEB defined DSAs). Section 9.1.2 states that “the County supports the subsurface storage of gas or other hydrocarbons” and that “Designated hydrocarbon storage areas shall be protected from encroachment of incompatible development at the surface” (County of Lambton 2020).

4.3.1.3

Township of St. Clair Official Plan

The Township of St. Clair Official Plan is a comprehensive land use plan providing policy direction on the development and planning of the Township of St. Clair. The Official Plan is consistent with the PPS, conforms to the County of Lambton Official Plan, and provides detailed policies specific to the local needs and long-term goals of the City (Lambton County Planning and Development Department 2023).

The Project aligns with Section 1.17, which indicates that petroleum related facilities “associated with natural gas pipelines and underground natural gas storage will be permitted” in agricultural land uses (Lambton County Planning and Development Department 2023). The integrity of these sites is protected in the Official Plan, which limits the development of facilities for pumped materials, refining, and processing of petroleum in these areas (Lambton County Planning and Development Department 2023).

The Project conforms with Section 3.8.3 of the Official Plan for the installation of natural gas pipelines within the existing rights-of-way and “in accordance with the land use policies and designation of the Plan” (Lambton County Planning and Development Department 2023).

Additionally, the Project aligns with Section 10.3.2.1 of the Official Plan for underground hydrocarbon storage features and above ground tanks, as the Project will not be located closer than 740 meters (m) from residential designated settlements identified on Schedule A (Lambton County Planning and Development Department 2023).

4.4

Existing and Planned Land Use

The County of Lambton Official Plan (2020) and the Township of St. Clair Official Plan (2023) outline land use designations within their respective boundaries implemented through land use zones. The land use designation of the Project Study Area is Agricultural-1 (Township of St. Clair Official Plan, 2003).

The Township of St. Clair Comprehensive Zoning By-Law (2003) provides direction on the work or development that can or can not take place within the various land use zones throughout the municipality. Project activities are captured in the Zoning By-law under the definitions of “Petroleum Well and Petroleum Work” and “Pipelines”.

According to Section 4.1 of the By-Law, “Petroleum Well and Petroleum Work” and “Pipelines” are permitted within all zones in the Township. As per Section 4.1.5, “nothing in this By-Law shall prevent the use of any land for any gas, oil, brine or other liquid or gaseous product transmission or distribution pipeline [...]” (St. Clair Township 2003). Similarly, Section 4.1.6 states that, “nothing in this By-Law shall prevent the use of any land for any “Petroleum Well”, “Petroleum Work” [...] and accessory uses subject to the regulations of the *Oil, Gas and Salt Resources Act*, R.S.O. 1990, or its successor” (St. Clair Township 2003).

4.4.1 Population, Employment, and Economic Activities

4.4.1.1 Population and Demographics

According to the 2021 Census, the County of Lambton has a population of 128,154 people, representing an increase of 1.2% from 126,638 people in 2016 (Statistics Canada 2017a; Statistics Canada 2023a). As of the 2021 Census, the Township of St. Clair has a population of 14,659 people, representing an increase of 4.1% from 14,086 people in 2016 (Statistics Canada 2017b; Statistics Canada 2023b). Comparatively, the Province of Ontario experienced a population increase of approximately 5.8% over the same period (Statistics Canada 2017c; Statistics Canada 2023c).

In 2021, the County of Lambton had an average population density of approximately 42.7 people per square kilometre and the average age of the population was 44.7 years (Statistics Canada 2023a). The Township of St. Clair’s average population density was 23.7 people per square kilometre with an average population age of 43.5 (Statistics Canada 2023b). The 2021 Census also indicates that the total visible minority population of the County of Lambton was 7,125 (Statistics Canada 2023a) and 260 in the Township of St. Clair (Statistics Canada 2023b). Of the visible minorities in the County of Lambton, the majority of individuals identified as South Asian (2,160 individuals or 30.3%) (Statistics Canada 2023a). Comparatively, in the Township of St. Clair, the majority of individuals identified as Black (110 individuals or 42.3%) (Statistics Canada 2023b). Individuals that identify as Indigenous account for 6,030 individuals in the County of Lambton (Statistics Canada 2023a) and 515 individuals in the Township of St. Clair (Statistics Canada 2023b).

4.4.1.2

Employment and Economy

According to the 2021 Census, the County of Lambton has a labour participation rate of 56.1% and an unemployment rate of 11.2% (Statistics Canada 2023a). The Township of St. Clair has a labour participation rate 57.9% and an unemployment rate of 8.7% (Statistics Canada 2023b). Comparatively, the Province of Ontario has a labour participation rate of 62.8% and an unemployment rate of 12.2% (Statistics Canada, 2023c).

The Sarnia-Lambton Economic Partnership (SLEP) Municipal Data and Statistics indicates that the largest employment industries in the County of Lambton are health care and social assistance, manufacturing, retail trade, and construction (SLEP 2023a).

The median household income in the County of Lambton increased by almost 19% from \$70,022 in 2015 (Statistics Canada 2017a) to \$83,000 in 2020 (Statistics Canada 2023a). Comparatively, the median household income in the Township of St. Clair increased by 12.2% from \$86,112 in 2015 (Statistics Canada 2017b) to \$98,000 in 2020 (Statistics Canada 2023b).

4.4.1.3

Main Economic Sectors**Petrochemical and Refining**

The petrochemical and refining sector in the County of Lambton is the second-largest in Canada and consists of three refineries and more than thirty-five chemical facilities (SLEP n.d.a). The County is strategically located along the Canada-United States border and hosts a skilled workforce specializing in the petrochemical and refining industry. The County of Lambton currently employs 21,700 individuals in the manufacturing and service industry (SLEP n.d.a).

Agriculture and Agri-business

The agriculture and agri-business sector is the second largest economic sector in the County of Lambton consisting of large volumes of cash crops and animal production, as well as a thriving sub-sector of value-added agriculture businesses (SLEP n.d.b). The County has 2,000 farms and over 500,000 acres of farmland and produces the largest volume of soybeans in Ontario (SLEP n.d.b).

4.4.2 Human Occupancy and Resource Use

4.4.2.1 Culture, Tourism, and Recreation

The County of Lambton has a rich culture rooted in history and the arts. The area is known for its wineries, arts, Victorian architecture, agricultural history, and a culture rooted from oil pioneers of the 1800s (Tourism Sarnia-Lambton n.d.a). The County's history can be experienced through Heritage Sarnia-Lambton which is made up of seven museums and one archival facility (Tourism Sarnia-Lambton n.d.b). The Lambton Heritage Museum houses over 25,000 historic artifacts from the County and displays feature exhibits throughout the year. The Lambton County Archives, a local historic archival club, preserves and shares historic documents that tell the stories of the events that shaped the County (Tourism Sarnia-Lambton n.d.b).

The Township of St. Clair is home to a variety of golf courses, museums, historic small towns, and a trail system that runs along the St. Clair River (St. Clair Township n.d.b). Community events are hosted year-round including a variety of Fall Fairs and the Lambton Concert Band (SLEP 2023b).

4.4.2.2 Neighbourhoods and Residences

The Study Area is agricultural with some rural residential land use. There are no settlement areas within or adjacent to the Study Area.

4.4.3 Infrastructure and Services

4.4.3.1 Existing Linear Infrastructure

The County of Lambton is served by an extensive network of local, collector, and arterial roads and highways that provide linkages within the community, to other parts of Ontario, and to the United States. Highway 402 and Highway 40 are the major highways in the region. Highway 402 is located approximately 33 kilometres north of the Study Area. Highway 40 is located approximately 20 kilometres west of the Study Area. There is also an active Canadian National (CN) rail corridor located approximately 6 kilometres west of the Study Area which is predominantly used for the transportation of goods.

The Project Study Area is located outside of the settlement areas in St. Clair Township and is not serviced by municipal water or sewer lines.

Being located within a rural residential setting, it is anticipated that some telecommunication lines and power and has infrastructure are within the Project Study Area. Through the engagement and consultation process, HONI confirmed there are no existing Hydro One Transmission assets in the Project Study Area.

4.4.3.2 Community Services and Institutions

The County of Lambton provides municipal services including social housing, emergency medical and public health services, libraries, long-term care homes, and childcare and children’s services. The Township of St. Clair is responsible for providing municipal services including emergency and protective services, waste management, roads, sewers, water, and parks and recreation.

Community services are services that are sought by residents and tourists including grocery stores, pharmacies, parks, sports and recreation, schools, health and wellness centres, libraries, pet care, financial institutions, general retail and convenience stores, and gas stations. Most municipal and community services can be found within the settlement boundaries of the Township of St. Clair.

4.4.4 Indigenous Community Land and Resource Use

To date, Indigenous communities have not identified potential impacts of the Project on Indigenous use of land and resources in the Study Area.

Information pertaining to consultation with Indigenous communities is provided in **Section 3.3**.

4.4.5 Cultural Heritage Resources

4.4.5.1 Archaeological Resources

A Stage 1 AA (PIF P1048-0164-2024) (TMHC 2024a) was undertaken by TMHC, and is included in **Appendix A**. A Stage 1 AA consists of a review of geographic, land use, and historical information for the property and the relevant surrounding area, and contacting MCM to find out whether or not there are any known archaeological sites on or near the property. Its purpose is to identify areas of archaeological potential and further archaeological assessment (for example, Stage 2 and Stage 3) as necessary.

The Stage 1 AA found that the property on which the Project occurs had potential for the recovery of archaeological resources due to proximity (within 300 metres) of a feature that signals archaeological potential, namely:

- Elevated topography (the flat uplands surrounding the Bear Creek valley); and
- A water source (Bear Creek).

The Stage 1 AA report was submitted to the MCM on August 1, 2024 and was accepted into the Ontario Public Register of Archaeological Reports on August 17, 2024. The corresponding letter from the MCM is provided at the end of **Appendix A**.

Given the potential for the recovery of archaeological resources, the Stage 1 AA recommended a Stage 2 AA, which was completed Fall 2024.

The Stage 2 AA (PIF P1048-0164-2024) (TMHC 2024b) was conducted by TMHC and is included in **Appendix A-2**. The lands recommended for Stage 2 assessment (approximately 2.72 hectares) consisted of a ploughed agricultural field. The assessment was carried out via a pedestrian survey at a 2.5 metre transect interval, as a matter of due diligence. The remainder of the Project area (0.06 hectares) consists of two existing natural gas wells and their associated gravel laneways, which were previously assessed as having low archaeological potential and were photo-documented as part of the Stage 1 assessment.

Two archaeological locations were documented during the Stage 2 assessment. TMHC's descriptions of these locations and assessment recommendations are presented below:

- Location 1 was a scatter of four Indigenous artifacts consisting of two fragmentary flakes and two scrapers, all made of Onondaga chert. This scatter does not have further CHVI under the current standards, does not meet provincial criteria for Stage 2 assessment, and no further work was recommended.
- Location 2 was a scatter of two Indigenous artifacts consisting of one secondary flake and one biface, both made of Onondaga chert. This scatter does not have further CHVI under the current standards, does not meet provincial criteria for Stage 3 assessment, and no further work was recommended.

The Stage 2 AA was submitted to the MCM on October 24, 2024 and was entered into the Ontario Public Register of Archaeological Reports without technical review on

October 29, 2024. The corresponding letter from the MCM is provided at the end of **Appendix A-2**.

4.4.5.2

Built Heritage Resources and Cultural Heritage Landscapes

A Cultural Heritage Screening - Technical Memorandum (dated July 3, 2024, by TMHC) (TMHC 2024c) was undertaken for the Project and is included in **Appendix B**. The screening was prepared in accordance with the MCM *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes*.

The Technical Memorandum did not identify any federally, provincially, or municipally designated heritage properties. The Ontario Heritage Trust confirmed there are no conservation easements of Trust-owned properties within or adjacent to the Subject Property. Additionally, no cemeteries or other properties or landscapes of heritage interest were identified during the screening process. As a result, no further heritage studies are recommended.

The Technical Memorandum was submitted to the MCM for review and accepted with no changes on August 2, 2024.

Site Selection Process

Enbridge Gas identified the site for the Project based on the boundary of the Waubuno DSA and its ideal geologic conditions for the subsurface storage of natural gas. Given the necessity to locate the well within the DSA with ideal geology, no site selection constraints analysis was conducted for the Project and no alternatives were assessed.

Mitigation measures provided in **Section 6.0** of this ER should be considered when constructing the Project and siting temporary facilities. Applicable agency approvals will be required.

6.0 Effects Assessment and Proposed Mitigation

This section provides the assessment of the potential effects associated with the Project on the physical, natural, and socio-economic environment. Recommended mitigation measures are also described in this section and select mitigation measures are shown on **Figure 7**.

The criteria for the characterization of residual effects and evaluation of significance are provided in **Section 2.1.2**. All assessment criteria (**Table 2-2**) were considered when determining the significance of each residual effect.

6.1 Physical Environment

6.1.1 Surficial Geology and Soil

The Project components will be installed within, and immediately adjacent to, active agricultural fields.

The Project may impact soils through the following effect pathways:

- Movement of equipment within the Project Footprint;
- Clearing of vegetation and handling of soil; and
- Equipment that is not properly cleaned prior to entering the Project Footprint.

The potential for leaks or spills from Project activities to affect soils is considered in Accidents and Malfunctions (**Section 8.0**).

Table 6-1 identifies potential effects, mitigation measures, and residual effects for the surficial geology and soil component and provides an assessment of the significance of the residual effects, where present.

Table 6-1: Assessment of Potential Effects of the Project on Surficial Geology and Soil

Potential Effects	Mitigation Measures	Residual Effects	Characterization and Significance Evaluation
<p>Project activities may result in topsoil and subsoil mixing, erosion, and/or compaction and rutting of soil</p>	<p>Erosion and Sediment Control (ESC) Measures:</p> <ul style="list-style-type: none"> Where there is potential for soil erosion, the need for and location of ESC measures should be determined by an inspector with appropriate qualifications and installed prior to the commencement of work in the area. When soil is exposed, the exposure should be kept to the shortest practical period. The Contractor should obtain adequate quantities of materials to control erosion. Additional supplies should be maintained in a readily accessible location for maintenance and contingency purposes. ESC structures should be monitored to maintain their effectiveness through the life of construction and post-construction rehabilitation. Even with ESC measures, extreme precipitation events could result in collapse of silt fencing, overflow or bypass of barriers, and other situations which could lead to erosion. When site conditions permit, permanent protection measures should be installed on erosion susceptible surfaces. If the erosion is resulting from a construction-related activity, the activity should be halted immediately until the situation is rectified. ESC and stabilization measures should be maintained during construction, restoration, and rehabilitation until the site is established. Where evidence of erosion exists, corrective control measures should be implemented as soon as conditions permit. As per the specific conditions outlined in the SCRCA permit, all ESC measures must be installed prior to the commencement of the works and be maintained until all disturbed areas have been rehabilitated to pre-construction conditions, at which time they will be removed. <p>Wet Soil Shutdown:</p> <ul style="list-style-type: none"> Wet weather shutdown must be enforced in agricultural areas where soils are susceptible to rutting, compaction, topsoil, and subsoil mixing, and/or loss of soil structure because of saturated soil conditions. During wet weather events where there is excessive saturation of the soil (for example, heavy rainfall events), construction activities should be temporarily halted. Enbridge Gas' on-site inspection team should determine when construction activities may be resumed. ESC and stabilization measures should be maintained during construction, restoration, and rehabilitation until the site is established. Where evidence of erosion exists, corrective control measures should be implemented as soon as conditions permit. If a situation develops that necessitates construction during wet soil conditions, soil protection measures should be implemented, such as confining construction activity to the narrowest area practical, installing surface protection measures, and using wide tracked or low ground pressure vehicles. <p>High Winds:</p> <ul style="list-style-type: none"> During construction activities, weather conditions should be continually monitored to identify the potential onset of high wind conditions and to preserve topsoil. In the event that high winds occur, the Contractor should implement protective measures such as: 	<ul style="list-style-type: none"> Loss of soil productivity on cultivated land as a result of topsoil and subsoil mixing, erosion, and compaction and rutting. 	<p>The residual effect is reversible and isolated to the construction period. It is anticipated to be low magnitude, short- to medium-term in duration, and not significant.</p>

Potential Effects	Mitigation Measures	Residual Effects	Characterization and Significance Evaluation
	<ul style="list-style-type: none"> ○ Suspend earth moving operations. ○ Apply dust suppressants or vegetate the piles. ○ Protect soil stockpiles with a barrier or windscreen. ● In conjunction with the above measures, all required materials and equipment should be readily accessible and available for use as required. <p>Soil Stripping:</p> <ul style="list-style-type: none"> ● Enbridge Gas should review the construction footprint and determine if soil stripping is feasible. If stripping is undertaken, the topsoil layer and subsoil should be stripped and stockpiled separately to avoid mixing: <ul style="list-style-type: none"> ○ Keep subsoil pile separate from the topsoil pile. Maintain a minimum separation distance of 1 m between topsoil, subsoil piles on agricultural lands. Alternatively, install a physical barrier (for example, landowner-approved straw, coloured tackifier, geotextile buffer). ○ Plan construction activities so that gravel / well pad material is not deposited on unsalvaged topsoil prior to placement in the well pad footprint unless a segregation layer is present. ● Topsoil stripping and replacement must be carried out when the soil is relatively dry so that the soil structure is preserved and, if possible, soil stripping must be conducted in an uphill direction in order to improve drainage. ● If clean-up is not practical during the construction year, it should be undertaken in the year following construction, starting once the soils have sufficiently dried. Interim soil protection measures should be implemented in sensitive areas to stabilize the soil for over-wintering. <p>Soil Compaction:</p> <ul style="list-style-type: none"> ● Within agricultural lands, the Contractor must make every reasonable effort to utilize such equipment and techniques necessary to minimize topsoil compaction as follows: <ul style="list-style-type: none"> ○ Topsoil must not be used as a working pad. ○ Soil compaction must be minimized by working or moving soils only when they are dry. ○ Stones which are 75 millimetres in diameter and larger that are left on the ground must be removed from agricultural fields. ● Where soil has been compacted by the construction process, an agrologist should determine where decompaction may be necessary. Compaction can be alleviated by using farm equipment such as an agricultural subsoiler prior to replacing the topsoil. Sub-soiling with an agricultural subsoiler, followed by discing, chisel ploughing and cultivating, to smooth the surface, should be considered on agricultural lands. In high traffic areas where deep compaction persists, additional deep tillage or subsoiling may be required on a site-specific basis. Soil density and/or penetrometer measurements on and off the easement may be used as a means of assessing the relative degree of soil compaction caused by construction as well as determining that soil has been sufficiently de-compacted. 		
Project activities may result in the introduction or	<ul style="list-style-type: none"> ● In consultation with the landowner(s) and an agrologist, Enbridge Gas may develop and implement an agricultural soil sampling plan for potential pests and/or diseases that are known to the area. If the results indicate an issue or concern, Enbridge Gas will work with the agrologist and landowner to develop a best practice protocol. 	No residual effects are anticipated following the implementation of the	N/A

Potential Effects	Mitigation Measures	Residual Effects	Characterization and Significance Evaluation
spread of SCN and/or invasive plant species.	<ul style="list-style-type: none"> Any imported topsoil used for rehabilitation will have a composite sample analyzed for identified concerns. Machinery should arrive on site in a clean condition. At a minimum, clumps of accumulated soil or crop debris from openings, tracks, tires, and wheels should be removed using a hand scraper, shovel, broom, or wire brush. This level of cleaning must occur on-site before leaving a property or work area and before entering a different property or work area. Plan construction activities so that cleaning is completed off of the roadway, preferably in temporary workspace, and complete a visual inspection. If needed, compressed air may be utilized after completing a rough clean, as described above. Ontario native seed mixes that are free of weed species should be used for revegetation, if needed. 	recommended mitigation measures	
Discovery of historical contamination during construction	<ul style="list-style-type: none"> The Contractor should proceed with construction cautiously and be aware of the potential for contaminated soils. The Enbridge Suspect Soils Procedure must be implemented if suspected contamination is encountered during construction. Additional subsurface investigations (confirmatory and waste classification samples) should take place in areas suspected of having soil contamination. 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: <ul style="list-style-type: none"> 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 the excavation. The presence of solid wastes including drums, containers, or tanks. If suspect soils are identified, implement the Suspect Soils Procedure outlined in the EPP and Well Drilling Program. 	<ul style="list-style-type: none"> No residual effects are anticipated following implementation of the recommended mitigation measures 	N/A
Project activities may result in the crushing and/or severing of agricultural tile drains	<p>Enbridge Gas should undertake consultation with landowners of agricultural fields to confirm where random tile drainage is present. If tile drainage is present, Enbridge Gas should implement the following mitigation during ground disturbance:</p> <ul style="list-style-type: none"> Crushing or severing of drainage tiles is closely related to ground conditions and more likely to occur in wet (versus dry) soil conditions. Contractor should monitor weather conditions accordingly. Follow wet weather/wet soil conditions outlined above; Develop site-specific tile plans with an independent tile Contractor; Conduct pre-tiling, 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 area 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 being 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, invite the landowner to inspect and approve the repair; and Plan construction activities so that backfill is properly compacted under repaired tiles and that backfilling is conducted carefully. 	<ul style="list-style-type: none"> No residual effects are anticipated following implementation of the recommended mitigation measures 	N/A

6.1.2 Physiography and Topography

The Project components will be installed within active agricultural fields. The topography in the area is generally flat (ranging from 186 masl to 190 masl) and is heavily influenced by grading and tilling from agricultural operations.

The permanent above-ground Project components represent a long-term change in the topography of the Project and natural surface drainage patterns will be altered, which may result in pooling/ponding of water if proper design and mitigation measures are not employed.

Table 6-2 identifies potential effects, mitigation measures, and residual effects on the physiography and topography, and provides an assessment of the significance of the residual effects, where present.

Table 6-2: Assessment of Potential Effects of the Project on Physiography and Topography

Potential Effects	Mitigation Measures	Residual Effects	Characterization and Significance Evaluation
Alteration of natural surface drainage patterns at permanent above-ground Project components	<ul style="list-style-type: none"> Store excavated material in a manner that does not interfere with natural drainage patterns. Maintain surface water drainage across the construction site, during all phases of construction. Control surface drainage on the construction site, if warranted, to prevent surface water from entering areas of disturbed and erodible soils. It is recommended that dual-purpose sediment and erosion control and wildlife exclusion fencing be applied around the perimeter of the temporary pad: 	<ul style="list-style-type: none"> No residual effects to surface drainage patterns are anticipated following implementation of the recommended mitigation measures. 	N/A

Potential Effects	Mitigation Measures	Residual Effects	Characterization and Significance Evaluation
	<ul style="list-style-type: none"> ○ ESC measures will be implemented prior to and maintained during the construction phases and as required post construction to mitigate entry of sediment into adjacent sensitive natural features (i.e., watercourses, wetlands, etc.). ○ ESC measures should be installed as per manufacturer's specifications. ● Plan construction activities so that they do not cause the ponding of water or unintentional channelization of surface water flow. ● Follow the recommendations of Enbridge Gas Engineering with regards to permanent site drainage plans. ● Restore pre-construction topography to maintain proper drainage of surface water upon restoration of temporary workspace and along the pipeline right-of-way. As per the specific conditions outlined in the SCRCA permit, construction areas will be restored to original condition or better. Grades will be returned to existing, and all unused debris will be removed offsite. ● If prepared, contour facility sites as per the Engineering Plans for the site. ● Regrade areas with vehicle ruts or erosion gullies. ● In the event that construction or maintenance activities result in changes in surface water regimes, corrective 		

Potential Effects	Mitigation Measures	Residual Effects	Characterization and Significance Evaluation
	action, in consultation with the landowners and SCRCA should be conducted to resolve the issue. SCRCA is to be notified of any changes and contacted at least 24 hours prior to initiation of any construction and be notified no more than 24 hours following completion of the work.		

6.1.3 Bedrock

Drift thickness in the Study Area ranges from 26 metres to 36 metres. Based on the available MECP well records, depth to bedrock averaged a depth of 33 mbgs. The pipeline will be installed at an approximate depth (top of pipe) of between 0.9 metres to 1.2 metres deep and will be installed using open-cut trenching. Bedrock is not anticipated to be encountered during construction of the pipeline, but is likely to be encountered during the well drilling process, as the target depth of the proposed natural gas storage well is approximately 640 mbgs.

Table 6-3 identifies potential effects, mitigation measures, and residual effects for bedrock and provides an assessment of the significance of the residual effects, where present.

As a result of encountering bedrock, a reduction in groundwater quality and quantity and potential interference with private water wells may occur. Refer to the mitigations outlined in **Table 6-4**.

Table 6-3: Assessment of Potential Effects of the Project to Bedrock

Potential Effects	Mitigation Measures	Residual Effects	Characterization and Significance Evaluation
Well drilling activities will result in the removal of bedrock	<ul style="list-style-type: none"> Do not allow stones from bedrock removal to interfere with topsoil or subsoil piles and do not allow stones to be placed on unsalvaged topsoil. Dispose of stones at locations approved by the landowner (for re-use) or in accordance with the excess soil regulations. General approaches for excavating solid beds of rock or masses of rock that must be removed by drilling will be included in the forthcoming EPP and Well Drilling Program. 	<ul style="list-style-type: none"> No residual effects are anticipated following implementation of the recommended mitigation measures 	N/A

6.1.4 Groundwater

Given the target depth of the proposed natural gas storage well (approximately 640 mbgs), the groundwater table will likely be encountered during the well drilling process. Water well data for the water supply well located within 144 metres southeast of the proposed well location indicated that static water was found at a depth of 26 mbgs.

Should groundwater be encountered during ground disturbance activities, groundwater may exfiltrate into the work area and require dewatering to facilitate construction. There is the potential to encounter contaminated groundwater in conjunction with the discovery of historically contaminated soils.

The potential for leaks or spills from Project activities to affect groundwater is considered in Accidents and Malfunctions (**Section 8.0**).

Table 6-4 identifies potential effects, mitigation measures, and residual effects for the groundwater component, and provides an assessment of the significance of the residual effects, where present.

Table 6-4: Assessment of Potential Effects of the Project on Groundwater

Potential Effects	Mitigation Measures	Residual Effects	Characterization and Significance Evaluation
Ground disturbance activities during construction may result in a reduction in groundwater quality	<p>General Measures</p> <ul style="list-style-type: none"> • Review and adhere to the Hazardous Waste Management and Disposal Plan that will be included in the EPP and Well Drilling Program to avoid contaminant introduction during construction. • 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. • 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; Enbridge’s Environment Department should also be notified (1-855-336-2056). <p>Petroleum Wells</p> <ul style="list-style-type: none"> • Prior to construction, a survey team should conduct utility sweeps, confirm the location of existing infrastructure, including petroleum wells, and consult with the landowner, as necessary. 	<ul style="list-style-type: none"> • No residual effects are anticipated following implementation of the recommended mitigation measures 	<ul style="list-style-type: none"> • N/A

Potential Effects	Mitigation Measures	Residual Effects	Characterization and Significance Evaluation
	<ul style="list-style-type: none"> If any unanticipated petroleum wells or associated works are encountered during the Project, Enbridge Gas shall cease work immediately and contact the MNR's Petroleum Operations Section (POS) to further understand their legislative obligations under the <i>Oil, Gas and Salt Resources Act</i>. The POS may be contacted at POSRecords@ontario.ca or 519-873-4634. <p>Dewatering</p> <ul style="list-style-type: none"> Register under the EASR where dewatering in excess of 50,000 L/day and up to 400,000 L/day is required. Obtain a PTTW from the MECP where dewatering in excess of 400,000 L/day is required. Excess water should be directed away from sensitive natural features. Potentially contaminated groundwater should be managed and disposed of in accordance with applicable regulatory requirements. <p>Water Well Monitoring Program</p> <ul style="list-style-type: none"> A pre-drilling and post-drilling private water well survey will be offered for properties within 1 kilometre of the Project. The private water well surveys will be conducted to assess potential interference with groundwater supply wells as a result of the Project. 		

Potential Effects	Mitigation Measures	Residual Effects	Characterization and Significance Evaluation
	<ul style="list-style-type: none"> Should a private water well be affected by construction, a potable water supply should be provided, and the water well should be repaired or restored, as needed. 		

6.2 Natural Environment

6.2.1 Atmospheric Environment

Air emissions (including greenhouse gases) from vehicle and equipment use (for example, 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 greenhouse gas, is emitted from internal combustion engines.

Table 6-5 identifies potential effects, mitigation measures, and residual effects on the atmospheric environment component, and provides an assessment of the significance of the residual effects, where present.

Table 6-5: Assessment of Potential Effects of the Project on the Atmospheric Environment

Potential Effects	Mitigation Measures	Residual Effects	Characterization and Significance Evaluation
Use of motorized vehicles and equipment during construction and where site-specific preventative maintenance is performed during operations will result in an increase in air emissions	<ul style="list-style-type: none"> • Equip vehicles with emission controls, as applicable, and operate within regulatory requirements. • Limit long-term idling, where possible, and in accordance with the Township of St. Clair Idling By-Law. • Implement dust control measures during dry and windy conditions. Dust control measures should be monitored regularly to increase efficiency. • Limit construction activities during high wind events. 	<ul style="list-style-type: none"> • Temporary, localized increase in air emissions 	<ul style="list-style-type: none"> • The residual effect is reversible and will occur occasionally over the assessment period. It is anticipated to be low magnitude, short-term in duration, and not significant.

6.2.2 Aquatic Environment

No unmapped or mapped aquatic features exist within the Study Area. As such, no adverse effects to the aquatic environment are expected to occur as a result of Project activities.

6.2.3 Wetlands

There are no mapped provincially significant or unevaluated wetlands present within or immediately adjacent to the Study Area. Furthermore, no unmapped wetlands were observed during the preliminary field investigation completed on June 18, 2024. As such, no adverse effects to wetlands are expected to occur as a result of Project activities.

6.2.4 Areas of Natural and Scientific Interest or Other Environmentally Sensitive Areas

There are no designated ANSIs or other environmentally sensitive areas located within the Study Area. As such, no adverse effects to ANSIs or other environmentally sensitive areas are expected to occur as a result of Project activities.

6.2.5 Vegetation

The majority of the Study Area can be classified as agricultural (annual row crops) with some naturalized areas (the cultural thicket/meadow). Hedgerows (TAGM5) also occur in the Study Area.

The Project components will be installed within active agricultural fields. The proposed construction access road will follow existing gravel laneways within the agricultural field. As such, vegetation encountered will likely consist of common roadside vegetation of minor ecological value (vegetation capable of colonizing disturbed sites). Vegetation disturbance will be limited to the roadside shoulder located at the edge of the agricultural field. As the Project is primarily located in an active agricultural field and existing gravel laneways, vegetation disturbance is considered minor.

To accommodate Project construction, tree removals are not anticipated. Select pruning may be required to support safe passage of vehicles along the existing laneways that parallel the hedgerow (to be completed outside of sensitive timing windows).

Should construction activities, such as temporary laydown areas or equipment encroachment, extend into vegetated areas (particularly to the west of the Study Area), there is potential for temporary loss or alteration of vegetation. Construction activities could also result in the introduction or spread of invasive species, as assessed in **Section 6.1.1**.

The potential for leaks or spills from Project activities to affect vegetation is considered in Accidents and Malfunctions (**Section 8.0**).

Table 6-6 identifies potential effects, mitigation measures, and residual effects on the vegetation component, and provides an assessment of the significance of the residual effects, where present.

Table 6-6: Assessment of Potential Effects of the Project on Vegetation

Potential Effects	Mitigation Measures	Residual Effects	Characterization and Significance Evaluation
Project activities may result in the loss or alteration of vegetation during construction	<ul style="list-style-type: none"> • Minimize the width of the construction area 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, pruning activities, and injury to trees. • Where feasible, construction traffic should be limited to the existing road allowance and existing access roads/laneways to avoid potential compression of tree root zones. • Protect vegetation adjacent to the working area from construction traffic and/or materials storage. • Complete tree pruning outside sensitive timing windows for migratory birds (April 1 to August 31) and SAR bats (April 1 to September 30). Should pruning occur within the sensitive timing window for migratory birds, nest surveys are required. If active and protected nests are observed, pruning will be delayed. • Should tree pruning occur during the SAR bat active window (April 1 to September 30), a qualified biologist will assess the 	<ul style="list-style-type: none"> • Temporary, localized loss or alteration of vegetation 	<ul style="list-style-type: none"> • The residual effect is reversible and will be isolated to the construction period. It is anticipated to be low magnitude, short to medium-term in duration, and not significant.

Potential Effects	Mitigation Measures	Residual Effects	Characterization and Significance Evaluation
	<p>branches proposed for pruning to determine if impacts to SAR bat habitat may occur. Additional mitigation and/or considerations will be employed if the branches proposed for pruning support suitable SAR bat roosting habitat.</p> <ul style="list-style-type: none"> • 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. 		

6.2.6 Wildlife and Wildlife Habitat

The results of the preliminary ELC survey determined that lands in the Study Area are primarily classified as cultural communities with some natural communities occurring in the north and northwest portion of the Study Area.

The graveled access road shoulders could provide habitat to ground nesting birds and basking areas for reptiles. The natural gas storage well, access road, permanent pad, and pipeline will be installed within active agricultural areas, and construction access will be limited to existing laneways or agricultural fields. As a result, direct interaction with wildlife and wildlife habitat is expected to be minimal.

Limited vegetation removal is anticipated to be required for the Project, as noted in **Section 6.2.5**. Wildlife habitat and wildlife movement may potentially be impacted where Project activities encroach on or occur in close proximity to vegetated areas. The removal of vegetation can impact nesting birds if conducted during known breeding bird timing windows (generally between April 1 and August 31). Tree pruning during construction can impact bat roosting if conducted during the bat active season (April 1 to September 30).

Construction or maintenance activities have the potential to cause physical harm to slower moving animals such as frogs and snakes. Snakes may use open areas such as road shoulders to bask, potentially putting them at risk from moving vehicles and equipment.

Noise from construction or maintenance activities can cause some temporary disturbance to local wildlife if present in the Study Area.

The potential for leaks or spills from Project activities to affect wildlife and wildlife habitat is considered in Accidents and Malfunctions (**Section 8.0**).

Table 6-7 identifies potential effects, mitigation measures, and residual effects on the wildlife and wildlife habitat component, and provides an assessment of the significance of the residual effects, where present.

Table 6-7: Assessment of Potential Effects of the Project on Wildlife and Wildlife Habitat

Potential Effects	Mitigation Measures	Residual Effects	Characterization and Significance Evaluation
Alteration or loss of wildlife habitat, disruption of wildlife movement, and/or increase in wildlife mortality during construction and where maintenance is performed during operations	<p>General Measures</p> <ul style="list-style-type: none"> • 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 should 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 should be reported to the MNR/MECP. • Food waste and debris should be removed from the site daily and disposed of at an approved waste facility. • 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. <ul style="list-style-type: none"> ○ Suspend construction if active habitat is discovered and an adequate setback distance cannot be maintained. 	<ul style="list-style-type: none"> • Temporary, localized alteration or loss of wildlife habitat, disruption of wildlife movement, and/or increase in wildlife mortality 	<ul style="list-style-type: none"> • The residual effect is reversible and will occur occasionally over the assessment period. It is anticipated to be low magnitude, short-term in duration, and not significant

Potential Effects	Mitigation Measures	Residual Effects	Characterization and Significance Evaluation
	<ul style="list-style-type: none"> • Maintain habitat connections, where possible, during construction. • Implement measures to restore lost habitat/habitat connections. <p>Birds</p> <ul style="list-style-type: none"> • Abide by regulatory timing windows for migratory birds (generally April 1 to August 31) 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 (April 1 to August 31). Nest sweeps are valid for up to 7 days; however, it is recommended to clear vegetation within 48 hours of a migratory bird nest sweep. • 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 site inspector and Project Environmental Advisor. <p>Bats</p> <ul style="list-style-type: none"> • Narrow construction footprint, where possible, to limit tree removals/pruning. 		

Potential Effects	Mitigation Measures	Residual Effects	Characterization and Significance Evaluation
	<ul style="list-style-type: none"> • Should tree removal be required, complete assessments prior to clearing to determine if candidate maternity trees (those with loose bark, crevices, hollows, or cavities) are present. • Clearing of potential bat roosting trees is to be avoided between April 1 and September 30. If potential bat roosting trees require removal during this window, additional surveys may be required. Contact a qualified individual prior to clearing. <p>Herptiles</p> <ul style="list-style-type: none"> • If a snake is encountered on site, stop work, and allow the individual to leave the area. • Take extra caution during the early morning or on colder days as snake species are more likely to use road shoulders during these periods. • Prior to the timing windows for the nesting and breeding season, flag or fence off identified habitat features, if possible. The recommended depth of the fence and height of the fence differs depending on the reptile group: <ul style="list-style-type: none"> ○ Snakes: varies by species – consult the MNR (2013) document <i>Species at Risk Best Practices Technical Note, Reptile and Amphibian Exclusion Fencing (Version 1.1)</i>. Note, stakes should be installed on the activity side to prevent snakes using stakes to climb fencing. 		

Potential Effects	Mitigation Measures	Residual Effects	Characterization and Significance Evaluation
	<ul style="list-style-type: none"> Visually inspect machinery and/or engine compartments each day during construction for basking reptiles such as snakes. 		

6.2.7 Species at Risk

Desktop review and field studies determined that the Study Area has limited potential to support SAR and SAR habitat. The Project will be constructed entirely within an active agricultural field and crop clearing may be required to accommodate construction. Minimal vegetation clearing and tree pruning is anticipated. There is the potential to encounter SAR snakes (Butler's Gartersnake, Eastern Foxsnake) during Project activities; however, encroachment or alteration of potential snake habitat is not anticipated as a result of Project activities.

Table 6-8 identifies potential effects, mitigation measures, and residual effects on the species at risk with potential to occur within or immediately adjacent to the Project Footprint, and provides an assessment of the significance of the residual effects, where present.

Table 6-8: Assessment of Potential Effects of the Project on Species at Risk

Potential Effects	Mitigation Measures	Residual Effects	Characterization and Significance Evaluation
Disruption of SAR movement and/or increase in SAR	<ul style="list-style-type: none"> Minimize construction footprint and temporary workspace, where possible. 	<ul style="list-style-type: none"> No residual effects are anticipated following implementation of the 	N/A

Potential Effects	Mitigation Measures	Residual Effects	Characterization and Significance Evaluation
mortality during construction and where maintenance is performed during operations	<ul style="list-style-type: none"> • Complete wildlife sweeps prior to commencing work at the start of activity, including inspections of equipment prior to ignition. • Handling (capturing, handling, and/or transport) of wildlife is not permitted without applicable provincial authorizations (i.e., a Wildlife Scientific Collectors Authorization [WSCA] issued under the Fish and Wildlife Conservation Act, 1997; authorization under the ESA, through MECP). • Where SAR are encountered in the Project construction area, Project activities will immediately cease until the individual has safely vacated the area on their own accord. • In the event a SAR enters the work area and is in immediate danger, construction activities will immediately cease, and a 30 m buffer will be applied to the individual until the individual has vacated the area before construction activities can resume. If the individual 	recommended mitigation measures	

Potential Effects	Mitigation Measures	Residual Effects	Characterization and Significance Evaluation
	<p>does not vacate the area within a reasonable time, or the individual is unable to vacate safely, a qualified professional may be required to relocate the individual to a safe location away from the construction activities.</p> <ul style="list-style-type: none"> • In the event tree removal is required, implement recommended mitigation measures and timing windows in reference to SAR bats: <ul style="list-style-type: none"> ○ Avoid tree removal during the bat active period (April 1-September 30). This timing window should also be considered for tree pruning activities. • Provide SAR identification sheets to workers that outline habitat, identifying characteristics and mitigation measures. • Document SAR encounters and notify appropriate regulatory authorities. • Any SAR observed must be reported to MECP within 24 hours. Contact the local MECP Branch to report SAR: 		

Potential Effects	Mitigation Measures	Residual Effects	Characterization and Significance Evaluation
	<ul style="list-style-type: none"> ○ Sarnia MECP District Office ○ 1094 London Rd. ○ Sarnia ON N7S 1P1 ○ Toll Free: 1-800-387-7784 ○ Tel: (519) 336-4030 Fax: (519) 336-4280 		

6.3 Socio-Economic Environment

6.3.1 Planning Policies

Under the relevant plans and policies reviewed for this report, the Project is consistent with and conforms to the municipal and provincial land use policies. The Project is consistent with Provincial direction for supporting long-term economic prosperity and sustaining healthy, liveable, and safe communities (MMAH 2020).

No adverse effects to planning policies are expected to occur as a result of Project activities.

6.3.2 Existing and Planned Land Use

The Project required to replace the deliverability lost in the Waubuno Storage Pool due to well relines and abandonments. The Project conforms to the existing applicable official plans and zoning by-laws and no amendments are required. The Project does not require re-designation or re-zoning of lands and will not restrict existing or future agricultural or rural land uses occurring within and adjacent to the Study Area.

The Project is in alignment with the County of Lambton’s policies on development and economic growth, outlined in the Official Plan (2020). As highlighted in **Section 4.3.1**, the County of Lambton Official Plan states that “the County supports the subsurface storage of gas or other hydrocarbons.” Furthermore, it is in alignment with the Township of St. Clair’s Zoning By-Law which permits states that “Petroleum Well and Petroleum Work” and “Pipelines” are permitted within all zones in the Township.

Enbridge Gas will obtain the required municipal permits and approvals prior to construction and operations.

No adverse effects to existing and planned land use policies are expected to occur as a result of Project activities.

6.3.3 Population, Employment and Economic Activities

The Project is located in a rural area where there are nearby farms and agricultural businesses. The Project is not anticipated to have a noticeable impact on the economic activities of the surrounding agricultural community as construction will be contained within property boundaries, construction activities will be short-term in duration, and appropriate traffic control measures will be implemented, as needed.

There will be a minor loss of productive agricultural land base to accommodate the Project that will result in an economic impact on the directly affected property owner. However, the economic effects are anticipated to be negligible and fully mitigated through easement agreements.

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. As such, no adverse effects to population, employment and economic activities are anticipated to occur as a result of Project activities.

6.3.4 Human Occupancy and Resource Use

The Project is located in a rural area and is surrounded by agricultural and rural residential uses. Operation of vehicles and equipment during construction activities may temporarily cause nuisance noise for local residents.

The installation of the Project components directly within agricultural lands will disrupt agricultural activities for the private landowner at the Project location. During construction, the landowner will lose small portions of agricultural land to accommodate the Project, and, during the operations phase, planting, maintenance, and harvesting regimes and patterns may be impacted by the location of the permanent Project components.

While visual effects of construction cannot be mitigated, they will be short term and localized. During operations, visual effects will be negligible as the natural gas storage well and the accompanying gravel pad will not be visible from the municipal road right-of-way.

Table 6-9 identifies potential effects, mitigation measures, and residual effects on the human occupancy and resource use component, and provides an assessment of the significance of the residual effects, where present.

Table 6-9: Assessment of Potential Effects of the Project on Human Occupancy and Resource Use

Potential Effects	Mitigation Measures	Residual Effects	Characterization and Significance Evaluation
<p>Operation of Project vehicles and equipment will result in an increase in nuisance noise during construction</p>	<ul style="list-style-type: none"> • General construction activities (for example, installation of the access road, and the temporary and permanent pads and pipeline) will be carried out in compliance with municipal noise by-laws with respect to noise and construction equipment usage. However, well drilling activities will take place 24 hours a day, 7 days a week and therefore, applicable noise by-law exemptions will be sought as activities cannot be avoided on Statutory Holidays, Sundays, or at night: <ul style="list-style-type: none"> ○ General noise control measures will be implemented during construction (for example, proper maintenance of equipment, muffling systems, minimum idling of equipment and vehicles). 	<ul style="list-style-type: none"> • Temporary, localized increase in nuisance noise during construction 	<ul style="list-style-type: none"> • 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.

Potential Effects	Mitigation Measures	Residual Effects	Characterization and Significance Evaluation
Disruption to agricultural activities during construction and operations	<ul style="list-style-type: none"> • Enbridge Gas will work with private landowners to determine appropriate locations for Project components. • Enbridge Gas will work with private landowners to coordinate harvesting/planting schedules with the schedule for construction activities and any required surveys/assessments that necessitate clearing (for example, agricultural assessments) to limit disturbance. • Notify affected landowners of the construction schedule and any maintenance activities and provide construction details in advance of the activity. 	<ul style="list-style-type: none"> • No residual effects are anticipated following implementation of the recommended mitigation measures 	<ul style="list-style-type: none"> • N/A

6.3.5 Infrastructure and Services

The Project is located in a rural area accessed by two-lane arterial roads, Oil Springs Line and Telfer Road, and farming equipment is likely to be present on these roads. Construction may cause temporary traffic disruptions and a temporary increase in hazardous/non-hazardous wastes.

Table 6-10 identifies potential effects, mitigation measures, and residual effects on the infrastructure and services component, and provides an assessment of the significance of the residual effects, where present.

Table 6-10: Assessment of Potential Effects of the Project on Infrastructure and Services

Potential Effects	Mitigation Measures	Residual Effects	Characterization and Significance Evaluation
Traffic disruptions during construction	<ul style="list-style-type: none"> • Traffic access will be maintained, where possible, during construction. Good management and best practices will be implemented during construction to minimize traffic disruption. If required, temporary detour routes will be provided to reduce potential impacts to drivers. • As the Project occurs in a largely agricultural area, Enbridge Gas should consult with local landowners to avoid busy times for agricultural equipment movement and operations. • A common parking area should be established 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. • Enbridge Gas will respond to construction complaints promptly. • Vehicle traffic will be managed in accordance with the Traffic Control and Protection Plan, and forthcoming EPP and Well Drilling Program: <ul style="list-style-type: none"> ○ An appropriate Traffic Control and Protection Plan will be developed and implemented in accordance with 	<ul style="list-style-type: none"> • Temporary, localized traffic disruptions during construction 	<ul style="list-style-type: none"> • 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.

Potential Effects	Mitigation Measures	Residual Effects	Characterization and Significance Evaluation
	Ontario Traffic Manual (OTM) Book 7 – Temporary Conditions.		
Increase in wastes during construction	<ul style="list-style-type: none"> • Solid waste will be collected and disposed of appropriately in accordance with applicable regulations at a licensed waste facility. • Hazardous wastes will be transported by MECP licensed waste haulers to a MECP registered disposal site. • Temporary storage of wastes onsite will include the use of secured containers in designated sites away from sensitive areas. 	<ul style="list-style-type: none"> • No residual effects are anticipated following implementation of the recommended mitigation measures 	N/A

6.3.6 Indigenous Community Land and Resource Use

To date, Indigenous communities have not identified any specific issues or concerns regarding the impact of the Project on their use of land and resources in the Study Area. As such, no adverse effects to Indigenous communities' use of land and resources are expected to occur as a result of Project activities.

Enbridge Gas will continue to engage with Indigenous communities throughout the Project and will work with Indigenous communities to address issues or concerns, should they arise.

6.3.7 Cultural Heritage Resources

The results of the Stage 1 AA (PIF P1048-0164-2024) (TMHC 2024a) for the Project indicated that the Stage 1 Study Area had potential for the recovery of archaeological resources due to proximity (i.e., within 300 metres) of a feature that signals archaeological potential, namely: elevated topography (the flat uplands surrounding the Bear Creek valley); and a water source (Bear Creek). A Stage 2 AA was recommended and completed in Fall 2024.

The results of the Stage 2 AA (PIF P1048-0165-2024) discovered two archaeological locations consisting of several artifacts. Neither location had further CHVI under the current standards, or met provincial standards for Stage 3 assessment, and no further work was recommended. A copy of the Stage 2 AA is included in **Appendix A-2**.

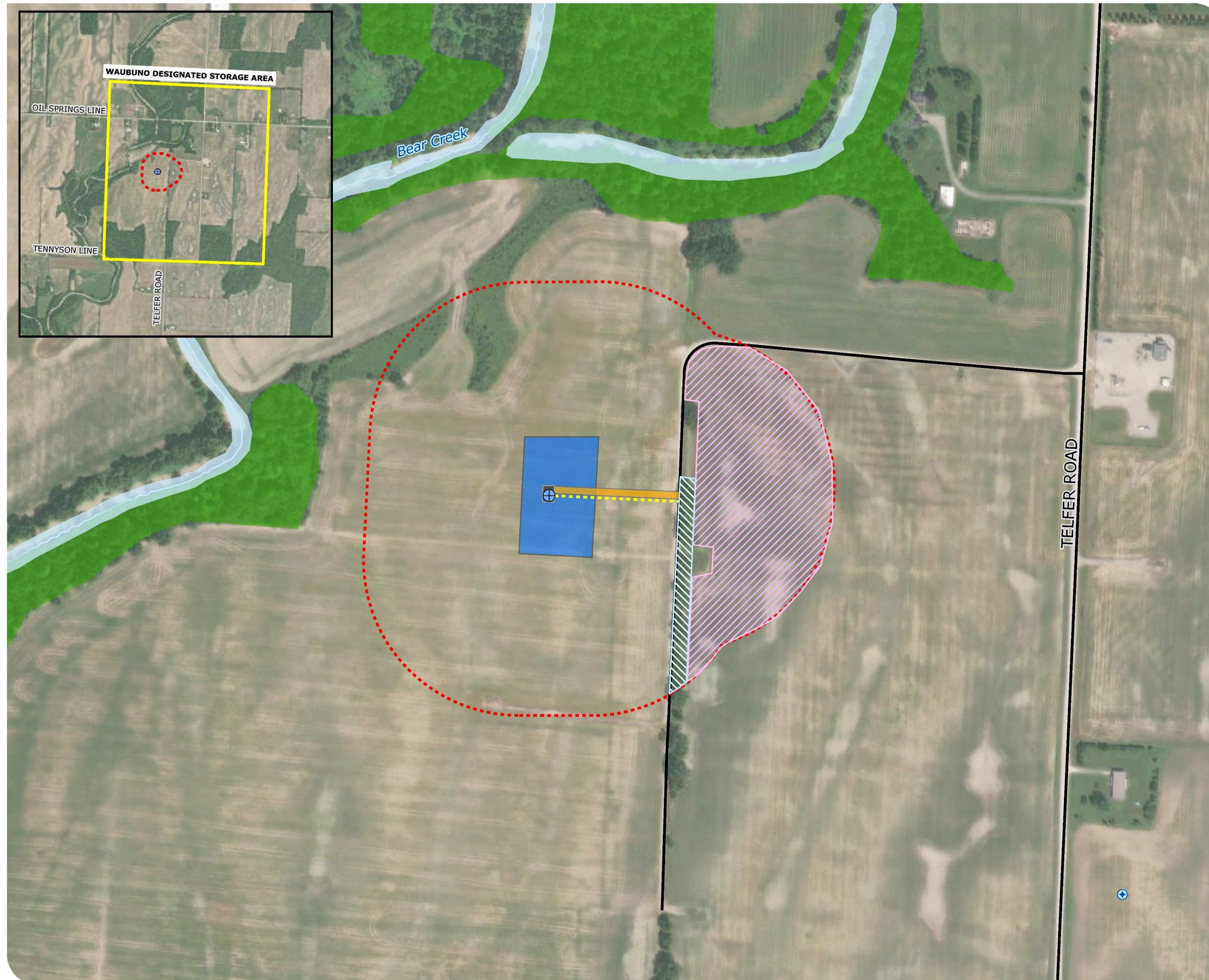
A Cultural Heritage Screening – Technical Memorandum (TMHC 2024b) did not identify potential heritage properties in the Study Area. As such, disturbance of built heritage resources or cultural heritage landscapes during construction is not anticipated and no mitigation measures have been recommended.

Table 6-11 identifies potential effects, mitigation measures, and residual effects on the cultural heritage resources component, and provides an assessment of the significance of the residual effects, where present.

Table 6-11: Assessment of Potential Effects of the Project on Cultural Heritage Resources

Potential Effects	Mitigation Measures	Residual Effects	Characterization and Significance Evaluation
Disturbance of previously undiscovered archaeological resources during construction	<ul style="list-style-type: none"> Follow the recommendations of the Stage 1 AA and Stage 2 AA. Should previously undocumented archaeological resources be discovered, there may be a new archaeological site and therefore subject to section 48(1) of the <i>Ontario Heritage Act</i>. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out an archaeological assessment, in compliance with section 48(1) of the <i>Ontario Heritage Act</i>. The <i>Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33</i> 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 Ontario Regulation 30/11 the coroner shall notify the Registrar, Ontario Ministry of Public and Business Service Delivery, which administers provisions of that Act related to burial sites. In situations where human remains are associated with archaeological resources, the Ministry of Citizenship and Multiculturalism should also 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 <i>Ontario Heritage Act</i>. 	<ul style="list-style-type: none"> No residual effects are anticipated following implementation of the recommended mitigation measures 	N/A

Figure 7: Mitigation Mosaic
Map 1 of 3



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MITIGATION MOSAIC
FIGURE 7, MAP 1 OF 3

- Study Area (125m)
- Proposed Natural Gas Storage Well
- Water Well Supply
- Waubuno Designated Storage Area
- Proposed Permanent Pad (approx. 8m by 12m)
- Proposed Temporary Pad (approx. 60m by 100m)
- Proposed Permanent Access Road (approx. 6m wide)
- Proposed Lateral Pipeline (approx. 100 m)

Ministry of Natural Resources and Forestry (MNR)

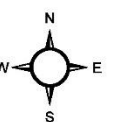
- Wooded Area - Centroid
- Waterbody
- Watercourse
- Road

Potential SAR Habitat

- Grassland Bird
- Fox/Garter Snake

SCALE 1:3,000

0 25 50 100 Meters



MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR, ESRI BASEMAPS, DILLON CONSULTING LIMITED,
ENBRIDGE GAS INC.

MAP CREATED BY: VF
MAP CHECKED BY: KG
MAP PROJECTION: NAD 1983 CSRS UTM Zone 17N



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Figure 7: Mitigation Mosaic Notes
Map 2 of 3

Mitigation Measures

1. Where there is potential for soil erosion, the need for and location of Erosion and Sediment Control (ESC) measures should be determined by an inspector with appropriate qualifications and installed prior to the commencement of work in the area. Construction must adhere to the St. Clair River Conservation Authority (SCRCA) permit issued for this project which contains specific permit conditions on ESC. As per the specific conditions outlined in the SCRCA permit (Reference No.: R#2024-0648), all ESC measures must be installed prior to the commencement of the works and be maintained until all disturbed areas have been rehabilitated to pre-construction conditions, at which time they will be removed.
2. ESC and stabilization measures should be maintained during construction, restoration, and rehabilitation until the site is established. Where evidence of erosion exists, corrective control measures should be implemented as soon as conditions permit. Refer to Section 6.1.1, Table 6-1 and Section 6.1.2, Table 6-2 of the ER.
3. Wet weather shutdown must be enforced in agricultural areas where soils are susceptible to rutting, compaction, topsoil and subsoil mixing, and/or loss of soil structure because of saturated soil conditions. During wet weather events where there is excessive saturation of the soil (i.e., heavy rainfall events), construction activities should be temporarily halted. Enbridge Gas' on-site inspection team should determine when construction activities may be resumed. Refer to Section 6.1.2, Table 6-2 of the ER.
4. Soil compaction must be minimized during construction. The Contractor must make every reasonable effort to utilize equipment and techniques necessary to minimized topsoil compaction, as per Section 6.1.2, Table 6-2 of the ER.
5. If contaminated soils are suspected, follow the mitigation and protection measures outlined in Section 6.1.2, Table 6-2 of the ER.
6. In consultation with the landowner(s) and an agrologist, Enbridge Gas may develop and implement an agricultural soil sampling plan for potential pests (i.e., soybean cyst nematode [SCN]) and/or diseases that are known to the area. If the results indicate an issue or concern, Enbridge Gas will work with the agrologist and landowner to develop a best practice protocol. Refer to Section 6.1.2, Table 6-2 of the ER.
7. Any imported topsoil used for rehabilitation will have a composite sample analyzed for identified concerns related to SCN.
8. Machinery should arrive on site in a clean condition.
9. Enbridge Gas should undertake consultation with landowners of agricultural fields to confirm where random tile drainage is present. If tile drainage is present, Enbridge Gas should undertake standard mitigation during ground disturbance, as per Section 6.1.2, Table 6-2 of the ER.
10. Bedrock removal should be undertaken in accordance with the site-specific Well Drilling Program, as per Section 6.1.3, Table 6-3 of the ER.
11. Register under the Environmental Activity and Sector Registry where dewatering in excess of 50,000 L/day and up to 400,000 L/day is required. A Permit to Take Water will be required if water taking is greater than 400,000 L/day. Excess water should be directed away from sensitive natural features. Refer to section 6.1.4, Table 6-4 of the ER.
12. There are two private water wells within 500 m of the proposed well location, but interaction with these wells is not anticipated. Consultation should occur with landowners to confirm distance of the drilling for the new wells to private water wells. A pre-drilling and post-drilling private water well survey will be completed for properties within 500 metres of the Project.

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MITIGATION MOSAIC NOTES

FIGURE 7, MAP 2 OF 3



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Figure 7: Mitigation Mosaic Notes
Map 3 of 3

2025 WAUBUNO WELL DRILLING PROJECT

ENBRIDGE GAS
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MITIGATION MOSAIC NOTES

FIGURE 7, MAP 3 OF 3

Mitigation Measures

13. Implement dust control measures during dry and windy conditions, as per Section 6.2.1, Table 6-5 of the ER.
14. Minimize the width of the construction area, clearly mark the limits of the workspace and flag or fence off nearby natural vegetation communities that should not be disturbed. Refer to Section 6.2.5, Table 6-6, Section 6.2.6, Table 6-7, and Section 6.2.7, Table 6-8 of the ER.
15. If tree or vegetation removal is required, follow the mitigation and protection measures outlined in Section 6.2.5, Table 6-6 of the ER.
16. 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 should be handled by a qualified professional as per Section 6.2.6, Table 6-7 and Section 6.2.7, Table 6-8 of the ER.
17. Construction activities will be carried out in compliance with relevant provincial permits and regulatory requirements related to wildlife, wildlife habitat, and SAR. To reduce impacts on wildlife, wildlife habitat, and SAR, follow the timing windows outlined in Section 6.2.6, Table 6-7, and Section 6.2.7, Table 6-8 of the ER.
18. Conduct pre-construction nest sweeps if construction will occur within the migratory bird restricted activity period (April 1 to August 31). Nest sweeps are valid for 7 days; however, it is recommended to clear vegetation within 48 hours of a migratory bird nest sweep. Refer to Section 6.2.6, Table 6-7 for additional details on post-construction survey requirements.
19. Construction activities related to the installation of the access roads and temporary/permanent pad will be carried out in compliance with municipal noise by-laws. Well drilling activities will take place 24 hours a day, 7 days a week and therefore, applicable noise by-law exemptions will be sought as activities cannot be avoided on Statutory Holidays, Sundays, or at night.
20. General noise control measures will be implemented during construction (i.e., proper maintenance of equipment, muffling systems, minimum idling of equipment and vehicles). Refer to section 6.3.4, Table 6-9 of the ER.
21. Traffic access will be maintained, where possible, during construction. Good management and best practices will be implemented during construction as per section 6.3.5, Table 6-10 of the ER.
22. Solid waste will be collected and disposed of appropriately in accordance with applicable regulations at a licensed waste facility. Hazardous wastes will be transported by MECP licensed waste haulers to a MECP registered disposal site. Temporary storage of wastes onsite will include the use of secured containers in designated sites away from sensitive areas.
23. Should previously undocumented (i.e., unknown or deeply buried) archaeological resources be discovered, the person discovering the archaeological resources will notify the Environmental Inspector and Enbridge Environmental Advisor, as per Section 6.3.7, Table 6-12 of the ER. Should previously undocumented archaeological resources be discovered, the Contractor must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out an archaeological assessment. Refer to Section 6.3.7, Table 6-11 of the ER.
24. Follow the recommendations of the Stage 1 AA (PIF P1048-0164-2024) undertaken by TMHC Inc. (TMHC) and the Stage 2 AA (PIF P1048-0165-2024) completed by TMHC for this project.

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DATE: 2024-11-27

7.0 Cumulative Effects Assessment

The cumulative effects assessment evaluates the significance of residual effects of the Project (that is, effects remaining after the application of mitigation measures) 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 physical, natural, and socio-economic environment, multiple actions of a similar nature that occur over an extended period of time may have a significant effect.

7.1 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.

7.1.1 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 1-kilometre buffer around the Project (that is, a 1-kilometre radius around the proposed permanent and temporary Project infrastructure).

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

7.1.2

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 predicted the level of significance of total cumulative effects. However, in order to determine the incremental increase in total cumulative effects caused by the Project, the cumulative effects assessment focuses on an evaluation of the significance of the Project's contribution to total cumulative effects (that is, the extent to which the Project alone is contributing to the total cumulative effect). Predicted levels of significance of total cumulative effects and the significance evaluation of Project contribution to the 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.

There is limited confidence in the assessment of total cumulative effects due to the inherent assumptions and uncertainties at the regional scale and assessment approach that is proportionate to the scope and regional context of the Project. 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**.

7.2 Past, Present, and Reasonably Foreseeable Activities and Disturbances

Past and present activities and disturbances or reasonably foreseeable developments that may occur in the Project Study Area were considered within the spatial and temporal boundaries outlined in **Section 7.1.1**. Future projects considered in the assessment do not include proposed or hypothetical projects where formal plans have not been disclosed.

7.2.1 Past and Present Activities and Disturbances

This subsection includes a high-level summary of past and present disturbances within the spatial boundaries of the cumulative effects assessment to provide 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 residential development;
- Agricultural activities;
- Utility activities (power, gas, communications);
- Transportation infrastructure development and activities; and
- Oil and gas activities (existing pipelines, facilities, and natural gas storage).

7.2.1.1 Treaty History

Indigenous peoples have used the lands that are now known as Lambton County for thousands of years. Prior to the displacement caused by early European settlement, this area was actively used for hunting by a number of Anishinaabe peoples. The area which became the Township of St. Clair was part of the Huron Tract, approximately 2.76 million acres of land subject to Provisional Treaty No. 27 ½ between the local Chippewa nations and the British Crown signed on April 26, 1825 (Surtees, 1984). An earlier 1819 agreement was never realized and for six years the territory remained in limbo. The provisional treaty was finally reached as a result of John Galt's intention to form the Canada Company which required one million acres of land to sell to prospective settlers (Surtees, 1984).

The Chippewas nations transferred most of the Huron Tract to the Crown but maintained their territories in four reserve lands along the St. Clair River and on the shores of Lake Huron near Kettle Point and the Ausable River (River aux Sable). These reserves would become the Aamjiwnaang First Nation and the Chippewas of Kettle and Stony Point First Nation. The agreement was formalized in 1827 through Treaty No. 29 (Canadian Legal Information Institute, 2000; Duern, 2017).

7.2.1.2

County of Lambton

There is archaeological and historical evidence of Indigenous occupation in the County of Lambton area from Paleo times through the period of European contact and into the period of earliest European settlement. Prior to the 1830s, the County of Lambton was sparsely occupied by people of European descent. One of the reasons for this was that historical County of Lambton was composed of mainly forested and swampy areas that made settling and traveling to the County difficult. A few French settlers were living along the banks of the St. Clair River. An unfortified British military reserve was set up along the eastern bank of the St. Clair River at the entrance to Lake Huron, in the location of what was to eventually become the Village of Point Edward around 1800. This military reserve was established to protect the entrance of Lake Huron from possible American invaders (Elford 1967). It is thought that the earliest European settlement in the County of Lambton was focused along Bear Creek (or the Sydenham River) in what has come to be known as the Baldoon Settlement (Belden & Co. and Phelps 1880). This area was settled by Highland Scotch immigrants who came to the area around 1804 under the direction of Lord Selkirk (Belden & Co. and Phelps 1880). However, no sizable European populations settled in the County until the early 1830s when there was an influx of British settlers. By 1834, there were 1,728 settlers in the county and by 1891 the population had increased to 58,810 people (Elford 1967). By 1835, the ten townships that would eventually comprise the County were laid out and surveyed. It was not until 1850 that the County of Lambton became a provisional county and three years later it became an independent municipality (Elford 1967).

The Grand Trunk Railway first opened in 1859 and helped increase the County of Lambton's shipping profile and provided passage to new immigrants. Transportation through the County of Lambton was considerably hindered by the lack of good thoroughfares. Given that much of the county was essentially a vast level clay plain with few streams and rivers, it was poorly drained and good, dry roads were hard to come

by. Swamplands often prohibited the establishment of early through roads. Nonetheless, a few early major transportation routes offered some solace to travelers. These included the Egremont/London Road (now Highway 22), the Plank Road (connecting Sarnia to Petrolia), and the Fourth Line (Confederation Line).

The oil and gas industry, from the late 1860s through to today, greatly influenced the County of Lambton's settlement, physical landscape, and economy. With the start of the "oil boom" in 1858, both the rail and shipping industry expanded and ferry service to the United States was formed (County of Lambton, n.d.). In the twelve years from 1858 to 1860 following the discovery of oil in Oil Springs, approximately 1.5 million litres of crude oil were extracted and shipped to various refineries in the United States and Hamilton, Ontario (Ford, 1987). However, it was not until the 1860s when the oil industry took off that there was a dramatic increase in land prices and influx of labourers coming to the County of Lambton for work. During this decade, using a standard drilling rig, natural gas wells were sunk, and by the end of 1861, there were approximately 400 wells drilled in the County of Lambton (Ford 1987). The boom lasted only briefly as the flow from most of the wells became intermittent or ceased all together, according to Ford (1987).

While the late 1800s was a time of exploitation of oil, salt mining was hugely exploited in Sarnia for the better half of the 1900s but by 1960, production slowed (Ford, 1987). Dominion Salt, later Sifto Salt, operated on the site of what is now Centennial Park on Sarnia Bay, and produced the bulk of the salts mined and exported.

Agriculture and oil and gas operations continue in present day and, when compared to other areas in southwestern Ontario, the County of Lambton is still largely rural in nature.

7.2.1.3

Township of St. Clair (Moore Township)

As early as 1812, two Frenchmen, Champleau and Papineau, had settled near present day Mooretown, the earliest known village in the township. Sir John Colborne named this township after the noted British General John Moore, who died on the battlefield of Corunna in 1809 (TMHC 2024a). Moore Township was noted for its relatively large number of settlements in Lambton County, owing largely to the presence of and access to the Saint Clair Division of Canada's Southern Railway Line, which bisects the township west to east just south of Mooretown between the communities of Courtright and

Brigden (TMHC 2024a). Though the St. Clair riverfront portion of the Moore Township was settled early in the 19th century, settlement of interior portions of the township did not begin until the 1830s because forested swampland dominated these interior lands. The two distinct sections of the township, the riverfront, and the interior, received two distinct groups of settlers. People of official class (e.g., army and navy men, businessmen, physicians, mechanics) settled the riverfront, and those of the labouring class (e.g., farmers, shepherds, sailors, fishermen, carpenters) settled the less hospitable interior (TMHC 2024a).

Until at least 1839, the only passable roadway in Moore Township was the one along the river (now the St. Clair Parkway), which itself had limited access to areas farther north. Even when concession lines were opened up and ditches dug alongside them, it was many years before these roads could be travelled by wagon due to the extensive dense and wet clay soils in the poorly drained interior regions (TMHC 2024a).

7.2.2 Reasonably Foreseeable Developments

The best practices approach described in the Cumulative Effects Assessment Practitioners' Guide (Hegmann et al. 1999) advise inclusion of certain (that is, actions that will proceed or have a high probability of proceeding) and reasonably foreseeable (that is, 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 (that is, the development is either under construction or has been approved).
- Reasonably foreseeable – the activity or development is expected to proceed (that is, 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 June 20, 2024.

Sources reviewed included: the Canadian Impact Assessment Registry (Impact Assessment Agency of Canada 2024); Natural Resources Canada Major Projects Inventory (Government of Canada 2024b); Investing in Canada Plan Project Map (Infrastructure Canada 2024); Infrastructure Ontario Projects Map (Infrastructure Ontario 2024); Environmental Registry of Ontario (Government of Ontario 2024); Hydro One Major Projects (HONI 2024); Ontario Energy Board Active Applications (OEB n.d.); 2024-2028 Roads Construction Program (County of Lambton 2023); and Capital Project - St. Clair Township (Township of St. Clair n.d.).

A search of the above sources revealed no reasonably foreseeable activities or developments were identified within the spatial boundaries (i.e., 1-kilometre buffer) of the cumulative effects assessment.

7.3 Residual Effects Carried forward in the Cumulative Effects Assessment

Residual effects are those effects that remain following the application of mitigation measures, and they are the effects that are carried forward into the cumulative effects assessment.

The following residual effects were identified in **Section 6.0** and have been carried forward for the cumulative effects assessment:

- Loss of soil productivity;
- Increase in air emissions;
- Loss or alteration of vegetation;
- Alteration or loss of wildlife habitat, disruption of wildlife movement, and/or increase in wildlife mortality;
- Increase in nuisance noise; and
- Traffic disruptions.

7.4 Identification and Analysis of Potential Cumulative Effects

The potential residual effects of the Project in combination with identified existing activities are presented in the following subsections. Since no reasonably foreseeable activities were identified within the spatial and temporal boundaries of the cumulative effects assessment, the analysis below considers the Project acting in combination with only existing and ongoing activities and disturbances.

7.4.1 Loss of Soil Productivity

Soil productivity within the Study Area has been altered from past and existing activities such as agriculture, rural settlement, utility activities, transportation and infrastructure development, and oil and gas activities. The Project will act cumulatively with existing activities (namely, agricultural activities) in the Study Area to lead to an incremental change in soil productivity.

In the Project Footprint, existing agricultural activities have likely impacted soil productivity through the use of fertilizers and pesticides, as the use of these products can influence the natural cycling of nutrients in soil and the application of synthetic fertilizers may lead to a decrease in soil microbiological diversity (Lekberg et al. 2021). Mechanical tillage and the use of heavy farming machinery can also lead to loss of soil

productivity as both may result in soil compaction and soil erosion if soils are not managed effectively. Soil compaction is caused by heavy farm machinery use and tilling when soils are too wet. According to Magdoff and scholars (2021), “compaction has become an increasing problem as farm equipment has [become] increasingly heavier”.

The mitigation measures outlined in **Section 6.0** will reduce the Project-related cumulative impacts to soil productivity. It is anticipated that landowners will implement best practices for agriculture to limit impacts to soil.

Although total soil disturbance and loss of soil productivity will increase as a result of the Project, the magnitude of the Project’s contribution is considered to be low given the limited areal extent of the Project Footprint and mitigation measures will be implemented for soil conservation. The Project’s contribution to cumulative effects on soil and soil productivity is considered reversible (the increased disturbance of soils is expected to approximate pre-disturbance productivity in less than 10 years once identified) and short to medium-term in duration and, therefore, not significant.

7.4.2

Increase in Air Emissions

The primary sources of air emissions in the Study Area are from fuel combustion and dust related to transportation, agricultural vehicles, and heavy farming equipment. The Project will act cumulatively with existing activities in the Study Area to increase air emissions, predominantly during construction activities, although, it is expected that air contaminant concentrations will quickly attenuate.

The mitigation measures in **Section 6.0** will reduce the Project-related cumulative air emissions. No mitigation measures beyond the Project-specific mitigation already recommended for air emissions in **Section 6.0** are deemed warranted.

The Project’s contribution to cumulative effects on air quality will be reversible, short-term in duration, and low magnitude and, therefore, not significant.

7.4.3 Loss or Alteration of Vegetation

The Project is located in an agricultural and rural residential setting. The Project occurs within active agricultural field and crop clearing may be required to accommodate planned activities. Minimal vegetation clearing and tree pruning is anticipated during Project construction.

No locally or regionally adopted threshold or standard exists against which an incremental change in vegetation composition can be judged. However, given that the proposed works will occur in rural residential and active agricultural land, the amount of loss and alteration of vegetation within the Study Area is considered low in magnitude and will have a negligible contribution to the cumulative change to vegetation composition in this setting.

Lands supporting vegetation disturbed by construction will be seeded with the appropriate seed mixture following clean-up activities, where applicable, unless otherwise requested by a landowner.

To reduce the potential for cumulative effects on loss or alteration of vegetation, Project-specific mitigation recommended in **Section 6.0** will be implemented and additional mitigation will be included in the forthcoming EPP and Well Drilling Program.

The Project's contribution to cumulative change of vegetation composition within the Study Area is considered reversible, low magnitude, and short to medium-term in duration (depending on the time needed for various species to regenerate following disturbance) and, therefore, not significant.

7.4.4 Alteration or loss of Wildlife Habitat, Disruption of Wildlife Movement, and/or Increase in Wildlife Mortality

7.4.4.1 Wildlife Habitat

Direct alteration of habitat (for example, vegetation clearing) and indirect alteration of habitat (for example, noise and light pollution from anthropogenic sources) from existing activities will act cumulatively with the Project to affect wildlife habitat. Past developments and existing activities that have disturbed or encroached on wildlife habitat are mostly attributed to agricultural operations and rural residential

development and the associated anthropogenic sources (for example, pesticides, runoff, and use of vehicles and heavy farm machinery).

Studies suggest that as habitat loss increases, the remaining habitat becomes increasingly fragmented or the habitat patches are increasingly isolated, which may compound the effects of habitat loss (Swift and Hannon 2010). The extent and frequency of disturbance in agricultural and residential landscapes, such as the Study Area, have exceeded levels at which the ecosystems are capable of supporting some wildlife populations with natural biodiversity and abundance.

The proposed construction activities, including vegetation removal required for the installation of the access road and other Project components, have the potential to temporarily disturb wildlife habitat adjacent to the Project Footprint. These activities will be conducted within the previously disturbed residential and agricultural lands and, therefore, no new habitat fragmentation or removal is anticipated.

There is the potential for indirect disturbance to ground nesting birds and basking areas for reptiles should work occur during sensitive timing windows (generally April 1 to August 31 for migratory birds and April to October [active period] for snakes). During sensitive timing windows, the Project will act cumulatively with existing agricultural and rural residential activities in the Study Area to potentially directly disturb nesting birds and reptiles in the Study Area.

Direct disturbance to bats may also occur should potential bat roosting trees be removed during the timing window of April 1 and September 30. If potential bat roosting trees require removal during this window, additional surveys may be required.

Should Project activities follow the mitigation measures outlined in **Section 0** and **Section 6.2.7**, the Project's contribution to the cumulative change to wildlife habitat is considered to be negligible in magnitude, isolated to the construction period, reversible, and short to medium-term in duration and, therefore, not significant.

7.4.4.2

Wildlife Movement

The Project may act cumulatively within the existing landscape which is dominated by agriculture, rural residential development, roads, and utility infrastructure (for example, electric transmission lines). These activities may cause changes in the natural movement patterns of wildlife.

Displacement and sensory disturbance of wildlife resulting from Project construction may act cumulatively with current sources of auditory and visual disturbances, such as vehicular traffic noise, sound emissions from nearby agricultural activities, as well as human domestic activities and natural sounds. The existing environment may already cause wildlife to alter their movement patterns (for example, through avoidance).

To reduce or avoid changes to wildlife movement during Project construction, mitigation measures will be implemented such as conducting wildlife surveys at appropriate times and consulting and engaging with a qualified environmental professional for proper handling/relocation of wildlife, if required. Early construction is anticipated to begin in December 2024 and well drilling activities will commence in the Fall of 2025. Some construction activities may overlap sensitive timing windows for herptiles, migratory birds, SAR bats, and SAR birds. The Project will be constructed within rural residential and agricultural lands adjacent to existing linear utility corridors (for example, electric transmission lines and roadways); therefore, no barriers to movement caused by fragmentation are anticipated after construction activities are completed.

The Project is predicted to have a negligible contribution to the cumulative effects on wildlife movement patterns in the Study Area. With the implementation of mitigation measures, the Project's contribution to cumulative effects on wildlife movement patterns within the Study Area is anticipated to be short-term in duration, isolated, and reversible and, therefore, not significant.

7.4.4.3

Wildlife Mortality Risk

The Project may act cumulatively within the existing landscape which is dominated by agriculture, rural residential development, roads, and utility infrastructure (for example, electric transmission lines). These activities may increase wildlife mortality risk from habitat and sensory disturbance, or vehicle/wildlife collisions.

Risk of wildlife mortality will be mitigated by limiting vehicle speeds in Project construction zones, relocating wildlife observed within the construction footprint, conducting bird and bat surveys prior to construction, where needed, properly managing waste storage and disposal to avoid attracting wildlife, avoiding sensitive and active timing windows, where possible, and erecting exclusion fencing in specific areas, if needed.

The Project's contribution to cumulative changes in wildlife mortality risk within the Study Area is considered to be negligible in magnitude, short-term in duration, and isolated to the construction phase and, therefore, not significant.

7.4.5 Increase in Nuisance Noise

Ambient sound levels in the Study Area are a product of vehicular traffic noise from Oil Springs Line and Telfer Road, noise emissions from agricultural activities, as well as human domestic activities and natural sounds. Nuisance noise will increase during construction activities due to the increased truck traffic and operation of heavy equipment and may act cumulatively with existing activities. Well drilling activities will take place 24 hours a day, 7 days a week and noise from these activities will also act cumulatively with existing activities.

The Project's contribution to a cumulative increase in nuisance noise within the Study Area is considered reversible, isolated to the construction phase, medium magnitude, and short-term in duration (since the cumulative increase in nuisance noise will be alleviated upon completion of Project construction activities) and, therefore, not significant.

7.4.6 Traffic Disruptions

The Project will act cumulatively with existing activities in the Study Area to increase traffic on local roads during construction. During construction, there may be temporary disturbance to laneways and accesses when construction passes. Access to the Project area will use an existing gravel laneway off Telfer Road which is assumed to be used by the landowner and other agricultural operators to access cultivated fields to the east and west. Enbridge Gas should engage with local landowners to avoid, to the extent feasible, extensive use of agricultural laneways during times of heavy traffic due to agricultural activities. Access to private properties (for example, laneways, driveways, and agricultural land) will be maintained at all times during construction.

Nuisance impacts associated with an increase in traffic on local roads will be felt particularly during the spring, summer, and fall when agricultural activities and use of local roads in the Study Area will be at their peak.

With the implementation of appropriate mitigation measures, including on-going consultation, the Project's contribution to a cumulative change in traffic is considered to be of low magnitude, reversible, short-term in duration, isolated to the construction period and, therefore, not significant.

7.5 Cumulative Effects Assessment Summary

With the implementation of mitigation measures, there are no situations where the Project's contribution to cumulative effects is predicted to result in a permanent or long-term effect of high magnitude that has a high probability of occurrence and cannot be technically or economically mitigated.

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;
- Casing failure and integrity issues during operation; and
- Pipeline failure during operations resulting in the release of natural gas.

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 considers the type, scale, and location of the Project, the characteristics of the product to be transported, sensitivities in the Study Area, and Enbridge Gas' internal preventative protocols for reducing the likelihood of such events.

Enbridge Gas takes steps to ensure the safe and reliable operation of their natural gas infrastructure, including continuously monitoring the entire network and performing regular field surveys to confirm integrity. Strategies aimed at preventing potential accidents and malfunctions include:

- Constructing the wellhead to American Petroleum Institute and other standards;
- Proactively identifying possible causes of casing failure and adopting prevention and control measures during the design and operation phase;
- Monitoring and inspecting the well and pipeline using vehicles and foot patrols;
- Maintaining the pipeline with special pipeline coatings and cathodic protection;

- Patrolling the right-of-way regularly using aircraft, vehicles, and foot patrols; and
- Monitoring the pipeline remotely and through depth of cover surveys, 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 Casing Failure and Integrity Issues during Construction Operation

Well integrity issues are most commonly associated with casing corrosion, shearing, collapsing, and axial buckling. Casing failure is the result of many effects, and the causing factors of casing failure can include geological, production, engineering, and man-made factors. Integrity issues can also be the result of cement quality and wear and tear, chemical degradation, dynamic drilling and production pressures, and completion and abandonment complexities. If common factors leading to casing failure and other integrity issues are not identified pre-emptively, accounted for during the design phase, and if continuous monitoring of the well does not occur during operation, the risk of a loss of integrity, accidents, and production interruptions increases and may result in negative environmental impacts (for example, greenhouse gas emissions and contamination of surface and groundwater). One example of an accident that could occur is an uncontrolled mitigation of hydrocarbons.

Failure to isolate sources of hydrocarbon early in the well-construction process or operations may result in abnormally pressurized casing strings and leaks of gas into zones that would otherwise not be gas bearing. Migration of substantial amounts of natural gas can seep into private water wells and/or shallow aquifers as far out as 1 kilometre, according to some studies (Warner et al. 2012).

8.1.3 Pipeline Failure during Operations

Natural gas is lighter (less dense) than air, is non-toxic, and has low solubility in water. Consequently, natural gas escaping from a minor leak would volatilize to the atmosphere with little potential to adversely affect the surrounding environment.

- Pipelines can be damaged by natural events or vandalism; however, more often they are damaged by regular work activities conducted by third parties (e.g., road or utility work or an agricultural operation [notably, tiling]). It is a requirement that contractors obtain utility locates prior to any ground disturbance by contacting Ontario One-Call in order to decrease the possibility of accidentally damaging adjacent infrastructure.

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**. Additional mitigation measures will be provided in the forthcoming EPP and Well Drilling Program.

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.	Project Footprint	<ul style="list-style-type: none"> • Equipment and machinery should be kept in good working order and maintained on a regular basis. • Safe work procedures will be followed 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 Enbridge Gas procedures. • Contractor(s) and construction crews should have appropriate spill containment and hazardous material and response training. • Implement applicable sections of Enbridge Gas' internal protocols for safety, pre-emergency preparedness, and emergency response actions. • Depending on the type/extent and or nature of spill, the following should be contacted: <ul style="list-style-type: none"> ○ 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). 	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.

Potential Effect(s)	Project Activity	Spatial Boundary	Mitigation Measures	Potential Residual Effect(s)
			<ul style="list-style-type: none"> ○ Report emergencies by calling 911 (Emergency Services). 	
Casing failure and other compromises to well integrity.	Operation of natural gas storage well.	1-kilometre from proposed well location.	<ul style="list-style-type: none"> • Design and install natural gas storage well that meet applicable standards and regulations. • Pre-emptively identify factors that may contribute to casing failure and design accordingly. • During operation, monitor well and casing conditions. • Implement applicable sections of Enbridge Gas' internal protocols for safety, pre-emergency preparedness and emergency response in the event of an integrity issue. 	Depending on the scope of the integrity issue 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 casing failure or other compromises to well integrity are reversible with the implementation of remedial measures and residual effects are not likely to be significant.
Pipeline failure resulting in a release of natural gas.	Pipeline operations	Study Area	<ul style="list-style-type: none"> • Implement Enbridge Gas internal protocols for safety, pre-emergency preparedness and emergency response. • Regularly monitor and inspect pipeline using vehicles and foot patrols and depth of cover surveys, in-line inspections, integrity digs, and leak surveys. 	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. 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.

Enbridge Gas 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 natural gas storage well will be constructed and operated in accordance with applicable industry standards (for example, the American Petroleum Institute for industry standards for wellhead design and the Canadian Standards Association Standard Z341) 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).

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. Refer to **Section 9.1.2.2** where details on potential effects of flooding are discussed.

Severe weather events can pose a risk to the health and safety of construction personnel, damage machinery, or cause Project schedule delays.

9.1.2 Natural Hazards

According to the County of Lambton Official Plan, Schedule D (2020), there are no areas identified as having natural hazard features (that is, potential hazardous forest types for wildland fire or karst natural hazard features) within the Study Area. As evidenced through the Official Plan, and SCRCA mapping, potential natural hazards in the Study Area are limited and would likely be the result of flooding and seismic activity.

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 (Natural Resources Canada [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 2021a).

The Project is located within the Southern Great Lakes Seismic Zone (NRCAN 2021a) and is in an area with a low seismic hazard rating (NRCAN 2021b). Three moderate sized (magnitude 5) events have occurred in the past 250 years within this seismic zone, all of which took place in the United States (NRCAN 2021b). No significant earthquakes have been recorded in the Study Area over the past 50 years (NRCAN 2022). The last earthquake recorded in proximity to the Project took place in October 2023, in the Corunna area, with a magnitude of 2.5 (Sarnia News Today 2023).

9.1.2.2 Flooding

The effects of climate change and severe weather (for example, heavy or persistent precipitation) can lead to flood events. The Project is in a rural environment dominated by perennial crop covers, annual row crops, vegetation, and natural soils in an area with random agricultural drainage tiles where storm water is managed to a great extent by this man-made infiltration. Agricultural practices on lands in the Study Area can lead to increased runoff depending on the type of farming that is being conducted at the time. Flooding can occur where the drainage tiles are overwhelmed by inputs either from extreme precipitation, overland flooding from nearby watercourses, accelerated runoff

from intensively farmed lands, or some combination thereof, including factors such as snow/ice melt and frozen or saturated ground conditions.

Flooding in the St. Clair Region watersheds is uncommon but, historically, has been associated with major waterbodies such as Lake St. Clair and areas of low topographic relief (SCRCA 2008). Recent flooding in the Bear Creek subwatershed is due to unusually high amounts of precipitation occurring throughout the spring and summer of 2024, with more than the monthly average precipitation falling in one week in July 2024 (Petrolia Lambton Independent 2024).

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)
<p>Severe weather events (heavy or persistent precipitation, extreme temperatures, high winds, or frequent/intense storms [lightning, ice]) and natural hazards (seismic activity, flooding) may affect the Project in the following ways:</p> <ul style="list-style-type: none"> • Delay the Project schedule; • Damage construction equipment; • Increase safety concerns for workers during construction; and • Damage the observation well during operation. 	<p>Construction and operations</p>	<p>Project Footprint and Study Area</p>	<ul style="list-style-type: none"> • Notify the site inspector and the Project Environmental Advisor in the event mitigation measures identified in the Project-specific EPP 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 that may pose a hazard to safety and/or result in damage to Project infrastructure and equipment. • Design and construct the natural gas storage well in accordance with all applicable industry standards (for example, the American Petroleum Institute and Canadian Standards Association Standard Z341). • Conduct regular monitoring during operations and maintenance in accordance with regulatory requirements. 	<p>With the implementation of mitigation measures, no residual effects are predicted for potential effects of the environment on the Project.</p>

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.

Inspection and Monitoring Recommendations

Recommendations and commitments made in this ER should become part of the contract specification with the contractor selected to construct the Project. Trained and qualified personnel should be on-site to monitor construction and should be responsible for checking that the mitigation and protective measures and monitoring requirements in the ER are executed and construction is compliant with permit conditions. Enbridge Gas will implement an orientation program for inspectors and contractor personnel to provide information regarding Enbridge Gas' environmental program and commitments, SAR identification, as well as safety measures.

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

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

The primary objective of compliance and effects monitoring 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.

Additional objectives of compliance and effects monitoring are to monitor the physical, natural, and socio-economic environment to determine any 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. Monitoring reports also allow for the collection of quantitative data for the assessment of effects, and to recommend mitigation measures for future projects.

10.1

Pre-Construction

Prior to construction, the activities that should be undertaken include, but are not limited to:

- Acquisition of all necessary permits and approvals;
- The development of a Project-specific EPP with accompanying mitigation mosaic and Well Drilling Program, including appropriate management and contingency plans (for example, Waste Management, Spill Contingency);
- 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 EPP, including the location of sensitive environmental features and associated mitigation measures including SAR. Other areas of concern within the Project Footprint are also reviewed in the field at this time; and
- A water well monitoring program. As outlined in Table 6-4, a pre-drilling private water well survey will be offered for properties within 1 kilometre of the Project. The private water well survey will be conducted to determine the Project's potential interference with groundwater supply wells. A 1-kilometre notification radius for the Well Monitoring Program was selected based on a review of O. Reg. 245/97: *Exploration, Drilling and Production*. O.Reg. 245/97 does not specify the distance for development wells (which is the category of well the Project falls under); however, specifics are provided for similar storage projects. Section 2.7(1)7 of O. Reg. 245/97 states that, "*after an application for a license of permit with respect to a well that is part of a Compressed Air Energy Storage (CAES) project in a porous rock reservoirs is completed [...], the applicant shall give written notice of the application to the following persons and entities: 7. any person who owns land on which a water well, geothermal well, or a well as defined under the Act is situated if that well is located within the proposed surface area of the CAES project or within **1-kilometre** of the proposed surface area.*" The 1-kilometre notification radius has been regarded as a best practice for this Project as the Project is of a similar scope to that of a CAES project and similar geological conditions are present in the Study Area to that described in O. Reg. 245/97, Section 2.7. (1)7.

10.2 Post-Construction

The following activities may be undertaken post-construction, as needed, and as required:

- Clean-up and remediation;
- Post-construction environmental monitoring;
- Final reporting (for example, completion of a Post-Construction Report and Final Monitoring Report); and
- Post-Drilling Private Water Well Survey. As part of the water well monitoring program, a water well survey will be conducted following drilling activities for properties who participated in the pre-drilling survey. This follow-up survey will be used to determine if changes to water quality or quantity were observed as a result of the Project.

Summary and Conclusions

The Study involved undertaking an inventory of physical, natural, and socio-economic environmental features within the defined Project Study Area. This information was used to produce maps identifying features that could be impacted by construction, drilling activities, and operation. The location of the natural gas storage well and other Project components were selected for the Study based on physical, natural, and socio-economic environmental features, the location of the DSA, as well as technical and economic feasibility requirements.

Mitigation measures were recommended to reduce potential adverse effects to the environment. These recommendations are anticipated to effectively protect the physical, natural, and socio-economic environmental features within the Project Footprint. The mitigation recommendations contained in this report, along with Enbridge Gas' construction policies, should be included in contract specifications. Development of a Project-specific EPP, Well Drilling Program, 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 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.

Dillon does not anticipate any significant adverse effects from the construction and operation of the Project with the implementation of the mitigation measures recommended in this report.

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Appendix A-1

Stage 1 Archeological Assessment and MCM Clearance Letter

**Stage I Archaeological Assessment
2025 Waubuno Well Drilling Project
Part of Lot 10, Concession 2
Geographic Township of Moore
Township of St. Clair, Lambton County, Ontario**

Original Report

Submitted to:
Ministry of Citizenship and Multiculturalism

Prepared for:
Dillon Consulting Limited
51 Breithaupt Street – Suite 200
Kitchener, ON N2H 5G5

and

Enbridge Gas Inc.
500 Consumers Road
North York, ON M2J 1P8

Prepared by:
TMHC Inc.
1108 Dundas Street, Unit 105
London, ON N5W 3A7
519-641-7222
tmhc.ca



Licensee: Liam Browne, MA (P1048)
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Project No: 2024-141
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EXECUTIVE SUMMARY

A Stage I archaeological assessment was conducted for Enbridge Gas Inc.'s (Enbridge) 2025 Waubuno Well Drilling Project (the "Project") located southwest of the intersection of Telfer Road and Oil Springs Line in the Township of St. Clair, Lambton County, Ontario. The Project involves drilling a new natural gas injection/withdrawal well and the installation of approximately 100 m of Nominal Pipe Size (NPS) 8-inch lateral natural gas pipeline in the Waubuno Designated Storage Area (DSA). Project activities will commence with the construction of a temporary gravel drilling pad measuring up to 60 m by 100 m. Upon completion of drilling activities, a permanent gravel pad measuring 8 m by 12 m will be installed around the well and the new natural gas pipeline will be installed. The area assessed (the "Project Area") includes all lands with potential to be impacted by construction. The Project Area is roughly 2.78 ha (6.87 ac) in size and is located within Lot 10, Concession 2 of the Geographic Township of Moore, Lambton County. It comprises a section of an agricultural field containing two existing natural gas wells along with their associated gravel access laneways. The Stage I archaeological assessment was triggered by Enbridge's Archaeology Protocol and due diligence for construction projects, which is informed by the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario* (OEB 2023). In 2024, TMHC Inc. (TMHC) was contracted by Dillon Consulting Ltd. (Dillon) on behalf of Enbridge to carry out the assessment, which was conducted in accordance with the provisions of the *Provincial Policy Statement*. The purpose of the assessment was to determine whether there was potential for archaeological resources to be present within the Project Area.

The Stage I background study included a review of current land use, historic and modern maps, past settlement history for the area and a consideration of topographic and physiographic features, soils and drainage. It also involved a review of previously registered archaeological resources within 1 km of the Project Area and previous archaeological assessments within 50 m. The background study indicated that the property had potential for the recovery of archaeological resources due the proximity (i.e., within 300 m) of features that signal archaeological potential, namely:

- elevated topography (the flat uplands surroundings the Bear Creek valley); and,
- a water source (Bear Creek).

As the Project Area contained several features signaling archaeological potential, a Stage I property inspection was conducted to evaluate the current conditions of the Project Area and determine if any areas of archaeological potential remained intact within the Project Area. The Stage I property inspection visually confirmed that portions of the Project Area have witnessed prior disturbance and do not retain archaeological potential. This disturbance is the result of the prior construction of the gas wells and gravel laneways. These areas will not require further assessment. The remainder of the Project Area consists of agricultural fields, which retain archaeological potential and will require further assessment.



Based on the Stage I background research and property inspection, the following recommendations are made:

- All lands identified as having archaeological potential require Stage 2 archaeological assessment prior to ground disturbing activities.
 - The Stage 2 assessment of the ploughed agricultural field (2.72 ha; 97.8%) should consist of a pedestrian survey at 5 m intervals.
- All lands identified as disturbed (0.06 ha; 2.2%) do not retain archaeological potential and do not require further assessment.
- Should proposed impacts extend beyond the lands assessed for this Project, additional assessment may be required.

These recommendations are subject to the conditions laid out in Section 7.0, and to the Ministry of Citizenship and Multiculturalism's (MCM's) review and acceptance of this report into the provincial register of archaeological reports.



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PROJECT PERSONNEL

Project Manager	Liam Browne, MA (PI048)
Project Administrators	Kellie Theaker, CHRP Victoria Scott, MA, MLis Sara Harvey
Health and Safety Coordinator	Wendi Jakob, C.Tech, CAPM
Fieldwork Coordinators	Katherine Bishop, PhD (R407) Johnathan Freeman, MA (P274)
Field Director	Lauren Donker, BA
GIS Technician	David Gostick, BA
Report Writer	Casey Lun, MSc Liam Browne, MA (PI048)
Senior Reviewer	Matthew Beaudoin, PhD (P324)

ACKNOWLEDGEMENTS

Kayla Ginter	Dillon Consulting Ltd.
Bill Olds	Dillon Consulting Ltd.
Alissa Lee	Dillon Consulting Ltd.
Elizabeth Whittmann	Dillon Consulting Ltd.
Jennifer Donnelly	Dillon Consulting Ltd.
Tristan Lefler	Dillon Consulting Ltd.
Chastity Pilecki	Enbridge Gas Inc.
Ryan Park	Enbridge Gas Inc.



TERRITORIAL ACKNOWLEDGEMENT

The Project Area is located within the Huron Tract Purchase (Treaty No. 29) of 1827, on the traditional lands and territory of the Anishinaabek (Ah-nish-in-a-bek) people of the Aamjiwnaang (Am-JIN-nun) First Nation and the Walpole Island First Nation who represent the Three Fires Confederacy of Ojibwa (ow-jib-wei), Odawa (ow-daa-wuh), and Potawatomi (pow-tuh-waa-tuh-mee) Nations. These First Nation groups are the stewards of the lands, waters and resources of their territories, including archaeological resources and cultural heritage values. These lands also continue to be home to diverse Indigenous peoples (e.g., First Nations, Métis and Inuit) whom we recognize as contemporary stewards of the land and vital contributors of our society.



INDIGENOUS PARTICIPANTS

Oneida Nation of the Thames (ONOT)

Environment and Consultation Coordinators	Brandon Doxtator Al Day
Fieldwork Monitor	Elton (Bear) John

Chippewas of the Thames First Nation (COTTFN)

Coordinator	Fallon Burch
Fieldwork Monitor	Jordan Deleary

Aamjiwnaang First Nation (AFN)

Manager of Development	Mike Deleary
Fieldwork Monitor	Denis Plain

Chippewas of Kettle and Stony Point (Wiiwkwedong) First Nation (CKSPFN)

Consultation Advisors	Jess Wakefield Emily Ferguson
Fieldwork Monitor	Taylor Shortt



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, 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

Matthew Beaudoin, PhD, Principal

Matthew received a PhD in Anthropology from Western University in 2013 and has a professional archaeological license with the Province of Ontario (P324). During his archaeological career, Matthew has conducted extensive field research and artifact analysis in Labrador and Ontario, and has taught the Field Methods Course and Principals of archaeology courses as a part-time faculty member at Western University. Matthew has also conducted ethnographic projects in Labrador, and has volunteered with the OAS to provide archaeological training to several Indigenous communities throughout the province.

Over the course of his career, Matthew has supervised over 900 archaeological assessments in Ontario, including Stages I-4, under a variety of regulatory triggers including provincial and municipal Environmental Assessments, Green Energy projects, development projects under the *Planning Act*, and as due diligence process. Matthew has extensive experience managing large and complex archaeological projects in conjunction with other disciplines, specialists, and Indigenous communities including Enbridge Line 10 Westover Segment, Imperial Oil from Waterdown to Finch, and Highway 3 Widening in Kingsville. Since joining TMHC in 2008, Matthew has also been involved with several notable projects, such as the archaeological assessment of Stoney Point/Camp Ipperwash. For these and other projects, Matthew works closely with heritage staff at TMHC and with heritage staff employed by clients and stakeholder communities.

Matthew is an active member of the Canadian Archaeological Association, the Ontario Archaeological Association, the Society for American Archaeology, and the Society for Historical Archaeology.

Liam Browne, MA, Project Manager

Liam holds a Masters degree in Anthropology from Trent University specializing in late Paleo projectile points in Ontario and New York. With over 10 years in the field, Liam has conducted extensive field research and artifact analysis on Indigenous and 19th Century sites in Ontario.

Liam's role at TMHC has involved background research, support for Indigenous engagement for archaeological projects, report production and project management. Liam has volunteered on both the Dutton Burial Salvage excavation project and the Fugitive Slave Chapel project in London, and is a member of the Ontario Archaeological Society.



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:

Casey Lun, MSc

Report Writer

Project managed by:

Liam Browne, MA (P1048)

Pipeline Archaeological Projects Unit Manager

Report reviewed by:

Matthew Beaudoin, PhD (P324)

Principal/Manager of Archaeological Assessment



I PROJECT CONTEXT

I.1 Development Context

I.1.1 Introduction

A Stage I archaeological assessment was conducted for Enbridge Gas Inc.'s (Enbridge) 2025 Waubuno Well Drilling Project (the "Project") located southwest of the intersection of Telfer Road and Oil Springs Line in the Township of St. Clair, Lambton County, Ontario. The Project involves drilling a new natural gas injection/withdrawal well and the installation of approximately 100 m of Nominal Pipe Size (NPS) 8-inch lateral natural gas pipeline in the Waubuno Designated Storage Area (DSA). Project activities will commence with the construction of a temporary gravel drilling pad measuring up to 60 m by 100 m. Upon completion of drilling activities, a permanent gravel pad measuring 8 m by 12 m will be installed around the well and the new natural gas pipeline will be installed. The area assessed (the "Project Area") includes all lands with potential to be impacted by construction. The Project Area is roughly 2.78 ha (6.87 ac) in size and is located within Lot 10, Concession 2 of the Geographic Township of Moore, Lambton County. It comprises a section of an agricultural field containing two existing natural gas wells along with their associated gravel access laneways. The Stage I archaeological assessment was triggered by Enbridge's Archaeology Protocol and due diligence for construction projects, which is informed by the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario* (OEB 2023). In 2024, TMHC Inc. (TMHC) was contracted by Dillon Consulting Ltd. (Dillon) on behalf of Enbridge to carry out the assessment, which was conducted in accordance with the provisions of the *Provincial Policy Statement*. The purpose of the assessment was to determine whether there was potential for archaeological resources to be present within the Project Area.

All archaeological assessment activities were performed under the professional archaeological license of Liam Browne, MA (P1048) and in accordance with the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011, "Standards and Guidelines"). Permission to enter the property and carry out all required archaeological activities was given by Dillon.



1.1.2 Purpose and Legislative Context

The *Ontario Heritage Act* (R.S.O. 1990) makes provisions for the protection and conservation of heritage resources in the Province of Ontario. Heritage concerns are recognized as a matter of provincial interest in Section 2.6.2 of the *Provincial Policy Statement* (PPS 2020) which states:

development and site alteration shall not be permitted on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources have been conserved.

In the PPS, the term conserved means:

the identification, protection, management and use of *built heritage resources, cultural heritage landscapes and archaeological resources* in a manner that ensures their cultural heritage value or interest is retained. This may be achieved by the implementation of recommendations set out in a conservation plan, archaeological assessment and/or heritage impact assessment that has been approved, accepted or adopted by the relevant planning authority and/or decision-maker. Mitigative measures and/or alternative development approaches can be included in these plans and assessments.

The Stage I 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) and the 2020 PPS. The purpose of a Stage I 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 STAGE I BACKGROUND REVIEW

2.1 Research Methods and Sources

A Stage I 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 I background study must include a review of:

- an up-to-date listing of sites from the MCM's PastPortal for 1 km around the property;
- reports of previous archaeological fieldwork within a radius of 50 m around the property;
- 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 property.

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 the Project Area (completed May 27, 2024);
- a review of known prior archaeological reports for the property and adjacent lands;
- Ontario Base Mapping (1:10,000) was reviewed through ArcGIS and mapping layers under the Open Government Licence – Canada and the Open Government Licence- Ontario;
- detailed mapping provided by the client was 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, soils data provided by the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA), physiographic data provided by the Ontario Ministry of Northern Development and Mines, and detailed topographic data provided by Land Information Ontario.

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 I assessment will determine potential for Indigenous and 19th-century period 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 south of Oil Springs Line, west of Telfer Road, in the Township of St. Clair, Lambton County, Ontario. It is roughly 2.78 ha (6.87 ac) in size and is located within Lot 10, Concession 2 of the Geographic Township of Moore, Lambton County (Maps 1 and 2). The Project Area comprises a section of an agricultural field containing two existing natural gas wells along with their associated gravel access laneways. The Project Area is situated atop the valley surrounding Bear Creek. To the east the Project Area is bound by a gravel driveway (Map 3).

The Project Area falls within the St. Clair Clay Plains physiographic region, as defined by Chapman and Putnam (1984:147; Map 4). The region consists of an extensive clay plain covering over 2,000 square miles east of the St. Clair River and south of the Lake Huron shoreline (Chapman and Putnam 1984:147). The plain shows very little notable relief yet minor elevation changes have a marked effect on soils and vegetation (Chapman and Putnam 1984:147). In many areas, agricultural productivity is only permitted by deeply dredged ditches and tile installation, both of which have served to greatly improve surface drainage (Chapman and Putnam 1984:149). The St. Clair Clay Plain was formerly the bed of glacial lakes Whittlesey and Warren (Chapman and Putnam 1984:147) and the former shorelines of these and related glacial lake phases have been documented along the eastern edge of the plain.

Formal soil surveys for Lambton County map the soils within the Project Area as Caistor clay (Map 5). Caistor clay is an imperfectly drained Grey Brown Podzolic soil composed of shaley medium lime clay till, developed by slowly moving water in the post-glacial lakes that covered Lambton County. The materials occur in the form of sand bars, outwash plain, and shorelines (Matthews et al. 1957).

The Project Area lies within the Bear Creek drainage. Bear Creek is located roughly 210 m to the west (Map 1). The Project Area is situated atop the valley surrounding Bear Creek. A small drainage channel passes through a wooded section of the valley wall to the northwest of the Project Area.

2.2.2 Summary of Registered or Known Archaeological Sites

According to PastPortal (accessed May 27, 2024) there are no registered archaeological sites within 1 km of the Project Area.

2.2.3 Summary of Past Archaeological Investigations within 50 m

During the course of this study no record was found of any archaeological investigations within 50 m of the Project Area. However, it should be noted that the MCM currently does not provide an inventory of archaeological assessments to assist in this determination.

2.2.4 Dates of Archaeological Fieldwork

The Stage I fieldwork was conducted on June 7, 2024, in hot and overcast conditions under the direction of Lauren Donker, BA.



2.3 Project Context: Historical Context

2.3.1 Indigenous Settlement in Lambton County

Our knowledge of the Indigenous occupation of the Lambton County area is incomplete. Nevertheless, based on our knowledge of existing sites and using models generated from Province-wide and region-specific archaeological data, it is possible to provide a basic summary of Indigenous settlement in Lambton County. There is archaeological and historical evidence of Indigenous occupation in the area from Paleo times through the period of European contact and into the period of earliest European settlement. The general themes, time periods and cultural traditions of Indigenous settlement, based on archaeological evidence, are provided below and in Table 1.

Table 1: Chronology of Indigenous Settlement in Lambton County

Period	Time Range (circa)	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/Couture
Transitional Woodland	500-900 CE	first corn, cord-wrapped stick pottery	Princess Point/Riviere au Vase
Late Woodland	900-1300 CE	first villages, corn horticulture, longhouses	Glen Meyer/Youngie
Late Woodland	1300-1400 CE	large villages and houses	Uren, Middleport/Springwell
Late Woodland	1400-1650 CE	tribal emergence, territoriality	
Contact Period - Indigenous	1700 CE-present	treaties, mixture of Indigenous & European items	
Contact Period - Settler	1796 CE-present	industrial goods, homesteads	pioneer life, municipal settlement



2.3.1.1 Paleo Period

The first human populations to inhabit the Lambton County region arrived between 12,000 and 10,000 years ago, coincident with the end of the last period of glaciation. Climate and environmental conditions were significantly different then they are today; local environs would not have been welcoming to anything but short-term settlement. The Indigenous peoples of this time period would have crossed the landscape in small groups (i.e., bands or family units) searching for food, particularly migratory game species. In this area, caribou may have provided the staple of the Paleo period diet, supplemented by wild plants, small game, birds and fish.

Given the low density of populations on the landscape at this time and their mobile nature, Paleo period sites are small and ephemeral. They are sometimes identified by the presence of fluted projectile points manufactured on a highly distinctive whitish-grey chert named "Fossil Hill" (after the formation) or "Collingwood." This material was acquired from sources near the edge of the escarpment on Blue Mountain. It was exploited by populations from as far south as the London area, who would have traveled to the source as part of their seasonal round.

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, early Archaic period populations continued the mobile lifestyle of their predecessors. Through time and with the development of more resource rich local environments, these groups gradually reduced the size of the territories they exploited on a regular basis. A seasonal pattern of warm season riverine or lakeshore settlements and interior cold weather occupations has been documented in the archaeological record.

Since the large cold weather mammal species that formed the basis of the Paleo period subsistence pattern became extinct or moved northward with the onset of warmer climate conditions, Archaic period populations 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, Archaic sites are more plentiful than those from the earlier period. Artifacts typical of these occupations include a variety of stemmed and notched projectile points, chipped stone scrapers, ground stone tools (e.g., celts, adzes) and ornaments (e.g., bannerstones, gorgets), bifaces or tool blanks, animal bone (where and when preserved) and waste flakes, a by-product of the tool making process.



2.3.1.3 Early, Middle and Transitional Woodland Periods

Significant changes in cultural and environmental patterns are witnessed in 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 in this period, culminating in major semi-permanent villages by 1,000 years ago. Archaeologically, the most significant changes by Woodland times are 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 residential areas similar to those that define the incipient agricultural or Neolithic period in Europe.

Early and Middle Woodland period peoples are also known for a well-developed burial complex and ground stone tool industry. Unique Early Woodland period ground stone items include pop-eyed birdstones and gorgets. In addition, there is evidence of the development of widespread trading with groups throughout the northeast. The recovery of marine shells from the Gulf of Mexico in the Lake Superior area indicates that exchanges of exotic materials and finished items from distant places were commonplace.

2.3.1.4 Late Woodland Period

During the Late Woodland period, much of Southwestern Ontario was occupied by two groups: Iroquoians and what are thought by archaeologists to be Algonquin speaking populations (the term “Western Basin Tradition” has been used to describe this cultural complex). In the east, the Iroquoian occupants were the Attawandaron, a tribal group described by European missionaries and whose historic homeland was significantly further east. Like other known Iroquoian groups including the Huron (Wendat) and Petun (Tionontati), the Attawandaron practiced a system of intensive horticulture based on three primary subsistence crops (corn, beans and squash). Their villages incorporated a number of longhouses, multi-family dwellings that contained several families related through the female line. *The Jesuit Relations* describe several Attawandaron centres in existence in the 17th century, including a number of sites where missions were later established. While precontact Attawandaron sites may be identified by a predominance of well-made pottery decorated with various simple and geometric motifs, triangular stone projectile points, clay pipes and ground stone implements, sites post-dating European contact are recognized through the appearance of various items of European manufacture. The latter include materials acquired by trade (e.g., glass beads, copper/brass kettles, iron axes, knives and other metal implements) in addition to the personal items of European visitors and Jesuit priests (e.g., finger rings, stoneware, rosaries, glassware). The Attawandaron were dispersed, and their population decimated by the arrival of epidemic European diseases and inter-tribal warfare. Many were adopted into other Iroquoian communities.

In southwestern Ontario west of the London area, archaeologists have also documented the in-situ development of Late Woodland period archaeological traditions from Middle Woodland period precedents that are believed to have an Algonquin cultural origin, quite distinct from Iroquoian populations who lived to the east. The archaeological record of these groups has been labeled the “Western Basin Tradition.” During the Late Woodland period, complex settlements are characteristic of these people and, at their peak, are characterized by fortified villages containing large, likely extended family, structures. Some of the villages are surrounded by earthworks. There is evidence for the cultivation of corn and beans by roughly 900 CE. The pottery traditions of these people varied significantly from those of their Iroquoian neighbors. Early vessels, called Wayne ware, are small, thin-walled pots covered with vertical cord marking and tool impressions. Vessels become more elaborate through time, incorporating multiple bands of tool impressions, castellated rims and incised decoration. Late pottery is characteristically bag-shaped and often incorporates dentate



stamping as well as appliqué strips and strap handles, similar to some Mississippian tradition pottery. As was not the case with much Iroquoian pottery, clay fabrics were mixed with shell temper. The Western Basin Tradition is divided up into four phases based on differences in settlement and subsistence strategies and pottery attributes. The four phases are: Riviere au Vase, Younge, Springwells, and Wolf. Table 4 below is extracted from the Windsor Archaeological Master Plan (CRM Group Ltd. et al. 2005:2-13).

Table 2: The Four Phases of the Western Basin Tradition

Phase	Date	Settlement and Subsistence	Pottery
Riviere au Vase	600-900 CE	<ul style="list-style-type: none"> - developed directly from the Middle Woodland Couture complex - seasonal mobility geared toward resource availability - summer base camps by lakeshores, fall/winter in interior - no corn or beans present 	<ul style="list-style-type: none"> - Wayne ware: small, thin walled, vertical cord-marking - later wares are tool impressed
Younge	900-1200 CE	<ul style="list-style-type: none"> - corn and beans present - settlement & subsistence continues as before with focus on warm season gathering of groups and winter dispersals 	<ul style="list-style-type: none"> - pottery is larger, more elaborately decorated - body of vessels are corded, coarsely & irregularly - multiple bands of tool impression
Springwells	1200-1400 CE	<ul style="list-style-type: none"> - larger more permanent warm season settlements - longhouses & palisades present - more intensive horticulture - locations near arable lands, and along the shorelines of marshes, river, and lakes - possible use wattle & daub 	<ul style="list-style-type: none"> - ceramics large & bag-shaped - collars & castellated rims decorated with horizontal bands of incised or impressed decoration - roughened, self slip & ribbed paddle surfaces first appear
Wolf	1400-1600 CE	<ul style="list-style-type: none"> - few examples of sites known - distribution limited to around Lake St. Clair, St. Clair River - large warm weather villages, often fortified by earthworks - nature of these sites is attributed to the westward expansion of Ontario Iroquoians that resulted in abandonment by the Western Basin peoples in early 1600 CE 	<ul style="list-style-type: none"> - diagnostic characteristic of Wolf phase is Parker Festooned pottery - undulating bands of dentate stamped impressions or stamped applique strips on vessel necks - after 1500 CE most vessels with strap handles & notched lips or notched horizontal rim strips, plus shell temper



2.3.2 Treaty History

Indigenous peoples have used the lands that are now known as Lambton County for thousands of years. Prior to the displacement caused by early European settlement, this area was actively used for hunting by a number of Anishinaabe peoples. The area which became the Township of St. Clair was part of the Huron Tract, approximately 2.76 million acres of land subject to Provisional Treaty No. 27 ½ between the local Chippewa nations and the British Crown signed on April 26, 1825 (Surtees 1984). An earlier 1819 agreement was never realized and for six years the territory remained in limbo. The provisional treaty was finally reached as a result of John Galt's intention to form the Canada Company which required one million acres of land to sell to prospective settlers (Surtees 1894).

The Chippewa nations transferred most of the Huron Tract to the Crown but maintained their territories in four reserve lands along the St. Clair River and on the shores of Lake Huron near Kettle Point and the Ausable River (River aux Sable). These reserves would become the Aamjiwnaang First Nation and the Chippewas of Kettle and Stony Point First Nation. The agreement was formalized in 1827 through Treaty No. 29 (Canadian Legal Information Institute 2000; Duern 2017).



2.3.3 Nineteenth-Century and Municipal Settlement

The Project Area falls within Lot 10, Concession 2 of the Geographic Township of Moore, now the Township of St. Clair, Lambton County, 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.

2.3.3.1 Lambton County

Prior to the 1830s Lambton County was sparsely occupied by people of European descent. One of the reasons for this was that historical Lambton County was composed of mainly forested and swampy areas that made settling and traveling to the County difficult. A few French settlers were living along the banks of the St. Clair River. An unfortified British military reserve was set up in the along the eastern bank of the St. Clair River at the entrance to Lake Huron, in the location of what was to eventually become the Village of Point Edward around 1800. This military reserve was established to protect the entrance of Lake Huron from possible American invaders (Elford 1982:114). It is thought that the earliest European settlement in Lambton County was focused along Bear Creek (or the Sydenham River) in what has come to be known as the Baldoon Settlement (H. Belden & Co. 1880:4). This area was settled by Highland Scotch immigrants who came to the area around 1804 under the direction of Lord Selkirk (H. Belden & Co. 1880:4). However, no sizable European populations settled in the County until the early 1830s when there was an influx of British settlers. By 1834, there were 1,728 settlers in the county and by 1891 the population had increased to 58,810 people (Elford 1982:3-5). By 1835 the ten townships that would eventually comprise the County were laid out and surveyed. It was not until 1850 that Lambton became a provisional county and three years later it became an independent municipality (Elford 1967). By 1881 nearly half the county was still in timber (Matthews et al. 1957:23).

The Grand Trunk Railway first opened in 1859 and helped increase the County's shipping profile and provided passage to new immigrants. Transportation through the County was considerably hindered by the lack of good thoroughfares. Given that much of the county was essentially a vast level clay plain with few streams and rivers, it was poorly drained and good, dry roads were hard to come by. Swamplands often prohibited the establishment of early through roads. Nonetheless, a few early major transportation routes offered some solace to travelers. These included the Egremont/London Road (now Highway 22), the Plank Road (connecting Sarnia to Petrolia) and the Fourth Line (Confederation Line). The Plank Road was "planked" between 1862 and 1865 following the discovery of oil in Enniskillen Township (Elford 1967:41-42).

2.3.3.2 Geographic Township of Moore

As early as 1812, two Frenchmen, Champleau and Papineau, had settled near present day Mooretown; the earliest known village in the township. Early French settlers to the area held their land by "squatter's rights" until the Geographic Township of Moore was surveyed in 1829 by Boswell Mount (Johnston 1925:46). Sir John Colborne named this Township after the noted British General John Moore, who died on the battlefield of Corunna in 1809. The township was noted for its relatively large number of settlements in Lambton County, owing largely to the presence of and access to the Saint Clair Division of Canada's Southern Railway line, which bisects the township west to east just south of Mooretown between the communities of Courtright and Brigden (H. Belden & Co. 1880). Though the St. Clair riverfront portion of the township was settled early in the 19th century, settlement of interior portions of the township did not begin until the 1830s because forested swampland dominated these interior lands. In these interior areas land grants were made to the sons of United Empire Loyalists in reward for their loyalty to the British Crown during the War of 1812, many of whom quickly sold their land to other incoming settlers and land speculators. Thus, two distinct sections of



the township, the riverfront and the interior, received two distinct groups of settlers. People of official class (e.g., army and navy men, businessmen, physicians, mechanics) settled the riverfront, whereas those of the labouring class (e.g., farmers, shepherds, sailors, fishermen, carpenters) settled the less hospitable interior.

Until at least 1839, the only passable roadway was the one along the river (now the St. Clair Parkway), which itself had limited access to areas farther north. Even when concession lines were opened up and ditches dug alongside these, it was many years thereafter before these roads could be travelled by wagon due to the extensive dense and wet clay soils in the poorly drained interior regions. It was not until the 1880s that the main road arteries running into Sarnia (River Road, Reserve Road, and Kimball Side Road) were graveled. Most of the concession roads in the township were open by mid-century and were likely somewhat accessible by the 1830s when the concessions were settled.

2.3.4 Review of Historic Maps

The Project Area falls within Lot 10, Concession 2 of the Geographic Township of Moore, now the Township of St. Clair, Lambton County, Ontario.

The *Map of Moore Township* (Map 6) in H. Belden & Co.'s 1880 *Illustrated Historical Atlas of Lambton County* shows a single structure on Lot 10, Concession 2 located north of Bear Creek fronting Oil Springs Line. The lot is clearly associated with Smith Stephens, a farmer that settled in 1873. Oil Springs Line, Telfer Road and Tennyson Line are shown as open at this time. Both Oil Springs Line and Tennyson Line are depicted as spanning Bear Creek. An unopened road allowance is seen running along the east side of Lot 10. The position of this road allowance corresponds with the location of the current driveway connecting to Telford Line.

A 1954 aerial photograph (Map 7) shows that the Project Area was in use as a ploughed agricultural field during the mid-20th century. The small woodlot surrounding a drainage channel that is currently located to the northwest of the Project Area was not present at this time. A driveway connecting to Telfer Road was present at this time; it likely ran along the eastern limit of the Project Area; however, it is not visible here as the area is obscured by a treeline.

A topographic map from 1963 (Map 8) shows a natural gas control valve immediately to the northeast of the Project Area as well as two additional valves nearer to Telfer Road

A topographic map from 1965 (Map 9) shows a gas well to the northeast of the Project Area where the control valve had been previously depicted. An additional well is seen to the east of the Project Area, east of the treeline that runs along the driveway. The drainage channel to the northwest of the Project Area is clearly depicted

In 2003, the Project Area was a ploughed agricultural field containing two gas wells (Map 10).

2.3.5 Review of Heritage Properties

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



3 STAGE I PROPERTY INSPECTION

As the Project Area was in proximity to several features signaling archaeological potential, a Stage I property inspection was conducted to evaluate the current conditions of the Project Area.

The property inspection was conducted on June 7, 2024, in overcast and hot weather that allowed for good visibility for the inspection of surface features. No weather conditions were encountered that would impede the visibility of features within the Project Area. The limits of the Project Area were determined in the field based on proponent mapping, geographic features, and GPS coordinates.

The Project Area is comprised of a section of a ploughed agricultural field which contains two natural gas wells and their associated gravel access laneways which connect to an existing gravel driveway (Images 1-4). The gravel driveway marks the eastern limit of the Project Area.

The property inspection determined that the areas of ploughed agricultural field (2.72 ha; 97.8%) retain archaeological potential and will require Stage 2 archaeological assessment. The two existing natural gas wells and their associated gravel laneways (0.06 ha; 2.2%) were determined to have been disturbed through previous construction activity. As these areas do not retain archaeological potential they will not require Stage 2 archaeological assessment.

The results of the Stage I archaeological assessment, as well as the location and orientation of report photographs are presented on Map 11. As the proponent map was supplied as a KMZ file, no attempt made to present the Stage I results on the proponent map. A screenshot of the proponent mapping is presented as Map 12.

3.1 Documentary Records

All files are currently being stored at the TMHC corporate office located at 1108 Dundas Street, Unit 105, London, ON, N5W 3A7. Table 3 provides an inventory of the documentary records generated during this project.

Table 3: Documentary Records

Date	Field Notes	Field Maps	Digital Images
June 7, 2024	Digital and hard copies	Digital and hard copies	10 Images



4 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. Based on the archaeological and historical context reviewed above, the Project Area is in proximity (i.e., within 300 m) to features that signal archaeological potential, namely:

- elevated topography (the flat uplands surrounding the Bear Creek valley); and,
- a water source (Bear Creek).

As the Project Area contained several features signaling archaeological potential, a Stage I property inspection was conducted to evaluate the current conditions and determine if any areas of archaeological potential remained intact within the Project Area.

The Stage I property inspection visually confirmed that the areas of ploughed agricultural field (2.72 ha; 97.8%) retain archaeological potential and will require Stage 2 archaeological assessment. The two existing natural gas wells and their associated gravel laneways (0.06 ha; 2.2%) were determined to be disturbed. This disturbance has been confirmed by visual inspection, as well as depictions on the available historical aerial imagery. As these areas do not retain archaeological potential they will not require Stage 2 archaeological assessment.



5 RECOMMENDATIONS

A Stage I archaeological assessment was conducted for Enbridge’s 2025 Waubuno Well Drilling Project in the Township of St. Clair, Lambton County, Ontario. Based on the Stage I background research and property inspection, the following recommendations are made:

- All lands identified as having archaeological potential require Stage 2 archaeological assessment prior to ground disturbing activities.
 - The Stage 2 assessment of the ploughed agricultural field (2.72 ha; 97.8%) should consist of a pedestrian survey at 5 m intervals.
- All lands identified as disturbed (0.06 ha; 2.2%) do not retain archaeological potential and do not require further assessment.
- Should proposed impacts extend beyond the lands assessed for this Project, additional assessment may be required.

These recommendations are subject to the conditions laid out in Section 7.0, and to the MCM’s review and acceptance of this report into the provincial register of archaeological reports.



6 SUMMARY

A Stage I archaeological assessment was conducted for Enbridge’s 2025 Waubuno Well Drilling Project south of Oil Springs Line and west of Telfer Road, in the Township of St. Clair, Lambton County, Ontario. The Project Area is roughly 2.78 ha (6.87 ac) in size and is located within Lot 10, Concession 2 of the Geographic Township of Moore, Lambton County. The Stage I background research and field inspection confirmed that portions of the Project Area no longer retain archaeological potential as a result of the construction of gas wells and gravel laneways. The remainder of the Project Area, which consists of ploughable lands, retain archaeological potential and require additional assessment.



7 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 Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

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

The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 requires that any person discovering human remains must notify the police or coroner and Ian Hember, Registrar of Burial Sites, Ontario Ministry of Public and Business Service Delivery. His telephone number is 416-212-7499 and e-mail address is Ian.Hember@ontario.ca.



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9 IMAGES



Image 1: Gas Well and Gravel Laneway Surrounded by Active Agricultural Field

Looking West



Image 2: Gas Well and Gravel Laneway Connecting to Existing Driveway

Looking Southeast





Image 3: Overview of Ploughed Agricultural Field

Looking Southwest



Image 4: Overview of Ploughed Agricultural Field

Looking Northeast

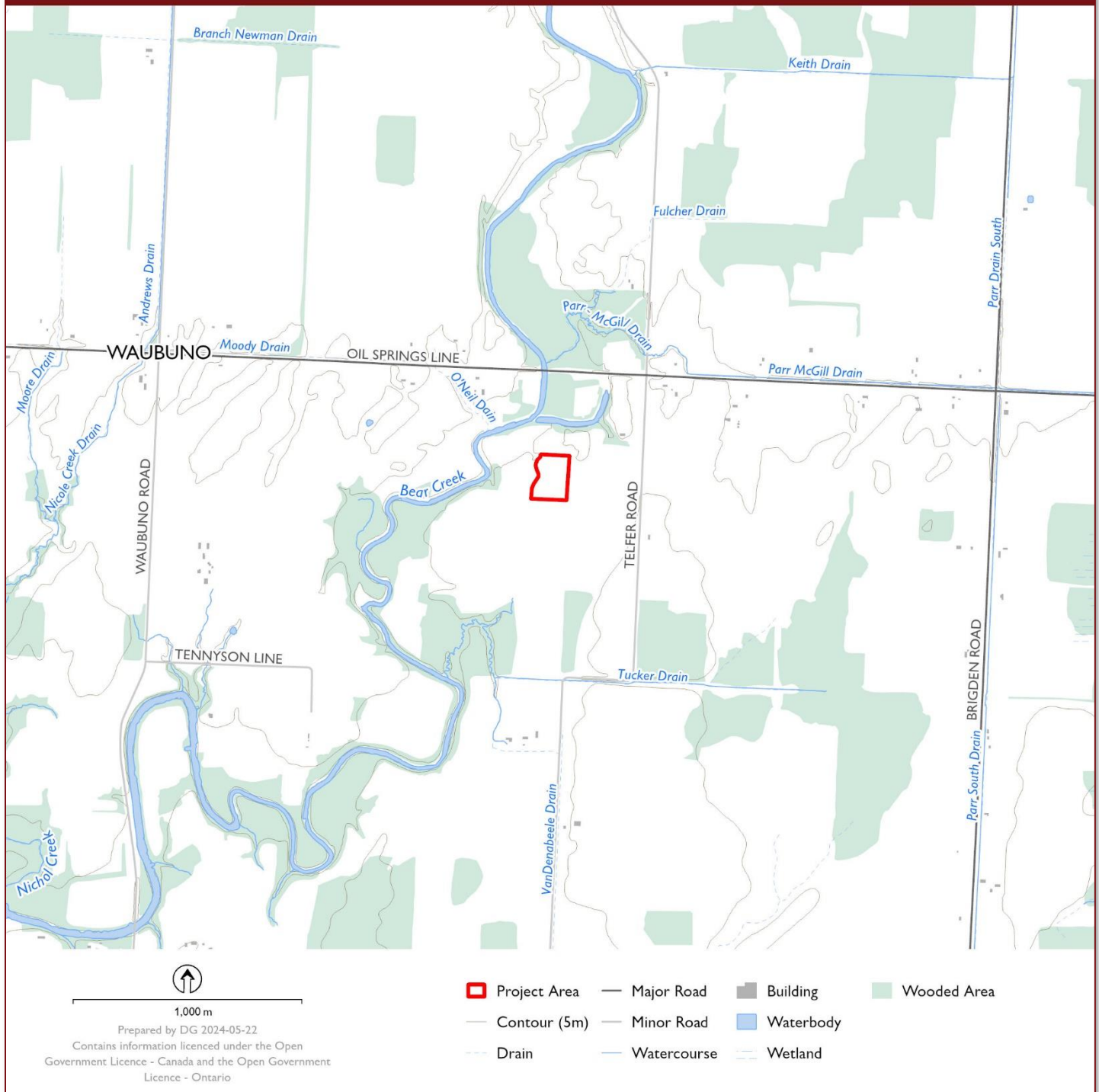




10 MAPS



PROJECT LOCATION



Map I: Location of the Project Area in the Township of St. Clair, Lambton County, ON



AERIAL PHOTOGRAPHY
COUNTY OF LAMBTON ORTHOPHOTOGRAPHY (2020)



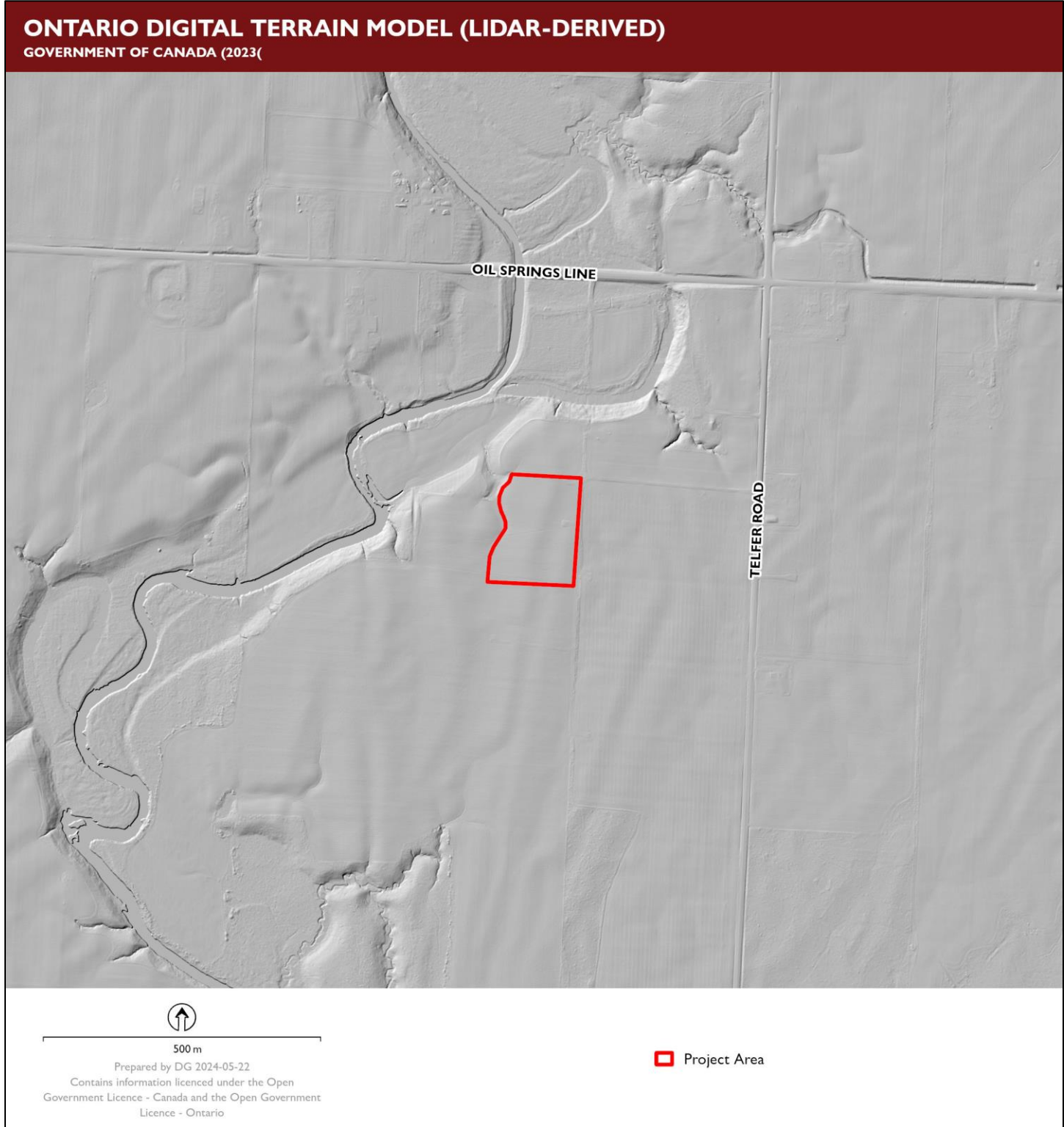
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Prepared by DG 2024-05-22

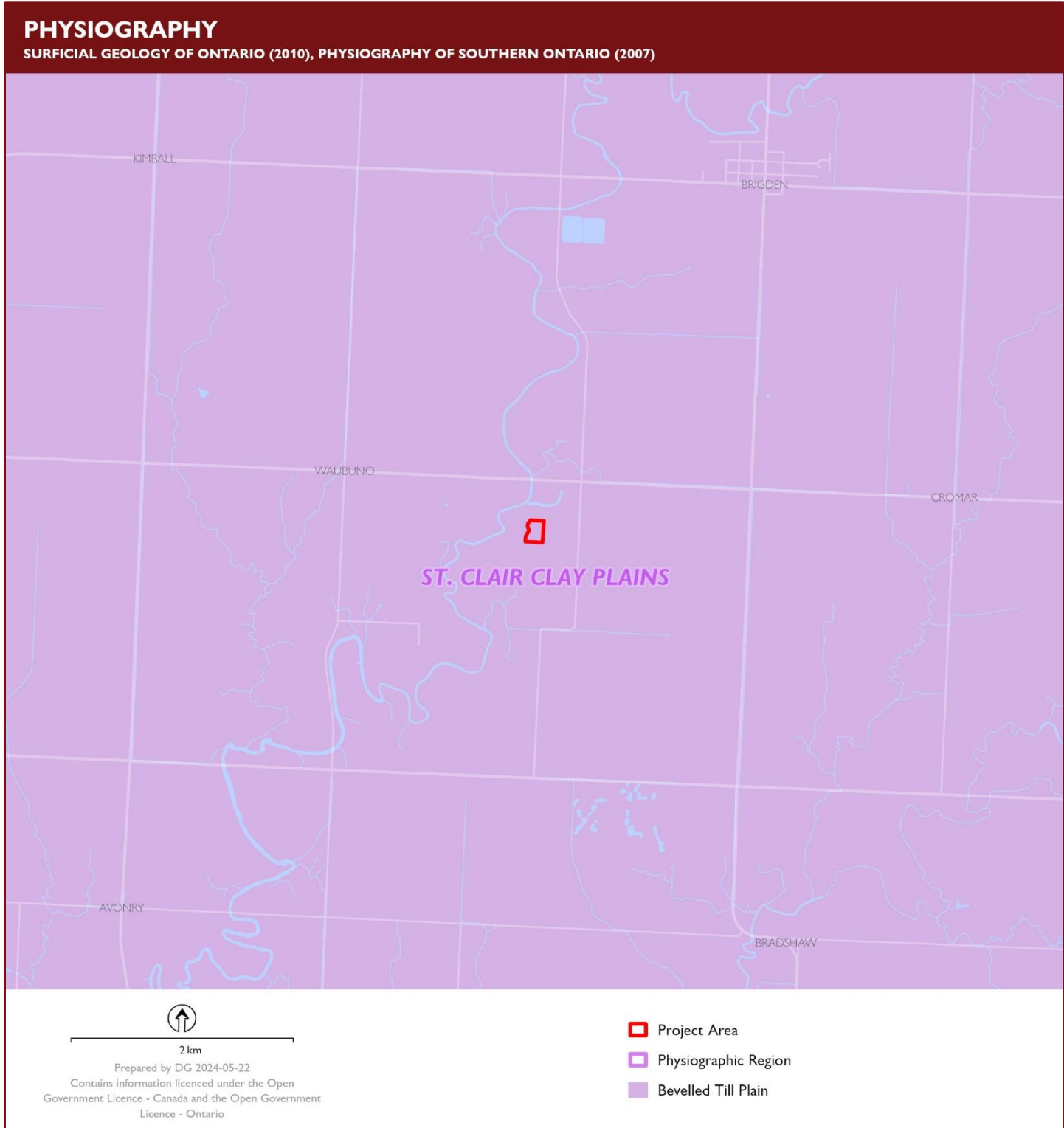
Contains information licenced under the Open
Government Licence - Canada and the Open Government
Licence - Ontario

 Project Area

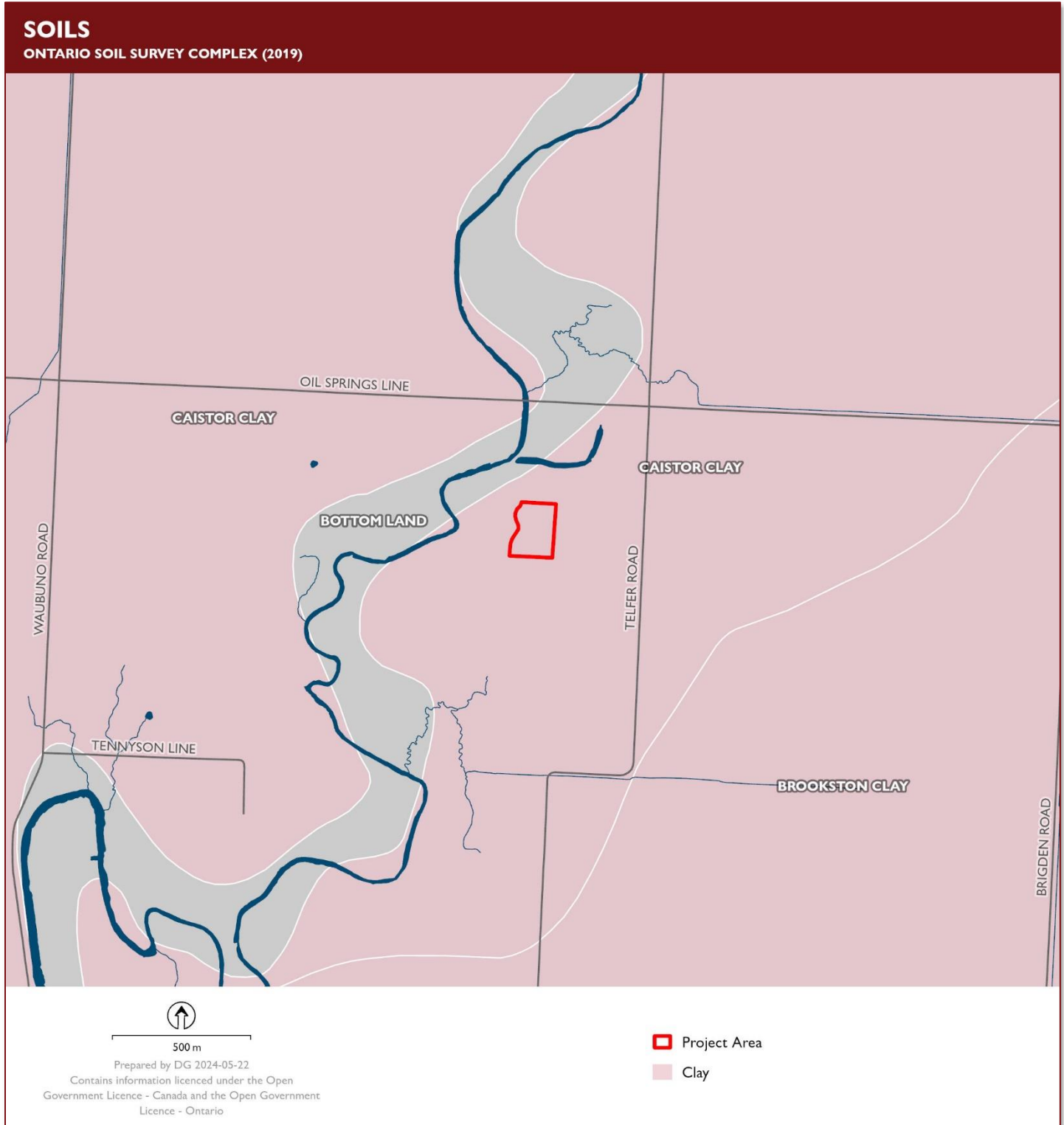
Map 2: Aerial Photograph Showing the Location of the Project Area



Map 3: Light Detection and Ranging (LiDAR) Showing Topography of Project Area



Map 4: Physiography Within the Vicinity of the Project Area



Map 5: Soils Within the Vicinity of the Project Area



Map 6: Location of the Project Area Shown on the 1880 Map of Moore Township

HISTORICAL AERIAL PHOTOGRAPHY
DEPARTMENT OF LANDS AND FORESTS (1954)



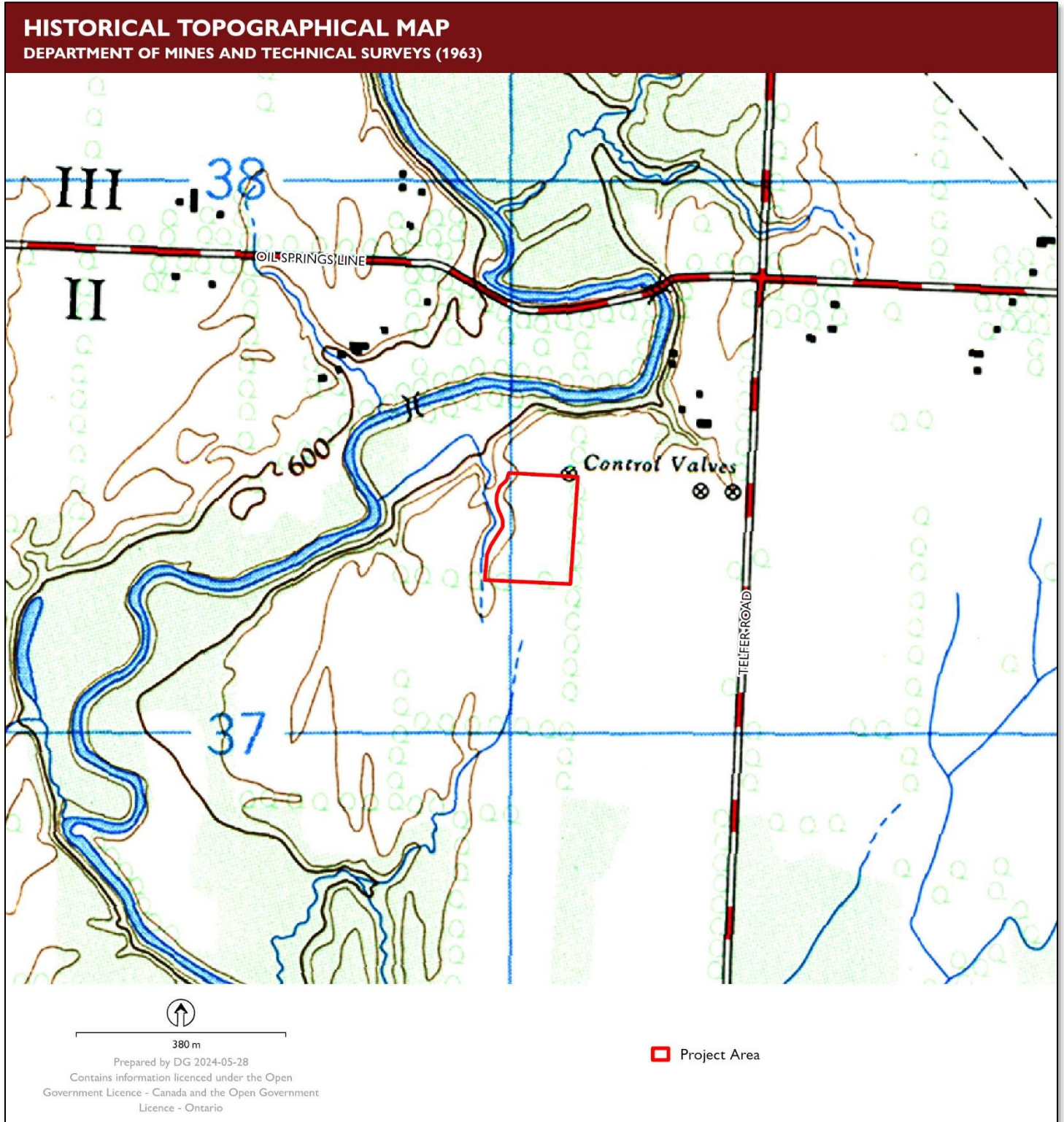
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Prepared by DG 2024-05-22

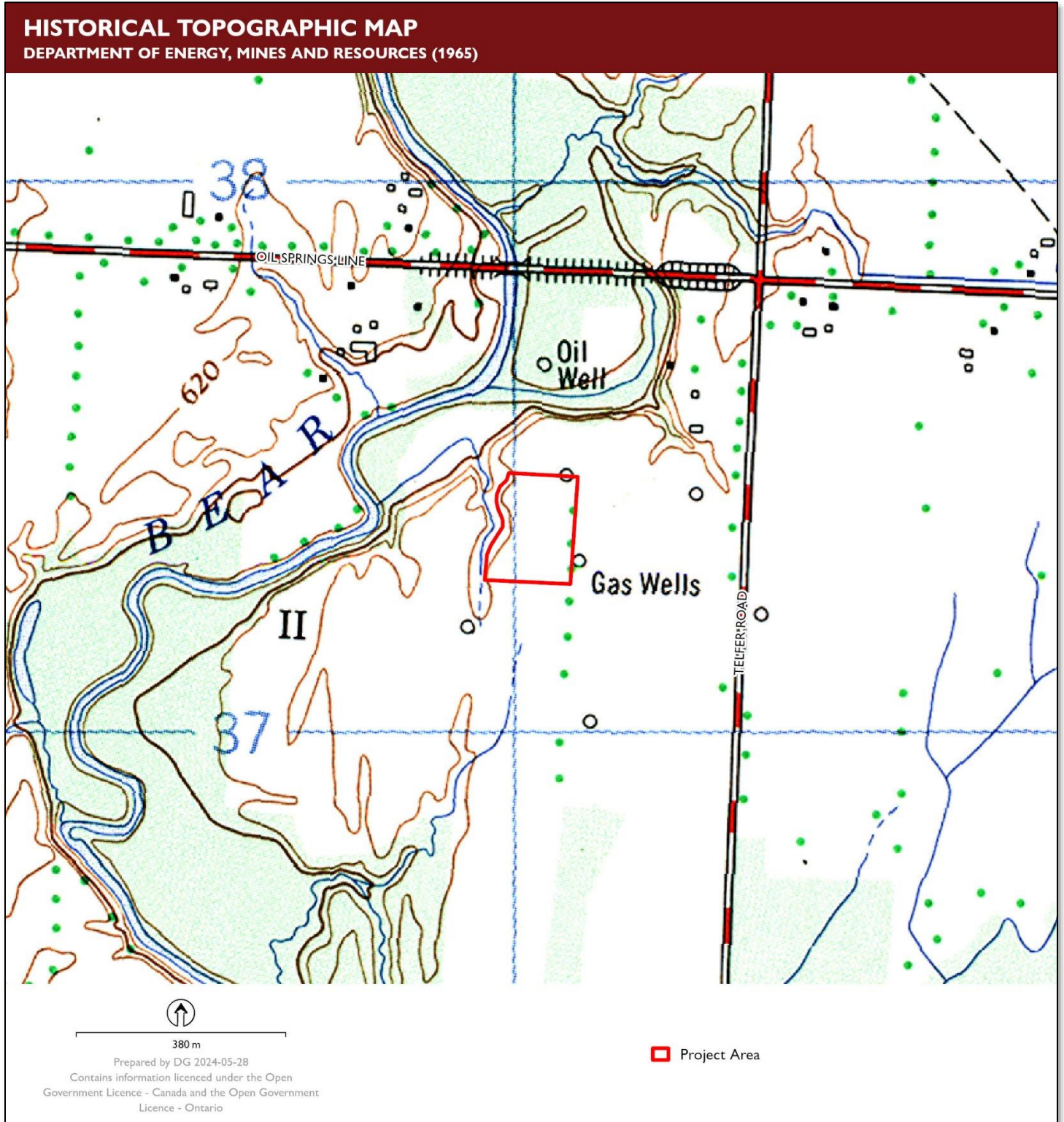
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 Project Area

Map 7: Location of the Project Area Shown on 1954 Aerial Imagery



Map 8: Location of the Project Area Shown on a 1963 Topographic Map



Map 9: Location of the Project Area Shown on a 1965 Topographic Map



HISTORICAL AERIAL PHOTOGRAPHY
COUNTY OF LAMBTON ORTHOPHOTOGRAPHY (2003)



130 m

Prepared by DG 2024-05-28

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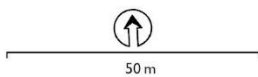
 Project Area

Map 10: Location of the Project Area Shown on a 2003 Aerial Imagery



WAUBUNO WELL DRILLING PROJECT

STAGE 1 RESULTS & RECOMMENDATIONS



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Licence - Ontario

Project Area
 Report Photo

STAGE 1 ASSESSMENT RESULTS

- Areas of Archaeological Potential*
- Pedestrian Survey Recommended
- Areas of Low Archaeological Potential
(No Further Assessment Required)*
- Disturbed (Gas Well, Gravel Laneway)

Map II: Stage I Field Conditions and Assessment Results



Map 12: Proponent Mapping

**Stage I Archaeological Assessment
2025 Waubuno Well Drilling Project
Part of Lot 10, Concession 2
Geographic Township of Moore
Township of St. Clair, Lambton County, Ontario**

SUPPLEMENTARY DOCUMENTATION

NOT FOR PUBLIC CIRCULATION



Licensee: Liam Browne, MA (PI048)
PIF No: PI048-0164-2024
Project No: 2024-141
Dated: July 31, 2024



Summary of Indigenous Engagement

Chippewas of the Thames First Nation (COTTFN), the Oneida Nation of the Thames (ONOT), Aamjiwnaang First Nation (AFN) and Chippewas of Kettle and Stony Point (Wiiwkwedong) First Nation (CKSPFN) were engaged as part of this project. Communications regarding fieldwork were directed through email by Liam Browne of TMHC. Representatives from all communities were present during the Stage I fieldwork for fulsome participation.

Ministry of Citizenship and Multiculturalism (MCM)

Archaeology Program Unit
Heritage Branch
Citizenship, Inclusion and Heritage Division
5th Floor, 400 University Ave.
Toronto ON M7A 2R9
Tel.: (416) 414-7787
Email: Jessica.Marr@ontario.ca

Ministère des Affaires civiles et du Multiculturalisme (MCM)

Unité des programme d'archéologie
Direction du patrimoine
Division de la citoyenneté, de l'inclusion et du patrimoine
5e étage, 400 ave. University
Toronto ON M7A 2R9
Tél. : (416) 414-7787
Email: Jessica.Marr@ontario.ca



Aug 17, 2024

Liam Browne (P1048)
Timmins Martelle Heritage Consultants Inc.
105 - 1108 Dundas London ON N5W 3A7

RE: Entry into the Ontario Public Register of Archaeological Reports: Archaeological Assessment Report Entitled, "Stage 1 Archaeological Assessment 2025 Waubuno Well Drilling Project Part of Lot 10, Concession 2 Geographic Township of Moore Township of St. Clair, Lambton County, Ontario", Dated Aug 1, 2024, Filed with MCM on N/A, MCM Project Information Form Number P1048-0164-2024, MCM File Number 0021731

Dear Mr. Browne:

The above-mentioned report, which has been submitted to this ministry as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18, has been entered into the Ontario Public Register of Archaeological Reports without technical review.¹

Please note that the ministry makes no representation or warranty as to the completeness, accuracy or quality of reports in the register.

Should you require further information, please do not hesitate to send your inquiry to Archaeology@Ontario.ca

cc. Archaeology Licensing Officer
Tristan Lefler, Dillon Consulting Limited
TBD TBD, TBD

¹In no way will the ministry be liable for any harm, damages, costs, expenses, losses, claims or actions that may result: (a) if the Report(s) or its recommendations are discovered to be inaccurate, incomplete, misleading or fraudulent; or (b) from the issuance of this letter. Further measures may need to be taken in the event that additional artifacts or archaeological sites are identified or the Report(s) is otherwise found to be inaccurate, incomplete, misleading or fraudulent.

Appendix A-2

Stage 2 Archeological Assessment and MCM Clearance Letter

**Stage 2 Archaeological Assessment
2025 Waubuno Well Drilling Project
Part of Lot 10, Concession 2
Geographic Township of Moore
Township of St. Clair, Lambton County, Ontario**

Original Report

Submitted to:
Ministry of Citizenship and Multiculturalism

Prepared for:
Dillon Consulting Limited
51 Breithaupt Street – Suite 200
Kitchener, ON N2H 5G5

and

Enbridge Gas Inc.
500 Consumers Road
North York, ON M2J 1P8

Prepared by:
TMHC Inc.
1108 Dundas Street, Unit 105
London, ON N5W 3A7
519-641-7222
tmhc.ca



Licensee: Liam Browne, MA (P1048)
PIF No: P1048-0165-2024
Project No: 2024-141
Dated: October 24, 2024



EXECUTIVE SUMMARY

A Stage 2 archaeological assessment was conducted for Enbridge Gas Inc.'s (Enbridge) 2025 Waubuno Well Drilling Project (the "Project") located southwest of the intersection of Telfer Road and Oil Springs Line in the Township of St. Clair, Lambton County, Ontario. The Project involves drilling a new natural gas injection/withdrawal well and the installation of approximately 100 m of Nominal Pipe Size (NPS) 8-inch lateral natural gas pipeline in the Waubuno Designated Storage Area (DSA). Project activities will commence with the construction of a temporary gravel drilling pad measuring up to 60 m by 100 m. Upon completion of drilling activities, a permanent gravel pad measuring 8 m by 12 m will be installed around the well and the new natural gas pipeline will be installed. The area assessed (the "Project Area") includes all lands with potential to be impacted by construction. The Project Area is roughly 2.52 ha (6.23 ac) in size and is located within Lot 10, Concession 2 of the Geographic Township of Moore, Lambton County. It comprises a section of an agricultural field containing two existing natural gas wells along with their associated gravel access laneways. A previous Stage 1 archaeological assessment for the Project Area was completed by TMHC Inc. (TMHC) in 2024. Stage 1 background research and property inspection determined that parts of the Project Area retained archaeological potential and required Stage 2 archaeological assessment prior to ground disturbing activities. Due to a refinement in the project scope and required work areas, the Stage 2 Project Area was slightly smaller than what was assessed during the Stage 1. The Stage 2 archaeological assessment was triggered by Enbridge's Archaeology Protocol and due diligence for construction projects, which is informed by the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario* (OEB 2023). In 2024, TMHC was contracted by Dillon Consulting Ltd. (Dillon) on behalf of Enbridge to carry out the Stage 2 assessment, which was conducted in accordance with the provisions of the *Provincial Planning Statement*. The purpose of the assessment was to determine whether archaeological resources were present within the Project Area.

The lands recommended for Stage 2 assessment within the Project Area (97.8%; 2.72 ha) consist of a ploughed agricultural field which was subject to Stage 2 assessment via pedestrian survey at a 2.5 m transect interval, as a matter of due diligence. The remainder of the Project Area consists of the two existing natural gas wells and their associated gravel laneways (0.06 ha; 2.2%), which were previously assessed as having low archaeological potential and were photo-documented as part of the Stage 1 assessment.

All work met provincial standards, and two archaeological locations were documented during the assessment. Our recommendations are presented below:

- Location 1 (no Borden number assigned) is a scatter of four Indigenous artifacts consisting of two fragmentary flakes and two scrapers, all made of Onondaga chert. This scatter does not have further cultural heritage value or interest (CHVI) under the current standards, does not meet provincial criteria for Stage 3 assessment, and no further work is recommended.
- Location 2 (no Borden number assigned) is a scatter of two Indigenous artifacts consisting of one secondary flake and one biface, both made of Onondaga chert. This scatter does not have further CHVI under the current standards, does not meet provincial criteria for Stage 3 assessment, and no further work is recommended.

These recommendations are subject to the conditions laid out in Section 7.0 of this report, and to the Ministry of Citizenship and Multiculturalism's (MCM's) review and acceptance of this report into the provincial register of archaeological reports.



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PROJECT PERSONNEL

Project Manager	Liam Browne, MA (PI048)
Project Administrators	Kellie Theaker, CHRP Victoria Scott, MA, MLis Sara Harvey
Health and Safety Coordinator	Wendi Jakob, C.Tech, CAPM
Fieldwork Coordinators	Katherine Bishop, PhD (P407) Valerie Wolfkamp, MA David Gostick, BA
Field Director	Ramsay Macfie, BA (R1022)
Field Technicians	Matthew Graham, BA Claire Woodley, BA
GIS Technicians	Andrew Turner, BA (R1042) David Gostick, BA
Report Writers	Liam Browne, MA (PI048) Katelyn Mather, MA (R443)
Artifact Analyst	Liam Browne, MA (PI048)
Lab Technician	Rachelle Carter, BA
Senior Reviewer	Matthew Beaudoin, PhD (P324)



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Kayla Ginter	Dillon Consulting Ltd.
Bill Olds	Dillon Consulting Ltd.
Alissa Lee	Dillon Consulting Ltd.
Elizabeth Whittmann	Dillon Consulting Ltd.
Jennifer Donnelly	Dillon Consulting Ltd.
Tristan Lefler	Dillon Consulting Ltd.
Chastity Pilecki	Enbridge Gas Inc.
Ryan Park	Enbridge Gas Inc.



TERRITORIAL ACKNOWLEDGEMENT

The Project Area is located within the Huron Tract Purchase (Treaty No. 29) of 1827, on the traditional lands and territory of the Anishinaabek (Ah-nish-in-a-bek) people of the Aamjiwnaang (Am-JIN-nun) First Nation and the Walpole Island First Nation who represent the Three Fires Confederacy of Ojibwa (ow-jib-wei), Odawa (ow-daa-wuh), and Potawatomi (pow-tuh-waa-tuh-mee) Nations. These First Nation groups are the stewards of the lands, waters and resources of their territories, including archaeological resources and cultural heritage values. These lands also continue to be home to diverse Indigenous peoples (e.g., First Nations, Métis and Inuit) whom we recognize as contemporary stewards of the land and vital contributors of our society.



INDIGENOUS PARTICIPANTS

Onyta'a:ka (Oneida Nation of the Thames)

Environment and Consultation Coordinator	Jenelle Cornelius
On^yota a:ka Lotiyaneshu	Al Day
Fieldwork Monitor	Elton (Bear) John

Chippewas of the Thames (Deshkan Ziibiing) First Nation (COTTFN)

Coordinator	Fallon Burch
	Jennifer Mills
Fieldwork Monitor	Lisa Kechego

Aamjiwnaang First Nation (AFN)

Environment Coordinator	Lynn Rosales
Consultation & Outreach Worker	Courtney Jackson
Tri-Tribal Monitoring Services Coordinator	Wanda Maness
Tri-Tribal Monitoring Services Monitor	Laura Rogers

Chippewas of Kettle and Stony Point (Wiiwkwedong) First Nation (CKSPFN)

Consultation Advisors	Jess Wakefield
	Emily Ferguson

Bkejwanong First Nation (Walpole Island)

Executive Assistant to the Chief	Alicia Blackeagle
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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, 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

Matthew Beaudoin, PhD, Principal

Matthew received a PhD in Anthropology from Western University in 2013 and has a professional archaeological license with the Province of Ontario (P324). During his archaeological career, Matthew has conducted extensive field research and artifact analysis in Labrador and Ontario, and has taught the Field Methods Course and Principals of archaeology courses as a part-time faculty member at Western University. Matthew has also conducted ethnographic projects in Labrador, and has volunteered with the OAS to provide archaeological training to several Indigenous communities throughout the province.

Over the course of his career, Matthew has supervised over 900 archaeological assessments in Ontario, including Stages 1-4, under a variety of regulatory triggers including provincial and municipal Environmental Assessments, Green Energy projects, development projects under the *Planning Act*, and as due diligence process. Matthew has extensive experience managing large and complex archaeological projects in conjunction with other disciplines, specialists, and Indigenous communities including Enbridge Line 10 Westover Segment, Imperial Oil from Waterdown to Finch, and Highway 3 Widening in Kingsville. Since joining TMHC in 2008, Matthew has also been involved with several notable projects, such as the archaeological assessment of Stoney Point/Camp Ipperwash. For these and other projects, Matthew works closely with heritage staff at TMHC and with heritage staff employed by clients and stakeholder communities.

Matthew is an active member of the Canadian Archaeological Association, the Ontario Archaeological Association, the Society for American Archaeology, and the Society for Historical Archaeology.

Liam Browne, MA, Project Manager

Liam holds a Masters degree in Anthropology from Trent University specializing in late Paleo projectile points in Ontario and New York. With over 10 years in the field, Liam has conducted extensive field research and artifact analysis on Indigenous and 19th Century sites in Ontario.

Liam's role at TMHC has involved background research, support for Indigenous engagement for archaeological projects, report production and project management. Liam has volunteered on both the Dutton Burial Salvage excavation project and the Fugitive Slave Chapel project in London, and is a member of the Ontario Archaeological Society.



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

Project managed by:

A handwritten signature in black ink, appearing to be 'Liam Browne', written over a horizontal line.

Liam Browne, MA (P1048)

Pipeline Archaeological Projects Unit Manager

Report reviewed by:

A handwritten signature in black ink, appearing to be 'Matthew Beaudoin', written over a horizontal line.

Matthew Beaudoin, PhD (P324)

Principal/Manager of Archaeological Assessment



I PROJECT CONTEXT

I.1 Development Context

I.1.1 Introduction

A Stage 2 archaeological assessment was conducted for Enbridge Gas Inc.'s (Enbridge) 2025 Waubuno Well Drilling Project (the "Project") located southwest of the intersection of Telfer Road and Oil Springs Line in the Township of St. Clair, Lambton County, Ontario. The Project involves drilling a new natural gas injection/withdrawal well and the installation of approximately 100 m of Nominal Pipe Size (NPS) 8-inch lateral natural gas pipeline in the Waubuno Designated Storage Area (DSA). Project activities will commence with the construction of a temporary gravel drilling pad measuring up to 60 m by 100 m. Upon completion of drilling activities, a permanent gravel pad measuring 8 m by 12 m will be installed around the well and the new natural gas pipeline will be installed. The area assessed (the "Project Area") includes all lands with potential to be impacted by construction. The Project Area is roughly 2.52 ha (6.23 ac) in size and is located within Lot 10, Concession 2 of the Geographic Township of Moore, Lambton County. It comprises a section of an agricultural field containing two existing natural gas wells along with their associated gravel access laneways.

A previous Stage 1 archaeological assessment for the Project Area was completed by TMHC Inc. (TMHC) in 2024. Stage 1 background research and property inspection determined that parts of the Project Area retained archaeological potential and required Stage 2 archaeological assessment prior to ground disturbing activities. Due to a refinement in the project scope and required work areas, the Stage 2 Project Area was slightly smaller than what was assessed during the Stage 1. The Stage 2 archaeological assessment was triggered by Enbridge's Archaeology Protocol and due diligence for construction projects, which is informed by the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario* (OEB 2023). In 2024, TMHC was contracted by Dillon Consulting Ltd. (Dillon) on behalf of Enbridge to carry out the Stage 2 assessment, which was conducted in accordance with the provisions of the *Provincial Planning Statement*. The purpose of the assessment was to determine whether archaeological resources were present within the Project Area.

All archaeological assessment activities were performed under the professional archaeological license of Liam Browne, MA (P1048) and in accordance with the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011, "Standards and Guidelines"). Permission to enter the property and carry out all required archaeological activities was given by Dillon.



1.1.2 Purpose and Legislative Context

The *Ontario Heritage Act* (R.S.O. 1990) makes provisions for the protection and conservation of heritage resources in the Province of Ontario. Heritage concerns are recognized as a matter of provincial interest in Section 4.6 of the *Provincial Planning Statement* (PPS) which states:

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* (PPS 2024).

In the PPS, the term conserved means:

the identification, protection, management and use of built heritage resources, cultural heritage landscapes and archaeological resources in a manner that ensures their cultural heritage value or interest is retained. This may be achieved by the implementation of recommendations set out in a conservation plan, archaeological assessment, and/or heritage impact assessment that has been approved, accepted or adopted by the relevant planning authority and/or decision-maker. Mitigative measures and/or alternative development approaches should be included in these plans and assessments (PPS 2024).

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) and the 2024 PPS. 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.



1.2 Project Context: Archaeological Context

1.2.1 Project Area: Overview and Physical Setting

The Project Area is located south of Oil Springs Line, west of Telfer Road, in the Township of St. Clair, Lambton County, Ontario. It is roughly 2.52 ha (6.23 ac) in size and is located within Lot 10, Concession 2 of the Geographic Township of Moore, Lambton County (Maps 1 and 2). The Project Area comprises a section of an agricultural field containing two existing natural gas wells along with their associated gravel access laneways. The Project Area is situated atop the valley surrounding Bear Creek. To the east the Project Area is bound by a gravel driveway (Map 3).

The Project Area falls within the St. Clair Clay Plains physiographic region, as defined by Chapman and Putnam (1984:147; Map 4). The region consists of an extensive clay plain covering over 2,000 square miles east of the St. Clair River and south of the Lake Huron shoreline (Chapman and Putnam 1984:147). The plain shows very little notable relief yet minor elevation changes have a marked effect on soils and vegetation (Chapman and Putnam 1984:147). In many areas, agricultural productivity is only permitted by deeply dredged ditches and tile installation, both of which have served to greatly improve surface drainage (Chapman and Putnam 1984:149). The St. Clair Clay Plain was formerly the bed of glacial lakes Whittlesey and Warren (Chapman and Putnam 1984:147) and the former shorelines of these and related glacial lake phases have been documented along the eastern edge of the plain.

Formal soil surveys for Lambton County map the soils within the Project Area as Caistor clay (Map 5). Caistor clay is an imperfectly drained Grey Brown Podzolic soil composed of shaley medium lime clay till, developed by slowly moving water in the post-glacial lakes that covered Lambton County. The materials occur in the form of sand bars, outwash plain, and shorelines (Matthews et al. 1957).

The Project Area lies within the Bear Creek drainage. Bear Creek is located roughly 210 m to the west (Map 1). The Project Area is situated atop the valley surrounding Bear Creek. A small drainage channel passes through a wooded section of the valley wall to the northwest of the Project Area.

1.2.2 Summary of Registered or Known Archaeological Sites

According to PastPortal (accessed June 24, 2024) there are no registered archaeological sites within 1 km of the Project Area.



1.2.3 Summary of Past Archaeological Investigations within 50 m

During the course of this study, records were found for one archaeological investigation within 50 m of the Project Area. This assessment is TMHC's (2024) Stage 1 archaeological assessment for Enbridge's 2025 Waubuno Well Drilling Project. However, it should be noted that the MCM currently does not provide an inventory of archaeological assessments to assist in this determination.

1.2.3.1 Stage 1 Archaeological Assessment – Enbridge 2025 Waubuno Well Drilling Project (TMHC 2024; Map 6)

A Stage 1 archaeological assessment was conducted for Enbridge's 2025 Waubuno Well Drilling Project located southwest of the intersection of Telfer Road and Oil Springs Line in the Township of St. Clair, Lambton County, Ontario (Map 6). The Project Area was located within Lot 10, Concession 2 of the Geographic Township of Moore, Lambton County. It comprised a section of an agricultural field containing two existing natural gas wells along with their associated gravel access laneways. The purpose of the assessment was to determine whether there was potential for archaeological resources to be present within the Project Area. Based on the Stage 1 background research and property inspection, the following recommendations were made:

- All lands identified as having archaeological potential require Stage 2 archaeological assessment prior to ground disturbing activities.
 - The Stage 2 assessment of the ploughed agricultural field should consist of a pedestrian survey at 5 m intervals.
- All lands identified as disturbed do not retain archaeological potential and do not require further assessment.
- Should proposed impacts extend beyond the lands assessed for this Project, additional assessment may be required.

Due to a refinement in the project scope and required work areas, the Stage 2 Project Area for the current assessment was slightly smaller than what was assessed during the Stage 1.

This archaeological assessment was reported in a report entitled *Stage 1 Archaeological Assessment 2025 Waubuno Well Drilling Project Part of Lot 10, Concession 2 Geographic Township of Moore Township of St. Clair, Lambton County, Ontario* (TMHC 2024; Licensee Liam Browne (P1048); PIF P1048-0164-2024).

1.2.4 Dates of Archaeological Fieldwork

The Stage 2 fieldwork was conducted on October 7, 2024, under the direction of Ramsay Macfie, BA (R1022). The weather conditions were a mix of sun and clouds and cool temperatures.



I.3 Project Context: Historical Context

I.3.1 Indigenous Settlement in Lambton County

Our knowledge of the Indigenous occupation of the Lambton County area is incomplete. Nevertheless, based on our knowledge of existing sites and using models generated from Province-wide and region-specific archaeological data, it is possible to provide a basic summary of Indigenous settlement in Lambton County. There is archaeological and historical evidence of Indigenous occupation in the area from Paleo times through the period of European contact and into the period of earliest European settlement. The general themes, time periods and cultural traditions of Indigenous settlement, based on archaeological evidence, are provided below and in Table 1.

Table 1: Chronology of Indigenous Settlement in Lambton County

Period	Time Range (circa)	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/Couture
Transitional Woodland	500-900 CE	first corn, cord-wrapped stick pottery	Princess Point/Riviere au Vase
Late Woodland	900-1300 CE	first villages, corn horticulture, longhouses	Glen Meyer/Youngie
Late Woodland	1300-1400 CE	large villages and houses	Uren, Middleport/Springwell
Late Woodland	1400-1650 CE	tribal emergence, territoriality	
Contact Period - Indigenous	1700 CE-present	treaties, mixture of Indigenous & European items	
Contact Period - Settler	1796 CE-present	industrial goods, homesteads	pioneer life, municipal settlement



1.3.1.1 Paleo Period

The first human populations to inhabit the Lambton County region arrived between 12,000 and 10,000 years ago, coincident with the end of the last period of glaciation. Climate and environmental conditions were significantly different then they are today; local environs would not have been welcoming to anything but short-term settlement. The Indigenous peoples of this time period would have crossed the landscape in small groups (i.e., bands or family units) searching for food, particularly migratory game species. In this area, caribou may have provided the staple of the Paleo period diet, supplemented by wild plants, small game, birds and fish.

Given the low density of populations on the landscape at this time and their mobile nature, Paleo period sites are small and ephemeral. They are sometimes identified by the presence of fluted projectile points manufactured on a highly distinctive whitish-grey chert named "Fossil Hill" (after the formation) or "Collingwood." This material was acquired from sources near the edge of the escarpment on Blue Mountain. It was exploited by populations from as far south as the London area, who would have traveled to the source as part of their seasonal round.

1.3.1.2 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, early Archaic period populations continued the mobile lifestyle of their predecessors. Through time and with the development of more resource rich local environments, these groups gradually reduced the size of the territories they exploited on a regular basis. A seasonal pattern of warm season riverine or lakeshore settlements and interior cold weather occupations has been documented in the archaeological record.

Since the large cold weather mammal species that formed the basis of the Paleo period subsistence pattern became extinct or moved northward with the onset of warmer climate conditions, Archaic period populations 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, Archaic sites are more plentiful than those from the earlier period. Artifacts typical of these occupations include a variety of stemmed and notched projectile points, chipped stone scrapers, ground stone tools (e.g., celts, adzes) and ornaments (e.g., bannerstones, gorgets), bifaces or tool blanks, animal bone (where and when preserved) and waste flakes, a by-product of the tool making process.



1.3.1.3 Early, Middle and Transitional Woodland Periods

Significant changes in cultural and environmental patterns are witnessed in 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 in this period, culminating in major semi-permanent villages by 1,000 years ago. Archaeologically, the most significant changes by Woodland times are 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 residential areas similar to those that define the incipient agricultural or Neolithic period in Europe.

Early and Middle Woodland period peoples are also known for a well-developed burial complex and ground stone tool industry. Unique Early Woodland period ground stone items include pop-eyed birdstones and gorgets. In addition, there is evidence of the development of widespread trading with groups throughout the northeast. The recovery of marine shells from the Gulf of Mexico in the Lake Superior area indicates that exchanges of exotic materials and finished items from distant places were commonplace.

1.3.1.4 Late Woodland Period

During the Late Woodland period, much of Southwestern Ontario was occupied by two groups: Iroquoians and what are thought by archaeologists to be Algonquin speaking populations (the term “Western Basin Tradition” has been used to describe this cultural complex). In the east, the Iroquoian occupants were the Attawandaron, a tribal group described by European missionaries and whose historic homeland was significantly further east. Like other known Iroquoian groups including the Huron (Wendat) and Petun (Tionontati), the Attawandaron practiced a system of intensive horticulture based on three primary subsistence crops (corn, beans and squash). Their villages incorporated a number of longhouses, multi-family dwellings that contained several families related through the female line. *The Jesuit Relations* describe several Attawandaron centres in existence in the 17th century, including a number of sites where missions were later established. While precontact Attawandaron sites may be identified by a predominance of well-made pottery decorated with various simple and geometric motifs, triangular stone projectile points, clay pipes and ground stone implements, sites post-dating European contact are recognized through the appearance of various items of European manufacture. The latter include materials acquired by trade (e.g., glass beads, copper/brass kettles, iron axes, knives and other metal implements) in addition to the personal items of European visitors and Jesuit priests (e.g., finger rings, stoneware, rosaries, glassware). The Attawandaron were dispersed, and their population decimated by the arrival of epidemic European diseases and inter-tribal warfare. Many were adopted into other Iroquoian communities.

In southwestern Ontario west of the London area, archaeologists have also documented the in-situ development of Late Woodland period archaeological traditions from Middle Woodland period precedents that are believed to have an Algonquin cultural origin, quite distinct from Iroquoian populations who lived to the east. The archaeological record of these groups has been labeled the “Western Basin Tradition.” During the Late Woodland period, complex settlements are characteristic of these people and, at their peak, are characterized by fortified villages containing large, likely extended family, structures. Some of the villages are surrounded by earthworks. There is evidence for the cultivation of corn and beans by roughly 900 CE. The pottery traditions of these people varied significantly from those of their Iroquoian neighbors. Early vessels, called Wayne ware, are small, thin-walled pots covered with vertical cord marking and tool impressions. Vessels become more elaborate through time, incorporating multiple bands of tool impressions, castellated rims and incised decoration. Late pottery is characteristically bag-shaped and often incorporates dentate



stamping as well as appliqué strips and strap handles, similar to some Mississippian tradition pottery. As was not the case with much Iroquoian pottery, clay fabrics were mixed with shell temper. The Western Basin Tradition is divided up into four phases based on differences in settlement and subsistence strategies and pottery attributes. The four phases are: Riviere au Vase, Younge, Springwells, and Wolf. Table 4 below is extracted from the Windsor Archaeological Master Plan (CRM Group Ltd. et al. 2005:2-13).

Table 2: The Four Phases of the Western Basin Tradition

Phase	Date	Settlement and Subsistence	Pottery
Riviere au Vase	600-900 CE	<ul style="list-style-type: none"> - developed directly from the Middle Woodland Couture complex - seasonal mobility geared toward resource availability - summer base camps by lakeshores, fall/winter in interior - no corn or beans present 	<ul style="list-style-type: none"> - Wayne ware: small, thin walled, vertical cord-marking - later wares are tool impressed
Younge	900-1200 CE	<ul style="list-style-type: none"> - corn and beans present - settlement & subsistence continues as before with focus on warm season gathering of groups and winter dispersals 	<ul style="list-style-type: none"> - pottery is larger, more elaborately decorated - body of vessels are corded, coarsely & irregularly - multiple bands of tool impression
Springwells	1200-1400 CE	<ul style="list-style-type: none"> - larger more permanent warm season settlements - longhouses & palisades present - more intensive horticulture - locations near arable lands, and along the shorelines of marshes, river, and lakes - possible use wattle & daub 	<ul style="list-style-type: none"> - ceramics large & bag-shaped - collars & castellated rims decorated with horizontal bands of incised or impressed decoration - roughened, self slip & ribbed paddle surfaces first appear
Wolf	1400-1600 CE	<ul style="list-style-type: none"> - few examples of sites known - distribution limited to around Lake St. Clair, St. Clair River - large warm weather villages, often fortified by earthworks - nature of these sites is attributed to the westward expansion of Ontario Iroquoians that resulted in abandonment by the Western Basin peoples in early 1600 CE 	<ul style="list-style-type: none"> - diagnostic characteristic of Wolf phase is Parker Festooned pottery - undulating bands of dentate stamped impressions or stamped applique strips on vessel necks - after 1500 CE most vessels with strap handles & notched lips or notched horizontal rim strips, plus shell temper



1.3.2 Treaty History

Indigenous peoples have used the lands that are now known as Lambton County for thousands of years. Prior to the displacement caused by early European settlement, this area was actively used for hunting by a number of Anishinaabe peoples. The area which became the Township of St. Clair was part of the Huron Tract, approximately 2.76 million acres of land subject to Provisional Treaty No. 27 ½ between the local Chippewa nations and the British Crown signed on April 26, 1825 (Surtees 1984). An earlier 1819 agreement was never realized and for six years the territory remained in limbo. The provisional treaty was finally reached as a result of John Galt's intention to form the Canada Company which required one million acres of land to sell to prospective settlers (Surtees 1894).

The Chippewa nations transferred most of the Huron Tract to the Crown but maintained their territories in four reserve lands along the St. Clair River and on the shores of Lake Huron near Kettle Point and the Ausable River (River aux Sable). These reserves would become the Aamjiwnaang First Nation and the Chippewas of Kettle and Stony Point First Nation. The agreement was formalized in 1827 through Treaty No. 29 (Canadian Legal Information Institute 2000; Duern 2017).



1.3.3 Nineteenth-Century and Municipal Settlement

The Project Area falls within Lot 10, Concession 2 of the Geographic Township of Moore, now the Township of St. Clair, Lambton County, 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.

1.3.3.1 Lambton County

Prior to the 1830s Lambton County was sparsely occupied by people of European descent. One of the reasons for this was that historical Lambton County was composed of mainly forested and swampy areas that made settling and traveling to the County difficult. A few French settlers were living along the banks of the St. Clair River. An unfortified British military reserve was set up in the along the eastern bank of the St. Clair River at the entrance to Lake Huron, in the location of what was to eventually become the Village of Point Edward around 1800. This military reserve was established to protect the entrance of Lake Huron from possible American invaders (Elford 1982:114). It is thought that the earliest European settlement in Lambton County was focused along Bear Creek (or the Sydenham River) in what has come to be known as the Baldoon Settlement (H. Belden & Co. 1880:4). This area was settled by Highland Scotch immigrants who came to the area around 1804 under the direction of Lord Selkirk (H. Belden & Co. 1880:4). However, no sizable European populations settled in the County until the early 1830s when there was an influx of British settlers. By 1834, there were 1,728 settlers in the county and by 1891 the population had increased to 58,810 people (Elford 1982:3-5). By 1835 the ten townships that would eventually comprise the County were laid out and surveyed. It was not until 1850 that Lambton became a provisional county and three years later it became an independent municipality (Elford 1967). By 1881 nearly half the county was still in timber (Matthews et al. 1957:23).

The Grand Trunk Railway first opened in 1859 and helped increase the County's shipping profile and provided passage to new immigrants. Transportation through the County was considerably hindered by the lack of good thoroughfares. Given that much of the county was essentially a vast level clay plain with few streams and rivers, it was poorly drained and good, dry roads were hard to come by. Swamplands often prohibited the establishment of early through roads. Nonetheless, a few early major transportation routes offered some solace to travelers. These included the Egremont/London Road (now Highway 22), the Plank Road (connecting Sarnia to Petrolia) and the Fourth Line (Confederation Line). The Plank Road was "planked" between 1862 and 1865 following the discovery of oil in Enniskillen Township (Elford 1967:41-42).

1.3.3.2 Geographic Township of Moore

As early as 1812, two Frenchmen, Champleau and Papineau, had settled near present day Mooretown; the earliest known village in the township. Early French settlers to the area held their land by "squatter's rights" until the Geographic Township of Moore was surveyed in 1829 by Boswell Mount (Johnston 1925:46). Sir John Colborne named this Township after the noted British General John Moore, who died on the battlefield of Corunna in 1809. The township was noted for its relatively large number of settlements in Lambton County, owing largely to the presence of and access to the Saint Clair Division of Canada's Southern Railway line, which bisects the township west to east just south of Mooretown between the communities of Courtright and Brigden (H. Belden & Co. 1880). Though the St. Clair riverfront portion of the township was settled early in the 19th century, settlement of interior portions of the township did not begin until the 1830s because forested swampland dominated these interior lands. In these interior areas land grants were made to the sons of United Empire Loyalists in reward for their loyalty to the British Crown during the War of 1812, many of whom quickly sold their land to other incoming settlers and land speculators. Thus, two distinct sections of



the township, the riverfront and the interior, received two distinct groups of settlers. People of official class (e.g., army and navy men, businessmen, physicians, mechanics) settled the riverfront, whereas those of the labouring class (e.g., farmers, shepherds, sailors, fishermen, carpenters) settled the less hospitable interior.

Until at least 1839, the only passable roadway was the one along the river (now the St. Clair Parkway), which itself had limited access to areas farther north. Even when concession lines were opened up and ditches dug alongside these, it was many years thereafter before these roads could be travelled by wagon due to the extensive dense and wet clay soils in the poorly drained interior regions. It was not until the 1880s that the main road arteries running into Sarnia (River Road, Reserve Road, and Kimball Side Road) were graveled. Most of the concession roads in the township were open by mid-century and were likely somewhat accessible by the 1830s when the concessions were settled.

1.3.4 Review of Historic Maps

The Project Area falls within Lot 10, Concession 2 of the Geographic Township of Moore, now the Township of St. Clair, Lambton County, Ontario.

The *Map of Moore Township* (Map 7) in H. Belden & Co.'s 1880 *Illustrated Historical Atlas of Lambton County* shows a single structure on Lot 10, Concession 2 located north of Bear Creek fronting Oil Springs Line. The lot is clearly associated with Smith Stephens, a farmer that settled in 1873. Oil Springs Line, Telfer Road and Tennyson Line are shown as open at this time. Both Oil Springs Line and Tennyson Line are depicted as spanning Bear Creek. An unopened road allowance is seen running along the east side of Lot 10. The position of this road allowance corresponds with the location of the current driveway connecting to Telfer Line.

A 1954 aerial photograph (Map 8) shows that the Project Area was in use as a ploughed agricultural field during the mid-20th century. The small woodlot surrounding a drainage channel that is currently located to the northwest of the Project Area was not present at this time. A driveway connecting to Telfer Road was present at this time; it likely ran along the eastern limit of the Project Area; however, it is not visible here as the area is obscured by a treeline.

A topographic map from 1963 (Map 9) shows a natural gas control valve immediately to the northeast of the Project Area as well as two additional valves nearer to Telfer Road.

A topographic map from 1965 (Map 10) shows a gas well to the northeast of the Project Area where the control valve had been previously depicted. An additional well is seen to the east of the Project Area, east of the treeline that runs along the driveway. The drainage channel to the northwest of the Project Area is clearly depicted.

In 2003, the Project Area was a ploughed agricultural field containing two gas wells (Map 11).

1.3.5 Review of Heritage Properties

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



2 FIELD METHODS

All fieldwork was undertaken in good weather and lighting conditions. No conditions were encountered that would hinder the identification or recovery of artifacts. The Project Area boundaries were determined in the field based on proponent mapping, landscape features, and limits of ploughing. The area to be ploughed was staked by Enbridge prior to ploughing. The limits of the ploughing were mapped in the field by TMHC using an E-Survey E-600 GPS/Glonass Network Rover.

The majority of the Project Area comprises an agricultural field that surrounds two existing natural gas wells and their associated gravel laneways (Image 1). As such, the agricultural field was subject to pedestrian survey at a 2.5 m interval (97.8%; 2.46 ha; Images 2-3) following ploughing and weathering under heavy rains. The decision to reduce the survey interval to 2.5 m was made in consultation with community representatives, in consideration of the area's sensitivities, and as part of our due diligence. Surface visibility was good to excellent (80% or greater; Image 4). When cultural material was identified during the survey, the transects were reduced to 1 m or less for a minimum 20 m radius around each find and intensively examined to determine the spatial extent of each site (Images 5 and 6). It was anticipated that only a representative number of artifacts would be collected at each location to adequately date it, with the general aim being to leave enough in the field for site re-identification. However, if a location obviously did not meet the criteria for Stage 3 archaeological assessment at the time of the field survey, all of the surface artifacts were collected and mapped using an E-Survey E-600 GPS/Glonass Network Rover.

The remaining 2.4% (0.06 ha) of the Project Area was previously assessed and no further work was required.

The results of the Stage 2 archaeological assessment, as well as the location and orientation of report photographs are presented on Map 12. Final mapping for the Stage 2 assessment was generated using GPS coordinates for the limits of the ploughing captured in the field by TMHC. The suitability of the limits of the area assessed was confirmed by Dillon and Enbridge. A no proponent map was supplied, no attempt made to present the Stage 2 results on a proponent map.



3 RECORD OF FINDS

Archaeological material was discovered in two locations (designated Locations 1 and 2) during the Stage 2 assessment. A general description of our findings at each site is provided below and more specific site location details appear in the Supplementary Documentation (SD) portion of this report. The artifact glossary can be found in Appendix A.

3.1.1 Location 1 (no Borden number assigned)

Location 1 is a scatter of four Indigenous lithic artifacts across a 27 m (northwest-southeast) by 7 m (northeast-southwest) area, identified during pedestrian survey (Table 3; Image 7). All of the surface artifacts were collected. The assemblage included two flake fragments and two scrapers, all of Onondaga chert.

The first scraper (cat. 3; Image 7A) is 38.8 mm long and 23.1 mm wide at its point of maximum width. This scraper was made on a thick (10.6 mm) secondary flake of Onondaga chert. The working edges of the tool are on the flake’s distal and right lateral edges. All removals used to create the working edges of this tool are on the flake’s dorsal surface. Some crushing is present along the left lateral edge.

The second scraper (cat. 4; Image 7B) is 31.5 mm long and 18.7 mm wide at its point of maximum width. This scraper was made on a thick (9.3 mm) secondary flake of Onondaga chert. The working edge of this tool is on the flake’s distal end. All removals used to create the working edge are on the flake’s dorsal surface. A series of step fractures are present at the proximal end of the flake.

Table 3: Location 1, Stage 2 Artifact Catalogue

Cat.	Context	Layer/Depth	Artifact	n	Comments
1	Station 7001	surface	chipping detritus	1	fragmentary Onondaga
2	Station 7002	surface	chipping detritus	1	fragmentary Onondaga
3	Station 7003	surface	scraper	1	Onondaga
4	Station 7004	surface	scraper	1	Onondaga
			Total	4	



3.1.2 Location 2 (no Borden number assigned)

Location 2 is a scatter of two Indigenous artifacts separated by a distance of 11.7 m, identified during pedestrian survey (Table 5; Image 8). All of the surface artifacts were collected. The assemblage included a secondary flake of Onondaga chert and a biface, also on Onondaga chert. The biface is a tip and midsection fragment and may represent a portion of a projectile point.

The biface tip and midsection fragment (cat. 2; Image 8A) is 34.7 mm long and 22.4 mm wide at its point of maximum width. As this artifact is incomplete these measurements do not reflect the true size of the complete tool. The flaking is finely executed resulting in a surface with no step fractures or pips. This biface fragment is 7.8 mm thick and displays a bi-convex cross-section. The snap break to the mid-section ran along an impurity in the chert which would have formed a natural weak point.

Table 4: Location 2, Stage 2 Artifact Catalogue

Cat.	Context	Layer/Depth	Artifact	n	Comments
1	Station 7042	surface	chipping detritus	1	secondary Onondaga
2	Station 7043	surface	biface	1	Onondaga; tip and midsection fragment; possible projectile point fragment
			Total	2	

3.1.3 Documentary Records

The artifacts and files are currently being stored at the TMHC corporate office located at 1108 Dundas Street, Unit 105, London, ON, N5W 3A7. Table 5 provides an inventory of the documentary records generated during this project.

Table 5: Documentary Records

Date	Field Notes	Field Maps	Digital Images
October 7, 2024	Digital and hard copies	Digital and hard copies	24 Images



4 ANALYSIS AND CONCLUSIONS

A Stage 2 field assessment was conducted in keeping with the MCM's *Standards and Guidelines* (MTC 2011). During the assessment two archaeological locations were identified. The Project Area is in close proximity to Bear Creek, a water source which would have provided an essential resource for campsites or stopping points within a larger seasonal round for past peoples in the region. Historical mapping also indicates that a tributary of the creek bordered the Project Area to the west.

Section 2.2 of the MCM's *Standards and Guidelines* (MTC 2011) establishes criteria whereby the cultural heritage value or interest (CHVI) of archaeological resources can be evaluated and the need for further Stage 3 testing and/or Stage 4 mitigation of construction impacts established. Each archaeological location is evaluated below.

Location 1 (no Borden number assigned) is a scatter of four Indigenous artifacts across a 27 m (northwest-southeast) by 7 m (northeast-southwest) area, identified during pedestrian survey at a 2.5 m interval. All surface artifacts within a 20 m radius from the finds were collected. Location 1 consists of two pieces of chipping detritus and two scrapers, all made of Onondaga chert. As the artifacts are undiagnostic, no cultural or temporal affiliation can be assigned to the location at this time. As fewer than 10 non-diagnostic artifacts were recovered within a 10 m by 10 m pedestrian survey area, Location 1 does not have further CHVI under the provincial framework and no further work is recommended (Section 2.2 Standard 1.a.i(3), MTC 2011).

Location 2 (no Borden number assigned) is a scatter of two Indigenous artifacts separated by a distance of 11.7 m, identified during pedestrian survey at a 2.5 m interval. All surface artifacts within a 20 m radius from the finds were collected. Location 2 consists of one piece of chipping detritus and one biface, both made of Onondaga chert. As the artifacts are undiagnostic, no cultural or temporal affiliation can be assigned to the location at this time. As fewer than 10 non-diagnostic artifacts were recovered within a 10 m by 10 m pedestrian survey area, Location 2 does not have further CHVI under the provincial framework and no further work is recommended (Section 2.2 Standard 1.a.i(3), MTC 2011).



5 RECOMMENDATIONS

All work met provincial standards, and two archaeological locations were documented during the assessment. Our recommendations are presented below:

- Location 1 (no Borden number assigned) is a scatter of four Indigenous artifacts consisting of two fragmentary flakes and two scrapers, all made of Onondaga chert. This scatter does not have further CHVI under the current standards, does not meet provincial criteria for Stage 3 assessment, and no further work is recommended.
- Location 2 (no Borden number assigned) is a scatter of two Indigenous artifacts consisting of one secondary flake and one biface, both made of Onondaga chert. This scatter does not have further CHVI under the current standards, does not meet provincial criteria for Stage 3 assessment, and no further work is recommended.

Should proposed impacts extend beyond the lands assessed for this project, then additional assessment may be required (Map 13).

These recommendations are subject to the conditions laid out in Section 7.0 of this report and to the MCM's review and acceptance of this report into the provincial register.



6 SUMMARY

A Stage 2 archaeological assessment was conducted for Enbridge's 2025 Waubuno Well Drilling Project south of Oil Springs Line and west of Telfer Road, in the Township of St. Clair, Lambton County, Ontario. The Project Area is roughly 2.52 ha (6.23 ac) in size and is located within Lot 10, Concession 2 of the Geographic Township of Moore, Lambton County. A previous Stage 1 archaeological assessment had confirmed that portions of the Project Area which consist of ploughable lands, retain potential for the discovery of archaeological resources and require Stage 2 archaeological assessment. Due to a refinement in the project scope and required work areas, the Stage 2 Project Area was slightly smaller than what was assessed during the Stage 1. The Stage 2 assessment (pedestrian assessment at a 2.5 m interval) resulted in the documentation of two archaeological locations. Neither of the locations have further CHVI under the current standards, do not meet provincial criteria for Stage 3 assessment, and no further work is recommended.



7 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 Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

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

The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 requires that any person discovering human remains must notify the police or coroner and Registrar of Burial Sites, Ontario Ministry of Government and Consumer Services at 416-212-7499 and FBCSARegistrar@ontario.ca.

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.



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9 IMAGES



Image 1: Overview of Project Area

Looking Southwest



Image 2: Pedestrian Survey at 2.5 m Interval

Looking East



Image 3: Pedestrian Survey at 2.5 m Interval

Looking West



Image 4: Surface Visibility



Image 5: Location 1, Intensified Pedestrian Survey at a 1 m Interval

Looking North



Image 6: Location 2, Intensified Pedestrian Survey at a 1 m Interval

Looking North

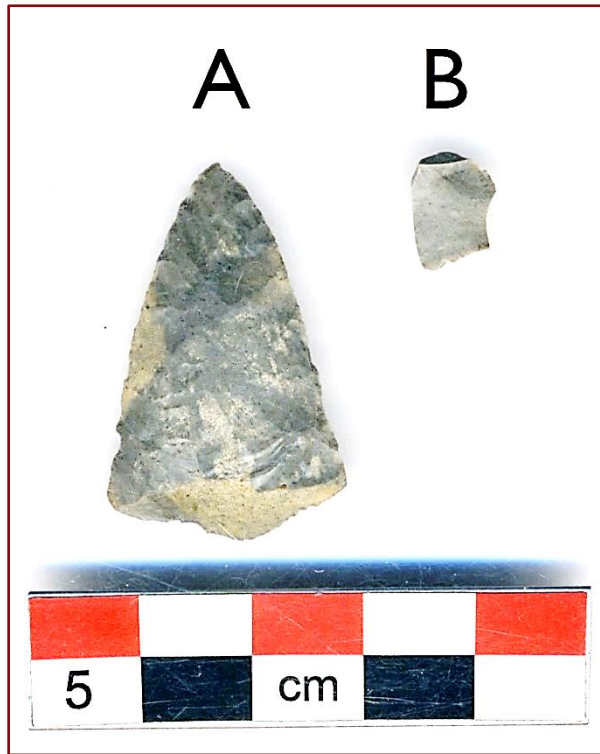


Image 7: Location 1, Stage 2 Artifacts



A) scraper, Onondaga chert, cat. 3; B) scraper, Onondaga chert, cat. 4; C) fragmentary flake, Onondaga chert, cat. 2; D) fragmentary flake, Onondaga chert, cat. 1

Image 8: Location 2, Stage 2 Artifacts



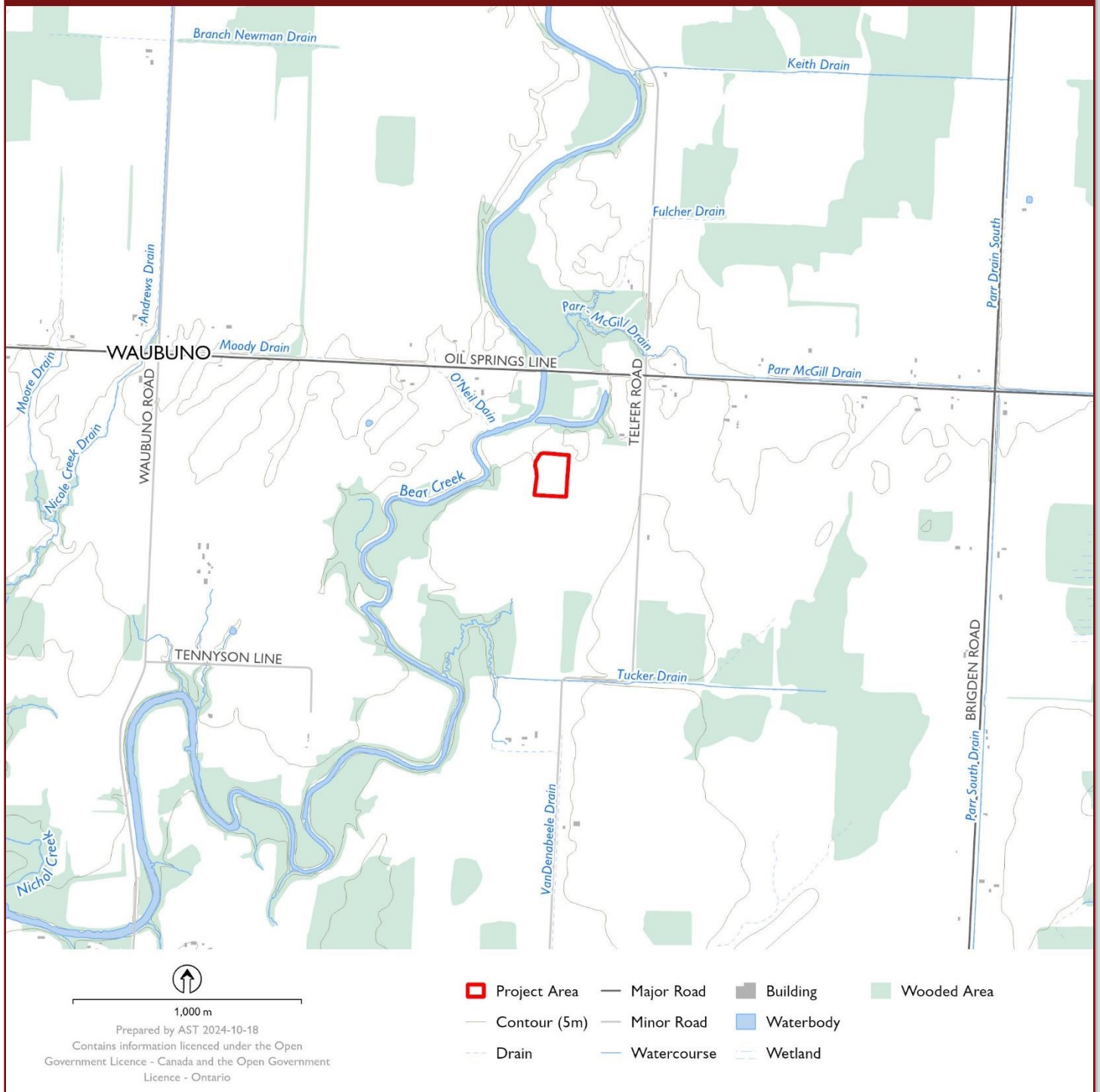
A) biface fragment, Onondaga chert, cat. 2; B) secondary flake, Onondaga chert, cat. 1



10 MAPS



PROJECT LOCATION



Map 1: Location of the Project Area in the Township of St. Clair, Lambton County, ON

AERIAL PHOTOGRAPHY
COUNTY OF LAMBTON ORTHOPHOTOGRAPHY (2020)



400 m

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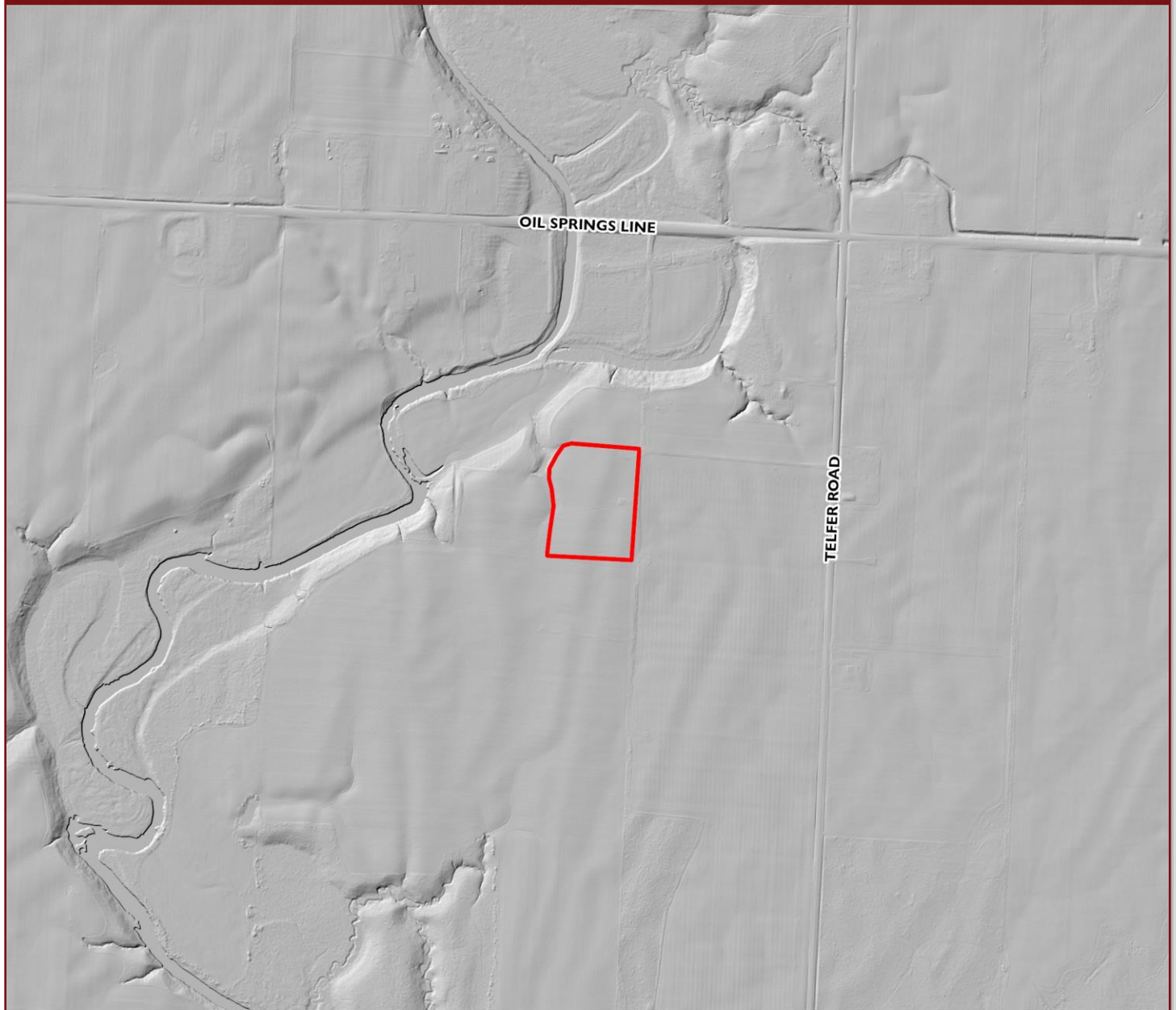
 Project Area

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



ONTARIO DIGITAL TERRAIN MODEL (LIDAR-DERIVED)

GOVERNMENT OF CANADA (2023)

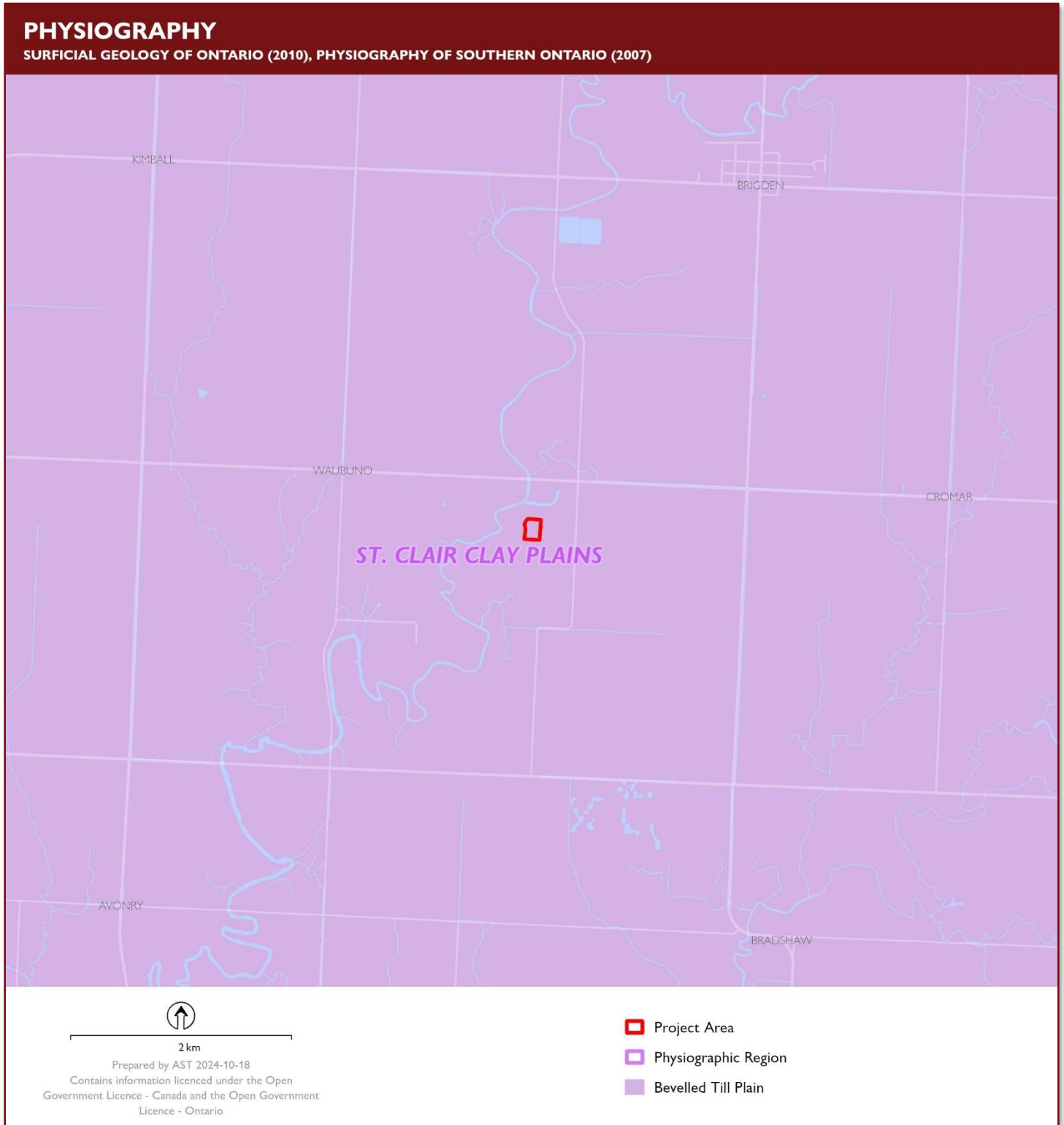


500 m

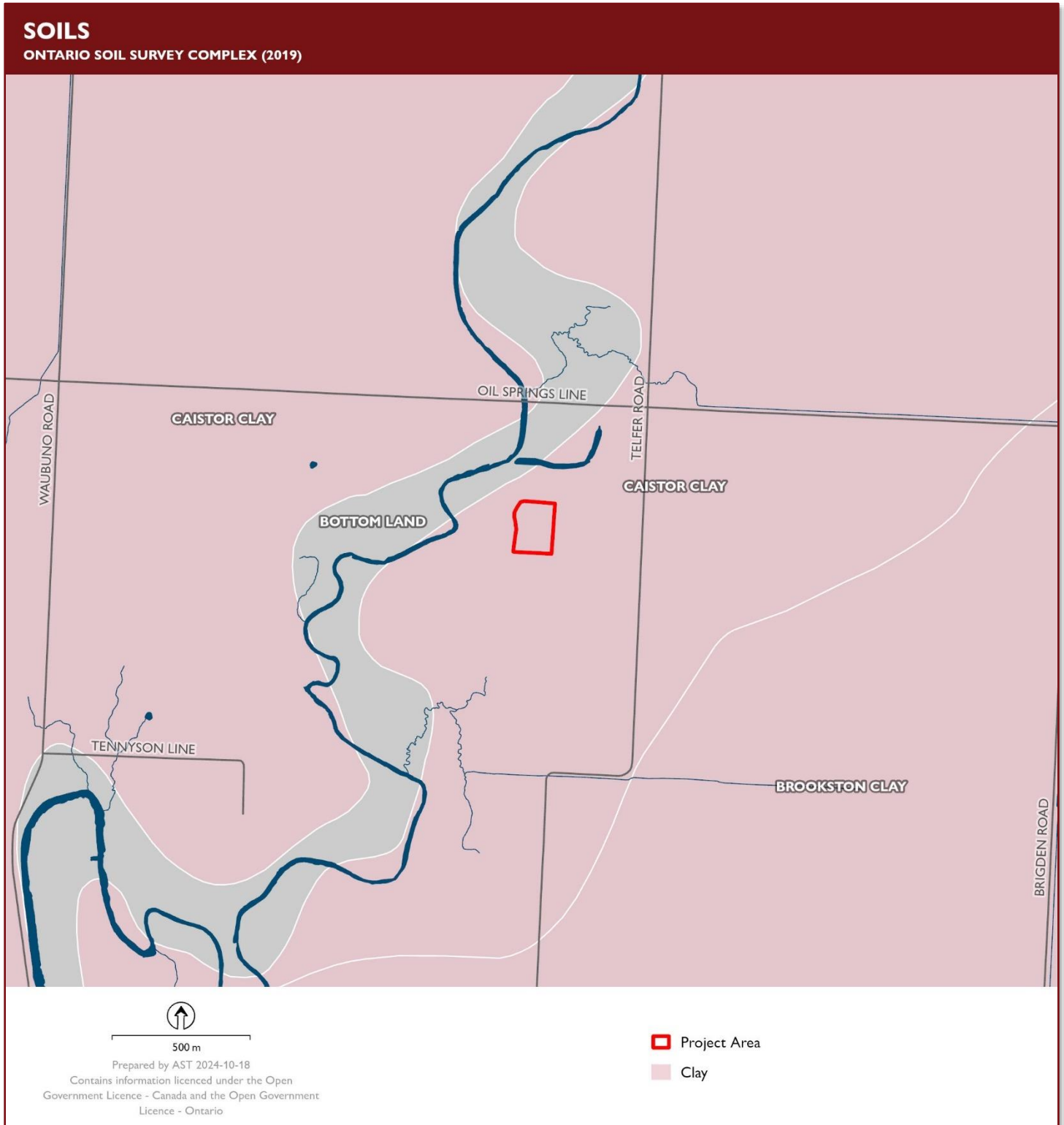
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 Project Area

Map 3: Light Detection and Ranging (LiDAR) Showing Topography of Project Area



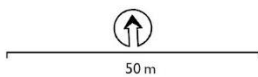
Map 4: Physiography Within the Vicinity of the Project Area



Map 5: Soils Within the Vicinity of the Project Area



WAUBUNO WELL DRILLING PROJECT
STAGE 1 RESULTS & RECOMMENDATIONS

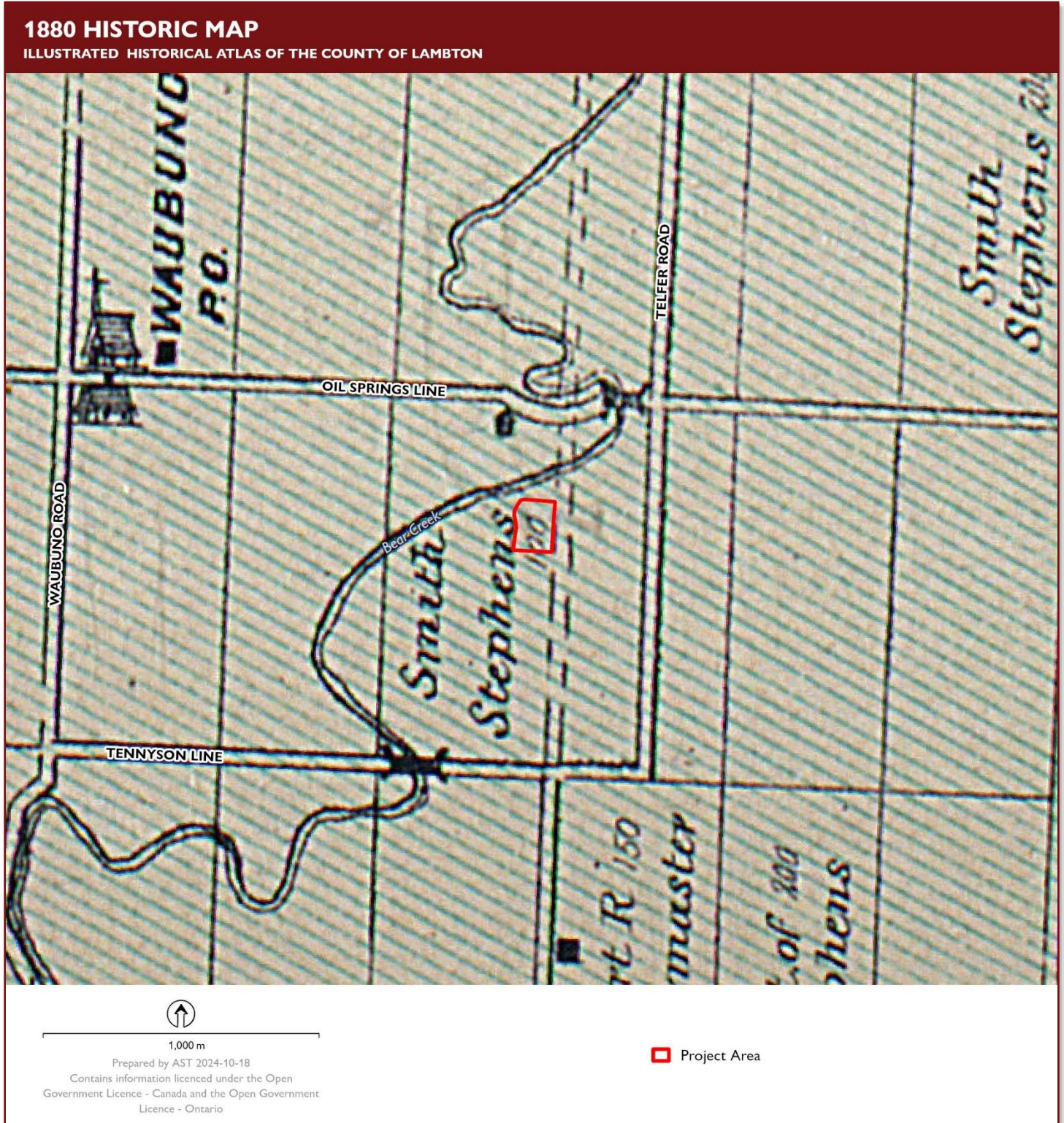


Prepared by DG 2024-07-10
 Contains information licenced under the Open
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- Project Area
- Report Photo

- STAGE 1 ASSESSMENT RESULTS**
- Areas of Archaeological Potential
 - Pedestrian Survey Recommended
 - Areas of Low Archaeological Potential
(No Further Assessment Required)
 - Disturbed (Gas Well, Gravel Laneway)

Map 6: TMHC (2024) Stage I Field Conditions and Assessment Results



Map 7: Location of the Project Area Shown on the 1880 Map of Moore Township

HISTORICAL AERIAL PHOTOGRAPHY
DEPARTMENT OF LANDS AND FORESTS (1954)



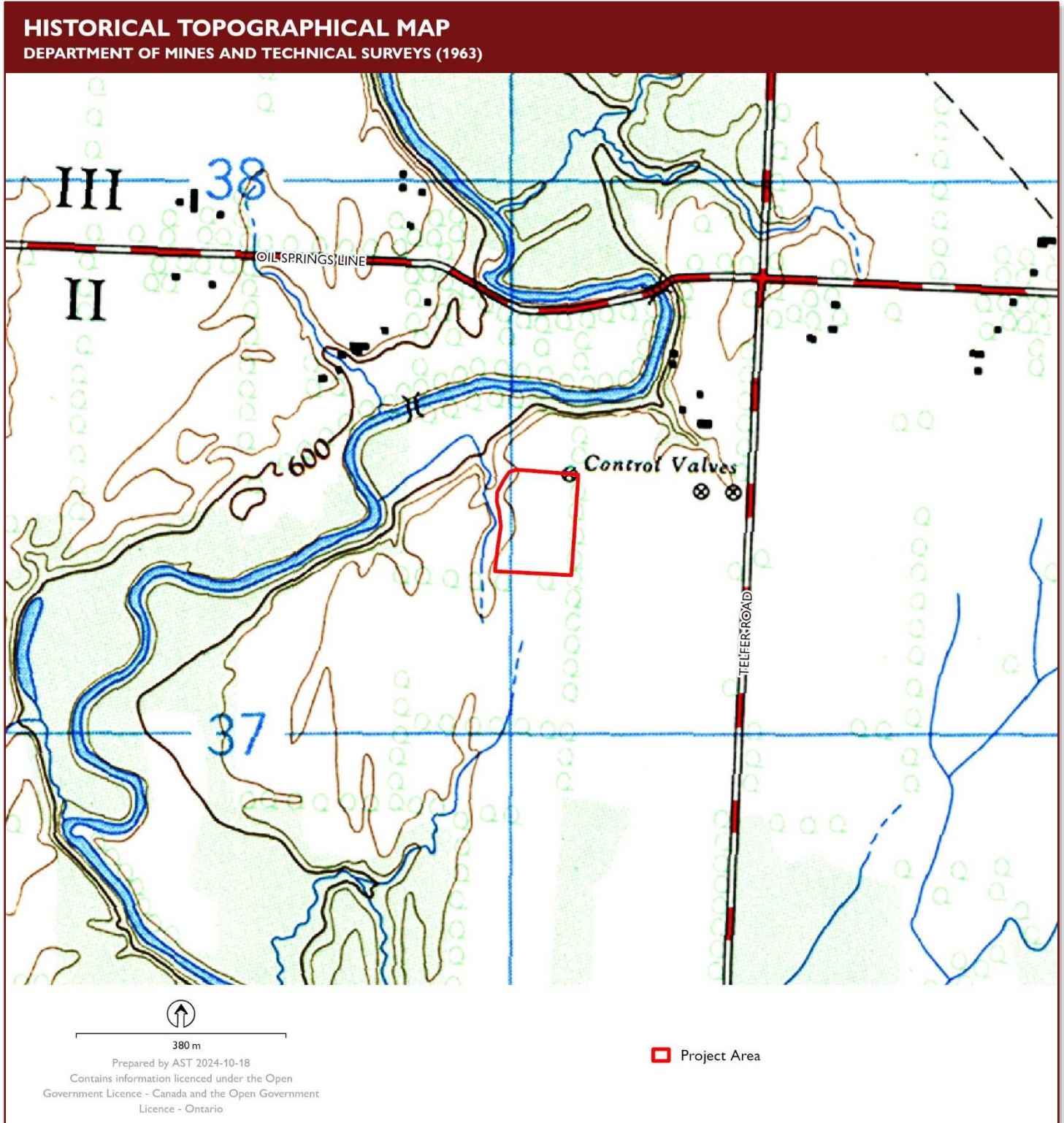
380 m

Prepared by AST 2024-10-18

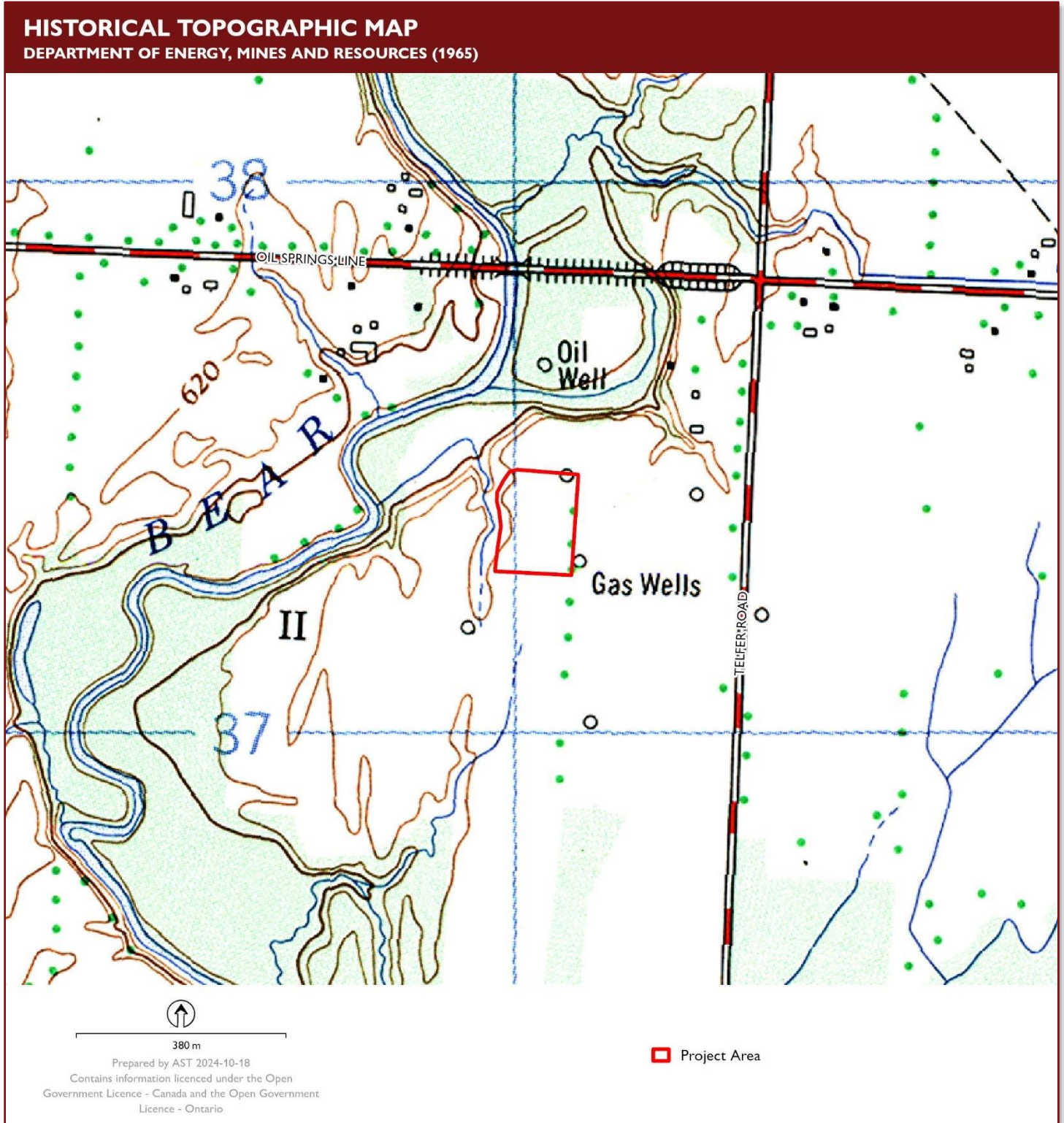
Contains information licenced under the Open
Government Licence - Canada and the Open Government
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 Project Area

Map 8: Location of the Project Area Shown on 1954 Aerial Imagery



Map 9: Location of the Project Area Shown on a 1963 Topographic Map



Map 10: Location of the Project Area Shown on a 1965 Topographic Map

HISTORICAL AERIAL PHOTOGRAPHY
COUNTY OF LAMBTON ORTHOPHOTOGRAPHY (2003)



150 m

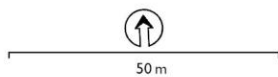
Prepared by AST 2024-10-18

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 Project Area

Map 11: Location of the Project Area Shown on a 2003 Aerial Imagery

WAUBUNO WELL DRILLING PROJECT
STAGE 2 METHODS



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Project Area
 Report Photo

STAGE 2 ASSESSMENT METHODS

- Areas of Archaeological Potential*
- Ploughed Agricultural Field (Pedestrian Survey, 2.5m Interval)
- Areas of Low Archaeological Potential*
- Not Surveyed, Photo Documented*
- Previously Assessed (No Further Assessment Required)

Map 12: Stage 2 Field Conditions and Assessment Methodology



APPENDIX A: ARTIFACT GLOSSARY

Debitage

Fragmentary flakes are flakes that could not be identified to a specific flake type because they are incomplete and are missing their striking platform.

Secondary flakes are the result of shaping and thinning bifaces by percussion or pressure flaking. They are characterized by their generally small size, diffuse bulb of percussion and by their striking platform that can be small and faceted by flake scars or may consist simply of a crushed flake margin. The striking platform ventral surface angle is obtuse, and the platform dorsal surface angle is acute. Cortex is rarely observed on the dorsal surface.

Lithic Tools

Biface: Bifaces are bifacially worked tools that can either be described as rough or finished. Determining the type of biface can be difficult as there are no specific criteria for the stages in flaking reduction therefore only the terms rough and finished are used. Rough bifaces have limited bifacial thinning and cannot be typed as a projectile point (Woodley 1993:6). The term biface is used for finished bifaces that cannot be assigned a specific function (i.e. as a knife or blade) (Woodley 1993:7).

Scraper: Scrapers are unifacial tools that were used to scrape the inside of hides for processing, or to work harder materials such as wood or bone (Woodley 1993:6). The angle of the area worked is more dramatic than that of observed on a biface or projectile point.

Chert Material

Onondaga Chert: Onondaga chert is recovered from the Onondaga Escarpment, which runs north of the Lake Erie Shore, or from glacial till deposits in this area (Eley and von Bitter 1989:17); the Onondaga Escarpment extends from southern Ontario north of Lake Erie to northwestern New York State south of Lake Ontario. Onondaga Chert would have been most likely collected from streambeds and secondary deposits north of the Lake Erie shore (Eley and von Bitter 1989:17). Onondaga chert ranges from light to dark grey, blueish grey, brown or black, and is often mottled (Eley and von Bitter 1989:17).

Ministry of Citizenship and Multiculturalism (MCM)

Archaeology Program Unit
Heritage Branch
Citizenship, Inclusion and Heritage Division
5th Floor, 400 University Ave.
Toronto ON M7A 2R9
Tel.: (705) 571-0035
Email: Teresa.Tremblay@ontario.ca

Ministère des Affaires civiques et du Multiculturalisme (MCM)

Unité des programme d'archéologie
Direction du patrimoine
Division de la citoyenneté, de l'inclusion et du
patrimoine 5e étage, 400 ave. University
Toronto ON M7A 2R9
Tél. : (705) 571-0035
Email: Teresa.Tremblay@ontario.ca



Oct 29, 2024

Liam Browne (P1048)
Timmins Martelle Heritage Consultants Inc.
105 - 1108 Dundas London ON N5W 3A7

RE: Entry into the Ontario Public Register of Archaeological Reports: Archaeological Assessment Report Entitled, "Stage 2 Archaeological Assessment 2025 Waubuno Well Drilling Project Part of Lot 10, Concession 2 Geographic Township of Moore Township of St. Clair, Lambton County, Ontario", Dated Oct 24, 2024, Filed with MCM on N/A, MCM Project Information Form Number P1048-0165-2024, MCM File Number 0021731

Dear Mr. Browne:

The above-mentioned report, which has been submitted to this ministry as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18, has been entered into the Ontario Public Register of Archaeological Reports without technical review.¹

Please note that the ministry makes no representation or warranty as to the completeness, accuracy or quality of reports in the register.

Should you require further information, please do not hesitate to send your inquiry to Archaeology@Ontario.ca

cc. Archaeology Licensing Officer
Tristan Lefler, Dillon Consulting Limited
TBD TBD, TBD

¹In no way will the ministry be liable for any harm, damages, costs, expenses, losses, claims or actions that may result: (a) if the Report(s) or its recommendations are discovered to be inaccurate, incomplete, misleading or fraudulent; or (b) from the issuance of this letter. Further measures may need to be taken in the event that additional artifacts or archaeological sites are identified or the Report(s) is otherwise found to be inaccurate, incomplete, misleading or fraudulent.

Appendix B-1

Cultural Heritage Resource Screening Report

**Cultural Heritage Screening
Waubuno Well Drilling Project
Township of St. Clair, Lambton County, Ontario**

Cultural Heritage Screening – Technical Memorandum

Prepared for:

Dillon Consulting Limited
51 Breithaupt Street – Suite 200
Kitchener, ON N2H 5G5
TLefler@dillon.ca

and

Enbridge Gas Inc.
500 Consumers Road
North York, ON M2J 1P8

Prepared by:

TMHC Inc.
1108 Dundas Street
Unit 105
London, ON N5W 3A7
519-641-7222
tmhc.ca



Project No: 2024-160

Final Report: August 6, 2024



PROJECT PERSONNEL

Principal	Matthew Beaudoin, PhD
Senior Reviewers	Holly Martelle, PhD Joshua Dent, PhD, CAHP
Project Manager	Joan Crosbie, MA, CAHP
Cultural Heritage Project Lead	Elise Geschiere, MSc, CAHP Intern
Cultural Heritage Specialist	Elisabeth Edwards, MA, CAHP Intern
Project Administrator	Kellie Theaker, CHRP
GIS Mapping	David Gostick, BA Andrew Turner, BA

ACKNOWLEDGEMENTS

Ministry of Citizenship and Multiculturalism	Karla Barboza & Joseph Harvey
Ontario Heritage Trust	Samuel Bayefsky
Township of St. Clair	Jeff Baranek



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 Cultural Resource Management (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 CRM. 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

Matthew Beaudoin, PhD – Principal

Matthew received a PhD in Anthropology from Western University in 2013 and has a professional archaeological license with the Province of Ontario (P324). During his archaeological career, Matthew has conducted extensive field research and artifact analysis in Labrador and Ontario, and has taught the Field Methods Course and Principals of archaeology courses as a part-time faculty member at Western University. Matthew has also conducted ethnographic projects in Labrador, and has volunteered with the OAS to provide archaeological training to several Indigenous communities throughout the province.

Over the course of his career, Matthew has supervised over 600 archaeological assessments in Ontario, including Stages 1-4, under a variety of regulatory triggers including provincial and municipal Environmental Assessments, Green Energy projects, development projects under the *Planning Act*, and as due diligence process. Matthew has extensive experience managing large and complex archaeological projects in conjunction with other disciplines, specialists, and Indigenous communities including Enbridge Line 10 Westover Segment, Imperial Oil from Waterdown to Finch, and Highway 3 Widening in Kingsville. Since joining TMHC in 2008, Matthew has also been involved with several notable projects, such as the archaeological assessment of Stoney Point/Camp Ipperwash. For these and other projects, Matthew works closely with heritage staff at TMHC and with heritage staff employed by clients and stakeholder communities.



Matthew is an active member of the Canadian Archaeological Association, the Ontario Archaeological Society, the Society for American Archaeology, and the Society for Historical Archaeology.

Holly Martelle, PhD – Principal

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; Manager – Community Engagement & Heritage Division

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; Manager – Cultural Heritage Unit

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. Joan is professional member of the Canadian Association of Heritage Professionals (CAHP).

Elise Geschiere, MSc, CAHP Intern– Cultural Heritage Project Lead

Elise Geschiere received a BA in Sociology with a minor in Public History from Western University in 2019 and went on to complete an MSc in Planning and Development with a concentration in Indigenous Community Planning at the University of Guelph in 2021. Elise’s research background is multidisciplinary and involves projects related to affordable housing and social development, the role of planning in the historical production of underserved communities, and municipal capacity to support rural industries. Recently, Elise’s research interests have focused on Indigenous perspectives of cultural heritage and opportunities for decolonization and empowering Indigenous voices in the heritage sector.

Elise also worked as the heritage research and planning student for the Corporation of the Town of Essex for four consecutive summer terms and gained experience in archival and community-based research, public engagement, and policy development and review. Elise joined TMHC in 2021 as a Cultural Heritage Specialist and is involved in heritage evaluation, impact assessment, background research, community consultation, and report production. She is an Intern member with CAHP and a volunteer on ACO’s provincial policy committee. Elise is also pursuing her RPP designation with OPPI.

Elisabeth Edwards, MA, CAHP Intern – Cultural Heritage Specialist

Elisabeth Edwards received a BA in English Literature and Media & Information Studies from Western University in 2020 before completing her MA in Public History at Western University in 2021. Elisabeth’s research and career centers around Indigenous history and community engagement with focuses on Indigenous perspectives of heritage and natural conservation. As an interpreter with Parks Canada, Elisabeth developed educational programming and facilitated in ongoing Indigenous cultural engagement initiatives to build stronger relationships with local First Nations and Métis communities.

In 2021, Elisabeth worked as a Historical Researcher with Ottawa-based historical consulting firm Know History Inc. where she conducted genealogical research and Traditional Knowledge and Land Use Studies for the Métis Nation of Ontario, as well as produced public-facing digital history projects. Elisabeth joined TMHC in 2023 as a Cultural Heritage Specialist and is involved in cultural heritage evaluation, impact assessments, and community engagement. Elisabeth is a volunteer with the London chapter of the Architectural Conservancy of Ontario where she creates built heritage reports for local homeowners and engages in local heritage policy. She also executive produces *The Digital Dust Podcast* which engages youth through topics in Public History and heritage.



STATEMENT OF QUALIFICATIONS AND LIMITATIONS

The attached Memo (the “Memo”) 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 Memo (collectively, the “Information”):

- is subject to the scope, schedule, and other constraints and limitations in the Agreement and the qualifications contained in the Memo (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 Memo 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 Memo 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 Memo 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 Memo represents its professional judgement as described above and that the Information has been prepared for the specific purpose and use described in the Memo and the Agreement, but TMHC makes no other representations, or any guarantees or warranties whatsoever, whether express or implied, with respect to the Memo, 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 Memo 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 Memo 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 Memo”), except to the extent those parties have obtained the prior written consent of TMHC to use and rely upon the Memo and the Information. Any injury, loss or damages arising from improper use of the Memo shall be borne by the party making such use.

This Statement of Qualifications and Limitations is attached to and forms part of the Memo and any use of the Memo is subject to the terms hereof.



QUALITY INFORMATION

Report prepared by: 
Elisabeth Edwards, MA, CAHP Intern
Cultural Heritage Specialist

Report reviewed by: 
Joan Crosbie, MA, CAHP
Project Manager, Cultural Heritage

Report reviewed by: 
Joshua Dent, PhD, CAHP
Senior Reviewer

Report reviewed by: 
Holly Martelle, PhD
Senior Reviewer

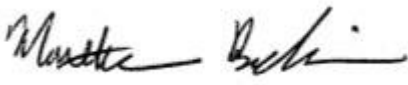
Report reviewed by: 
Matthew Beaudoin, PhD
Principal



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I BACKGROUND AND OVERVIEW

I.1 Memo Purpose and Scope

Dillon Consulting Limited (Dillon), on behalf of Enbridge Gas Inc. (Enbridge), has engaged TMHC Inc. (TMHC) to produce a Cultural Heritage Screening (CHS) for the Waubuno Well Drilling Project (the “Project”) on an unnamed parcel in the Township of St. Clair, Lambton County, ON (the “Subject Property”). This CHS is required as partial fulfillment of the Ontario Energy Board’s (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario*, 8th ed. 2023.

The Project involves drilling one new natural gas storage well and the installation of approximately 100 m of Nominal Pipe Size (“NPS”) 8-inch lateral natural gas pipeline in the Waubuno Designated Storage Area (DSA) (the “Project Area”). The proposed well and pipeline constructed for this project is required to ensure the continued safe and reliable delivery of natural gas to existing and future Enbridge Gas customers. The proposed well and pipeline location is approximately 650 m southwest of the intersection of Telfer Road and Oil Springs Line in the Township of St. Clair. Project activities will commence with the construction of a temporary gravel drilling pad measuring up to 60 m by 100 m. Upon completion of drilling activities, a permanent gravel pad measuring 8 m by 12 m will be installed around the well and the new natural gas pipeline will be installed. Pending approvals, construction is planned to begin as early as spring 2025. It should be noted these dimensions represent the areas considered for potential impact for the purpose of this study which are larger than the proposed construction footprint size.

This screening fulfills part of the Ontario Energy Board’s (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario*, 8th ed. 2023 requirement for consideration of the cultural environment by:

1. Completing a cultural heritage screening of the Subject Property based on the Ministry of Citizenship and Multiculturalism (MCM) *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes*.



1.2 Historical Context

The area which became the Township of St. Clair (formerly the Township of Moore) in Lambton County was part of the Huron Tract, approximately 2.76 million acres (ac) of land subject to Provisional Treaty No. 27 ½ between the local Chippewa nations and the British Crown which was signed on April 26, 1825.¹ An earlier agreement in 1819 was not realized. The provisional treaty was reached as a result of John Galt's intention to form the Canada Company which required one million acres of land for settlement purposes.²

The Chippewa nations transferred most of the Huron Tract to the Crown but maintained their territories in four reserve lands along the St. Clair River and on the shores of Lake Huron near Kettle Point and the Ausable River (River aux Sable). These reserves would become the Aamjiwnaang First Nation and the Chippewas of Kettle and Stony Point First Nation. The agreement was formalized in 1827 through Treaty No. 29.³

Prior to the 1830s, Lambton County was sparsely occupied because it was composed of forested and swampy areas that made settlement and traveling difficult. A few French settlers were located along the banks of the St. Clair River and an unfortified British military reserve was established at the entrance to Lake Huron, on the eastern bank of the St. Clair River, to prevent the incursion of American invaders.⁴ In the early 19th century, this reserve became the Village of Point Edward. The Baldoon Settlement along Bear Creek (the Sydenham River) was settled by Scottish immigrants who came to the area c.1804 under the direction of Lord Selkirk.⁵

As early as 1812, French settlers were located near present day Mooretown, which is understood to be the oldest settlement in the township.⁶ Early French settlers to the area held their land by “squatter’s rights” until the Township of Moore was surveyed in 1829 by Boswell Mount.⁷ Although the St. Clair riverfront portion of Moore Township was settled early in the 19th century, settlement of interior portions of the township did not begin until the 1830s. At this time, many of the interior area land grants were made to the sons of United Empire Loyalists in reward for their loyalty to the British Crown during the War of 1812, many quickly sold their land to other incoming settlers and land speculators.

With an influx of British settlers, the county population grew to 1,728 in 1834.⁸ By 1835, the ten townships that would later comprise the county had been laid out and surveyed. During the 1837-1838 Canadian rebellion, a military station was also established roughly one mile south of the village of Mooretown.⁹ Settlers who worked the land around Bear Creek were also well known for their profitable agriculture by at least 1864. Through irrigation, ditching, and management around this Creek, settlers were able to adapt the land for crops of cereals, greens, and fruit.¹⁰ In 1850, Lambton became a provisional county and, three years later, it became an independent municipality.¹¹

¹ Surtees 1984

² Surtees 1984

³ Canadian Legal Information Institute 2000; Duern 2017

⁴ Elford 1982: 114

⁵ H. Belden & Co. 1880:4

⁶ H. Belden & Co. 1880:4

⁷ Finley 1978; Johnston 1925:46

⁸ Elford 1982: 3-5

⁹ McEvoy Co. 1866-7:49

¹⁰ McEvoy Co. 1866-7:49

¹¹ Elford 1967



In 1859 the Grand Trunk Railway introduced easy passage to new immigrants and helped to increase Lambton County's shipping profile. Other means of transportation through the county were still considerably hindered by the lack of good thoroughfares and dry roads. Nonetheless, a few early major transportation routes offered some egress to travelers. These included the Egremont/London Road (now Highway 22), the Plank Road (connecting Sarnia to Petrolia) and the Fourth Line (Confederation Line).¹² Settlement continued to be slow throughout the latter part of the 19th century, as in 1881, nearly half the county was still in timber.¹³

1.3 Methodology

This screening was prepared in accordance with the MCM's *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes*. The completed MCM checklist for the Project Area is attached in Appendix A of this memorandum. The Project Area is composed of an access laneway and designated work area located entirely within the Subject Property located southwest of the intersection of Oil Springs Line and Telfer Road.

A site visit to the Project Area was not conducted as part of this work.

1.4 Client Contact Information

Tristan Lefler
Dillon Consulting Limited
51 Breithaupt Street – Suite 200
Kitchener, ON N2H 5G5
TLefler@dillon.ca

and

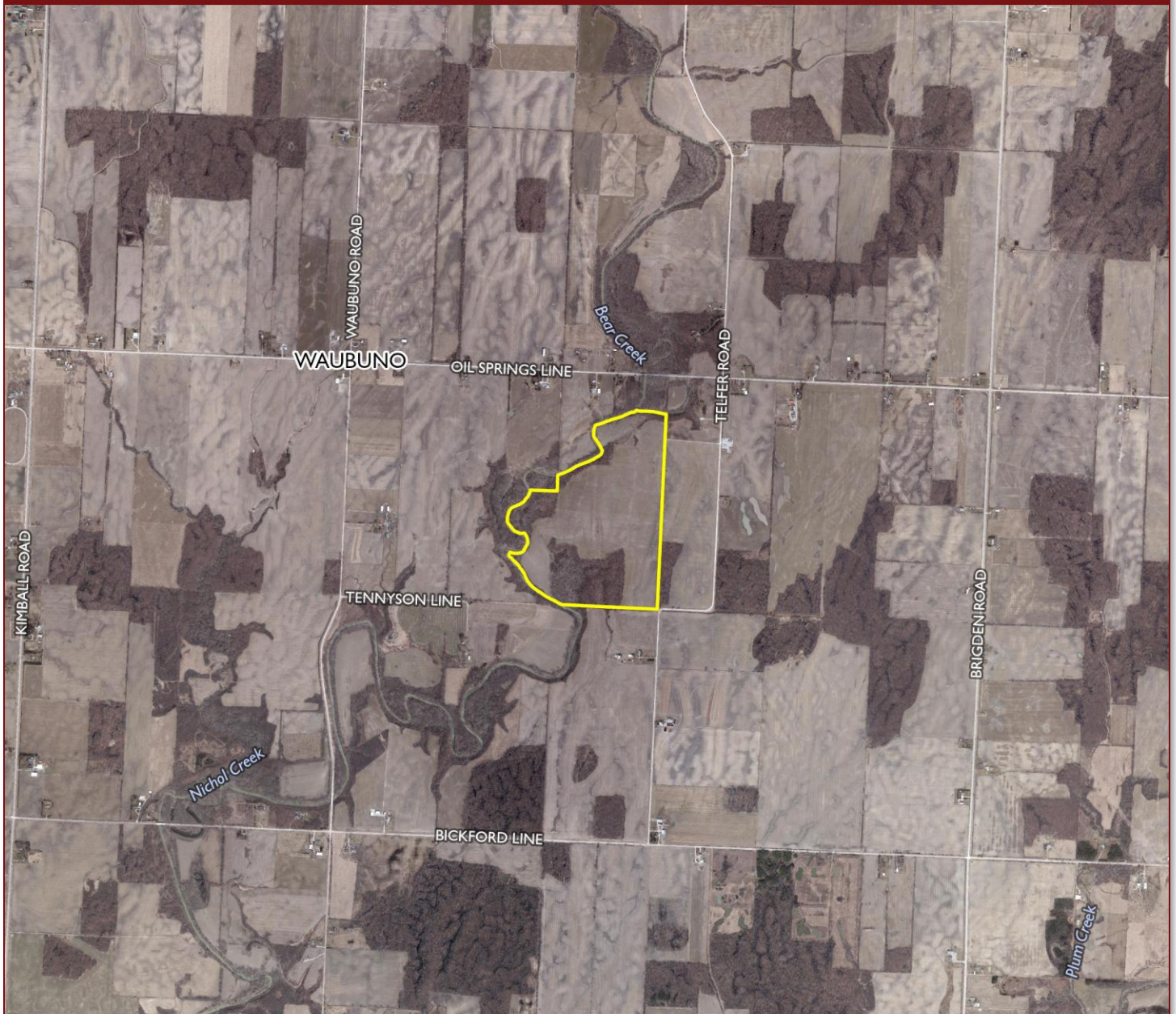
Enbridge Gas Inc.
500 Consumers Road
North York, ON M2J 1P8

¹² Elford 1967:41-42

¹³ Matthews et al. 1957:23



SUBJECT PROPERTY LOCATION
COUNTY OF LAMBTON ORTHOPHOTOGRAPHY (2020)



1,000 m

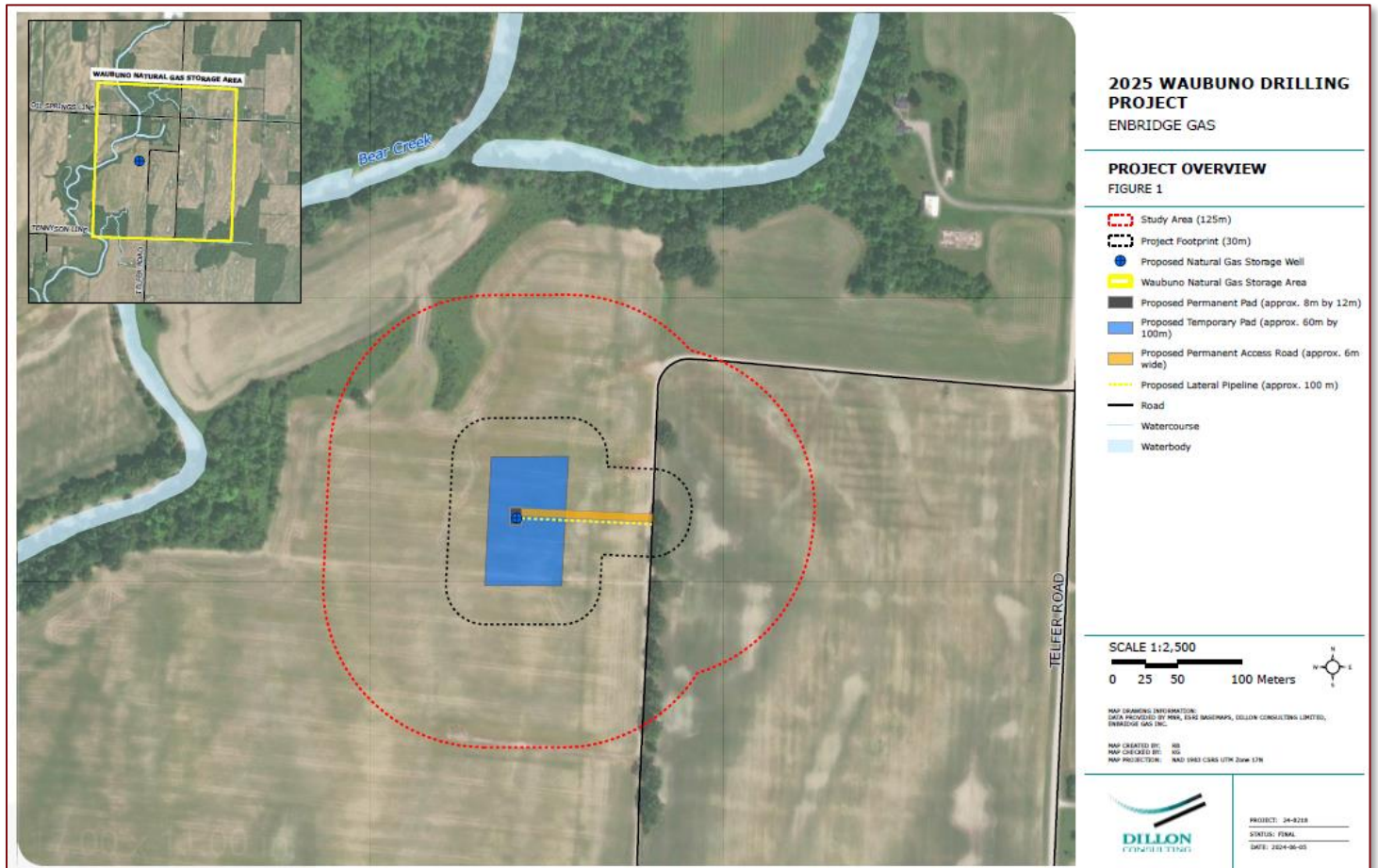
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 Subject Property

Map I: Location of the Subject Property



Cultural Heritage Screening – Technical Memorandum Waubuno Well Drilling Project, Township of St. Clair, ON



Map 2: Proponent Map of the Project Area



2 CULTURAL HERITAGE SCREENING

The following Cultural Heritage Screening considers potential heritage concerns for the proposed access laneway and work area for the proposed Project Area within the Subject Property.

2.1 Project Area Screening

A desktop review indicated there are no structures, including potential built heritage resources, or cultural heritage landscapes on the Subject Property. The Township of St. Clair does not maintain a municipal heritage register.

The Subject Property is not a federally designated heritage property. The MCM has advised that they are not aware of any provincial heritage properties within or adjacent to the Subject Property. The Ontario Heritage Trust (OHT) has advised that there are no conservation easements or Trust-owned properties within or adjacent to the Subject Property. Additionally, there are no other historic sites, buildings or museums within 50 m of the Project Area. No cemeteries or other properties/landscapes of heritage interest were identified during this high-level review.

Table 1: Known Heritage Properties Within the Project Area

Heritage Property Type	Heritage Property Addresses and Names	Number of Properties
Federally Designated Heritage Properties	None	0
Township of St. Clair Heritage Register – Designated Properties	None	0
Township of St. Clair Heritage Register – Listed Properties	N/A	0

2.2 Screening Recommendations

This Cultural Heritage Screening did not identify any known or potential heritage concerns within the Project Area specifically or the Subject Property. As a result, no further heritage studies are recommended.



3 BIBLIOGRAPHY

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Canada

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APPENDIX A: MCM SCREENING CHECKLIST

The **purpose of the checklist** is to determine:

- if a property(ies) or project area:
 - is a recognized heritage property
 - may be of cultural heritage value
- it includes all areas that may be impacted by project activities, including – but not limited to:
 - the main project area
 - temporary storage
 - staging and working areas
 - temporary roads and detours

Processes covered under this checklist, such as:

- *Planning Act*
- *Environmental Assessment Act*
- *Aggregates Resources Act*
- *Ontario Heritage Act* – Standards and Guidelines for Conservation of Provincial Heritage Properties

Cultural Heritage Evaluation Report (CHER)

If you are not sure how to answer one or more of the questions on the checklist, you may want to hire a qualified person(s) (see page 5 for definitions) to undertake a cultural heritage evaluation report (CHER).

The CHER will help you:

- identify, evaluate and protect cultural heritage resources on your property or project area
- reduce potential delays and risks to a project

Other checklists

Please use a separate checklist for your project, if:

- you are seeking a Renewable Energy Approval under Ontario Regulation 359/09 – [separate checklist](#)
- your Parent Class EA document has an approved screening criteria (as referenced in Question 1)

Please refer to the Instructions pages for more detailed information and when completing this form.

Project or Property Name
Waubuno Well Drilling Project

Project or Property Location (upper and lower or single tier municipality)
Township of St. Clair, Lambton County

Proponent Name
Dillon Consulting Limited on behalf of Enbridge Gas Inc.

Proponent Contact Information
Tristan Lefler, tlefler@dillon.ca

Screening Questions

	Yes	No
1. Is there a pre-approved screening checklist, methodology or process in place?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If Yes, please follow the pre-approved screening checklist, methodology or process.

If No, continue to Question 2.

Part A: Screening for known (or recognized) Cultural Heritage Value

	Yes	No
2. Has the property (or project area) been evaluated before and found not to be of cultural heritage value?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If Yes, do **not** complete the rest of the checklist.

The proponent, property owner and/or approval authority will:

- summarize the previous evaluation and
- add this checklist to the project file, with the appropriate documents that demonstrate a cultural heritage evaluation was undertaken

The summary and appropriate documentation may be:

- submitted as part of a report requirement
- maintained by the property owner, proponent or approval authority

If No, continue to Question 3.

	Yes	No
3. Is the property (or project area):		
a. identified, designated or otherwise protected under the <i>Ontario Heritage Act</i> as being of cultural heritage value?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. a National Historic Site (or part of)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. designated under the <i>Heritage Railway Stations Protection Act</i> ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. designated under the <i>Heritage Lighthouse Protection Act</i> ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. identified as a Federal Heritage Building by the Federal Heritage Buildings Review Office (FHBRO)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If Yes to any of the above questions, you need to hire a qualified person(s) to undertake:

- a Cultural Heritage Evaluation Report, if a Statement of Cultural Heritage Value has not previously been prepared or the statement needs to be updated

If a Statement of Cultural Heritage Value has been prepared previously and if alterations or development are proposed, you need to hire a qualified person(s) to undertake:

- a Heritage Impact Assessment (HIA) – the report will assess and avoid, eliminate or mitigate impacts

If No, continue to Question 4.

Part B: Screening for Potential Cultural Heritage Value

	Yes	No
4. Does the property (or project area) contain a parcel of land that:		
a. is the subject of a municipal, provincial or federal commemorative or interpretive plaque?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. has or is adjacent to a known burial site and/or cemetery?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. is in a Canadian Heritage River watershed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. contains buildings or structures that are 40 or more years old?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Part C: Other Considerations

	Yes	No
5. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area):		
a. is considered a landmark in the local community or contains any structures or sites that are important in defining the character of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. has a special association with a community, person or historical event?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. contains or is part of a cultural heritage landscape?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If Yes to one or more of the above questions (Part B and C), there is potential for cultural heritage resources on the property or within the project area.

You need to hire a qualified person(s) to undertake:

- a Cultural Heritage Evaluation Report (CHER)

If the property is determined to be of cultural heritage value and alterations or development is proposed, you need to hire a qualified person(s) to undertake:

- a Heritage Impact Assessment (HIA) – the report will assess and avoid, eliminate or mitigate impacts

If No to all of the above questions, there is low potential for built heritage or cultural heritage landscape on the property.

The proponent, property owner and/or approval authority will:

- summarize the conclusion
- add this checklist with the appropriate documentation to the project file

The summary and appropriate documentation may be:

- submitted as part of a report requirement e.g. under the *Environmental Assessment Act*, *Planning Act* processes
- maintained by the property owner, proponent or approval authority

Instructions

Please have the following available, when requesting information related to the screening questions below:

- a clear map showing the location and boundary of the property or project area
 - large scale and small scale showing nearby township names for context purposes
- the municipal addresses of all properties within the project area
- the lot(s), concession(s), and parcel number(s) of all properties within a project area

For more information, see the Ministry of Tourism, Culture and Sport's [Ontario Heritage Toolkit](#) or [Standards and Guidelines for Conservation of Provincial Heritage Properties](#).

In this context, the following definitions apply:

- **qualified person(s)** means individuals – professional engineers, architects, archaeologists, etc. – having relevant, recent experience in the conservation of cultural heritage resources.
- **proponent** means a person, agency, group or organization that carries out or proposes to carry out an undertaking or is the owner or person having charge, management or control of an undertaking.

1. Is there a pre-approved screening checklist, methodology or process in place?

An existing checklist, methodology or process may already be in place for identifying potential cultural heritage resources, including:

- one endorsed by a municipality
- an environmental assessment process e.g. screening checklist for municipal bridges
- one that is approved by the Ministry of Tourism, Culture and Sport (MTCS) under the Ontario government's [Standards & Guidelines for Conservation of Provincial Heritage Properties](#) [s.B.2.]

Part A: Screening for known (or recognized) Cultural Heritage Value

2. Has the property (or project area) been evaluated before and found not to be of cultural heritage value?

Respond 'yes' to this question, if all of the following are true:

A property can be considered not to be of cultural heritage value if:

- a Cultural Heritage Evaluation Report (CHER) - or equivalent - has been prepared for the property with the advice of a qualified person and it has been determined not to be of cultural heritage value and/or
- the municipal heritage committee has evaluated the property for its cultural heritage value or interest and determined that the property is not of cultural heritage value or interest

A property may need to be re-evaluated, if:

- there is evidence that its heritage attributes may have changed
- new information is available
- the existing Statement of Cultural Heritage Value does not provide the information necessary to manage the property
- the evaluation took place after 2005 and did not use the criteria in Regulations 9/06 and 10/06

Note: Ontario government ministries and public bodies [prescribed under Regulation 157/10] may continue to use their existing evaluation processes, until the evaluation process required under section B.2 of the Standards & Guidelines for Conservation of Provincial Heritage Properties has been developed and approved by MTCS.

To determine if your property or project area has been evaluated, contact:

- the approval authority
- the proponent
- the Ministry of Tourism, Culture and Sport

3a. Is the property (or project area) identified, designated or otherwise protected under the *Ontario Heritage Act* as being of cultural heritage value e.g.:

- i. designated under the *Ontario Heritage Act*
 - individual designation (Part IV)
 - part of a heritage conservation district (Part V)

Individual Designation – Part IV

A property that is designated:

- by a municipal by-law as being of cultural heritage value or interest [s.29 of the *Ontario Heritage Act*]
- by order of the Minister of Tourism, Culture and Sport as being of cultural heritage value or interest of provincial significance [s.34.5]. **Note:** To date, no properties have been designated by the Minister.

Heritage Conservation District – Part V

A property or project area that is located within an area designated by a municipal by-law as a heritage conservation district [s. 41 of the *Ontario Heritage Act*].

For more information on Parts IV and V, contact:

- municipal clerk
- [Ontario Heritage Trust](#)
- local land registry office (for a title search)

ii. subject of an agreement, covenant or easement entered into under Parts II or IV of the *Ontario Heritage Act*

An agreement, covenant or easement is usually between the owner of a property and a conservation body or level of government. It is usually registered on title.

The primary purpose of the agreement is to:

- preserve, conserve, and maintain a cultural heritage resource
- prevent its destruction, demolition or loss

For more information, contact:

- [Ontario Heritage Trust](#) - for an agreement, covenant or easement [clause 10 (1) (c) of the *Ontario Heritage Act*]
- municipal clerk – for a property that is the subject of an easement or a covenant [s.37 of the *Ontario Heritage Act*]
- local land registry office (for a title search)

iii. listed on a register of heritage properties maintained by the municipality

Municipal registers are the official lists - or record - of cultural heritage properties identified as being important to the community.

Registers include:

- all properties that are designated under the *Ontario Heritage Act* (Part IV or V)
- properties that have not been formally designated, but have been identified as having cultural heritage value or interest to the community

For more information, contact:

- municipal clerk
- municipal heritage planning staff
- municipal heritage committee

iv. subject to a notice of:

- intention to designate (under Part IV of the *Ontario Heritage Act*)
- a Heritage Conservation District study area bylaw (under Part V of the *Ontario Heritage Act*)

A property that is subject to a **notice of intention to designate** as a property of cultural heritage value or interest and the notice is in accordance with:

- section 29 of the *Ontario Heritage Act*
- section 34.6 of the *Ontario Heritage Act*. **Note:** To date, the only applicable property is Meldrum Bay Inn, Manitoulin Island. [s.34.6]

An area designated by a municipal by-law made under section 40.1 of the *Ontario Heritage Act* as a **heritage conservation district study area**.

For more information, contact:

- municipal clerk – for a property that is the subject of notice of intention [s. 29 and s. 40.1]
- [Ontario Heritage Trust](#)

v. included in the Ministry of Tourism, Culture and Sport's list of provincial heritage properties

Provincial heritage properties are properties the Government of Ontario owns or controls that have cultural heritage value or interest.

The Ministry of Tourism, Culture and Sport (MTCS) maintains a list of all provincial heritage properties based on information provided by ministries and prescribed public bodies. As they are identified, MTCS adds properties to the list of provincial heritage properties.

For more information, contact the MTCS Registrar at registrar@ontario.ca.

3b. Is the property (or project area) a National Historic Site (or part of)?

National Historic Sites are properties or districts of national historic significance that are designated by the Federal Minister of the Environment, under the *Canada National Parks Act*, based on the advice of the Historic Sites and Monuments Board of Canada.

For more information, see the [National Historic Sites website](#).

3c. Is the property (or project area) designated under the *Heritage Railway Stations Protection Act*?

The *Heritage Railway Stations Protection Act* protects heritage railway stations that are owned by a railway company under federal jurisdiction. Designated railway stations that pass from federal ownership may continue to have cultural heritage value.

For more information, see the [Directory of Designated Heritage Railway Stations](#).

3d. Is the property (or project area) designated under the *Heritage Lighthouse Protection Act*?

The *Heritage Lighthouse Protection Act* helps preserve historically significant Canadian lighthouses. The Act sets up a public nomination process and includes heritage building conservation standards for lighthouses which are officially designated.

For more information, see the [Heritage Lighthouses of Canada](#) website.

3e. Is the property (or project area) identified as a Federal Heritage Building by the Federal Heritage Buildings Review Office?

The role of the Federal Heritage Buildings Review Office (FHBRO) is to help the federal government protect the heritage buildings it owns. The policy applies to all federal government departments that administer real property, but not to federal Crown Corporations.

For more information, contact the [Federal Heritage Buildings Review Office](#).

See a [directory of all federal heritage designations](#).

3f. Is the property (or project area) located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?

A UNESCO World Heritage Site is a place listed by UNESCO as having outstanding universal value to humanity under the Convention Concerning the Protection of the World Cultural and Natural Heritage. In order to retain the status of a World Heritage Site, each site must maintain its character defining features.

Currently, the Rideau Canal is the only World Heritage Site in Ontario.

For more information, see Parks Canada – [World Heritage Site website](#).

Part B: Screening for potential Cultural Heritage Value

4a. Does the property (or project area) contain a parcel of land that has a municipal, provincial or federal commemorative or interpretive plaque?

Heritage resources are often recognized with formal plaques or markers.

Plaques are prepared by:

- municipalities
- provincial ministries or agencies
- federal ministries or agencies
- local non-government or non-profit organizations

For more information, contact:

- [municipal heritage committees](#) or local heritage organizations – for information on the location of plaques in their community
- Ontario Historical Society's [Heritage directory](#) – for a list of historical societies and heritage organizations
- Ontario Heritage Trust – for a [list of plaques](#) commemorating Ontario's history
- Historic Sites and Monuments Board of Canada – for a [list of plaques](#) commemorating Canada's history

4b. Does the property (or project area) contain a parcel of land that has or is adjacent to a known burial site and/or cemetery?

For more information on known cemeteries and/or burial sites, see:

- Cemeteries Regulations, Ontario Ministry of Consumer Services – for a [database of registered cemeteries](#)
- Ontario Genealogical Society (OGS) – to [locate records of Ontario cemeteries](#), both currently and no longer in existence; cairns, family plots and burial registers
- Canadian County Atlas Digital Project – to [locate early cemeteries](#)

In this context, adjacent means contiguous or as otherwise defined in a municipal official plan.

4c. Does the property (or project area) contain a parcel of land that is in a Canadian Heritage River watershed?

The Canadian Heritage River System is a national river conservation program that promotes, protects and enhances the best examples of Canada's river heritage.

Canadian Heritage Rivers must have, and maintain, outstanding natural, cultural and/or recreational values, and a high level of public support.

For more information, contact the [Canadian Heritage River System](#).

If you have questions regarding the boundaries of a watershed, please contact:

- your conservation authority
- municipal staff

4d. Does the property (or project area) contain a parcel of land that contains buildings or structures that are 40 or more years old?

A 40 year 'rule of thumb' is typically used to indicate the potential of a site to be of cultural heritage value. The approximate age of buildings and/or structures may be estimated based on:

- history of the development of the area
- fire insurance maps
- architectural style
- building methods

Property owners may have information on the age of any buildings or structures on their property. The municipality, local land registry office or library may also have background information on the property.

Note: 40+ year old buildings or structure do not necessarily hold cultural heritage value or interest; their age simply indicates a higher potential.

A building or structure can include:

- residential structure
- farm building or outbuilding
- industrial, commercial, or institutional building
- remnant or ruin
- engineering work such as a bridge, canal, dams, etc.

For more information on researching the age of buildings or properties, see the Ontario Heritage Tool Kit Guide [Heritage Property Evaluation](#).

Part C: Other Considerations

5a. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) is considered a landmark in the local community or contains any structures or sites that are important to defining the character of the area?

Local or Aboriginal knowledge may reveal that the project location is situated on a parcel of land that has potential landmarks or defining structures and sites, for instance:

- buildings or landscape features accessible to the public or readily noticeable and widely known
- complexes of buildings
- monuments
- ruins

5b. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) has a special association with a community, person or historical event?

Local or Aboriginal knowledge may reveal that the project location is situated on a parcel of land that has a special association with a community, person or event of historic interest, for instance:

- Aboriginal sacred site
- traditional-use area
- battlefield
- birthplace of an individual of importance to the community

5c. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) contains or is part of a cultural heritage landscape?

Landscapes (which may include a combination of archaeological resources, built heritage resources and landscape elements) may be of cultural heritage value or interest to a community.

For example, an Aboriginal trail, historic road or rail corridor may have been established as a key transportation or trade route and may have been important to the early settlement of an area. Parks, designed gardens or unique landforms such as waterfalls, rock faces, caverns, or mounds are areas that may have connections to a particular event, group or belief.

For more information on Questions 5.a., 5.b. and 5.c., contact:

- Elders in Aboriginal Communities or community researchers who may have information on potential cultural heritage resources. Please note that Aboriginal traditional knowledge may be considered sensitive.
- [municipal heritage committees](#) or local heritage organizations
- Ontario Historical Society's "[Heritage Directory](#)" - for a list of historical societies and heritage organizations in the province

An internet search may find helpful resources, including:

- historical maps
- historical walking tours
- municipal heritage management plans
- cultural heritage landscape studies
- municipal cultural plans

Information specific to trails may be obtained through [Ontario Trails](#).

Appendix B-2

MCM Comments on Cultural Heritage Screening Report

**Ministry of Citizenship
and Multiculturalism**

Heritage Planning Unit
Heritage Branch
Citizenship, Inclusion and
Heritage Division
5th Flr, 400 University Ave
Tel.: 613.242.3743

**Ministère des Affaires civiques
et du Multiculturalisme**

Unité de la planification relative au
patrimoine
Direction du patrimoine
Division des affaires civiques, de
l'inclusion et du patrimoine
Tél.: 613.242.3743



August 2, 2024

EMAIL ONLY

Joan Crosbie, MA, BA Hons, CAHP
Manager, Cultural Heritage
TMHC Inc.
1108 Dundas Street, Unit 105
London, ON | N5W 3A7
jcrosbie@tmhc.ca

MCM File : **0021731**
Proponent : **Enbridge Gas**
Subject : **Cultural Heritage Screening**
Project : **Waubuno Well Drilling Project**
Location : **County of Lambton, St. Clair Township**

Dear Joan Crosbie:

Thank you for providing the Ministry of Citizenship and Multiculturalism (MCM) with your email (dated, July 3, 2024) which included a copy of the Cultural Heritage Screening – Technical Memorandum (dated, July 3, 2024, by TMHC Inc.), prepared in support of the above referenced project.

Project Summary

Enbridge Gas is proposing to drill one new natural gas storage well and install approximately 100m of Nominal Pipe Size (“NPS”) 8-inch lateral natural gas pipeline in the Waubuno Designated Storage Area (DSA). The DSA is located in the County of Lambton within St. Clair Township, near the intersection of Oil Spring Line and Telfer Road.

The 2025 Waubuno Well Drilling Project is proposed to be undertaken pending a positive recommendation from the Ontario Energy Board (OEB) to the Minister of Natural Resources for the issuance of well drilling licences under section 40(1) of the OEB Act.

Comments

We have reviewed the above referenced Technical Memorandum and find that the report overall is consistent with the requirements, guidance and standards of the OEC and with best practice prepared by MCM.

Thank you for making the Technical Memorandum available for our review. If you have any questions or require clarification, please do not hesitate to contact me.

Sincerely,

Joseph Harvey
Heritage Planner
joseph.harvey@Ontario.ca

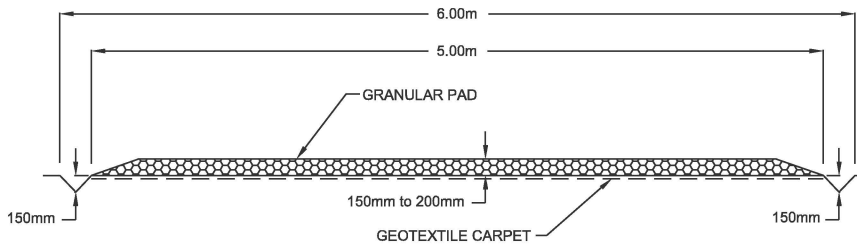
It is the sole responsibility of proponents to ensure that any information and documentation submitted as part of their EA report or file is accurate. The Ministry of Citizenship and Multiculturalism (MCM) makes no representation or warranty as to the completeness, accuracy or quality of the any checklists,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

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 an archaeological assessment, in compliance with Section 48(1) of the *Ontario Heritage Act*.

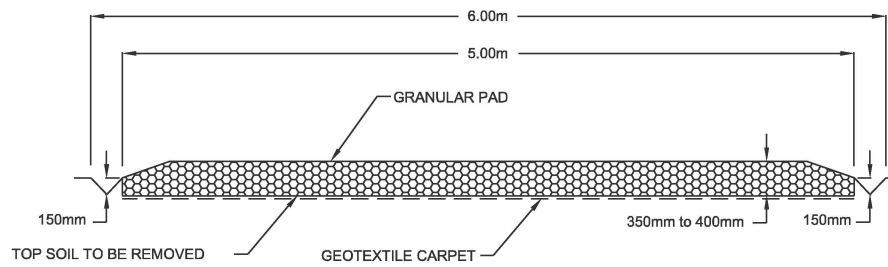
The *Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33* requires that any person discovering human remains must cease all activities immediately and notify the police or coroner. If the coroner does not suspect foul play in the disposition of the remains, in accordance with *Ontario Regulation 30/11* the coroner shall notify the Registrar, Ontario Ministry of Public and Business Service Delivery, which administers provisions of that Act related to burial sites. In situations where human remains are associated with archaeological resources, the Ministry of Citizenship and Multiculturalism should also 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*.

Appendix C

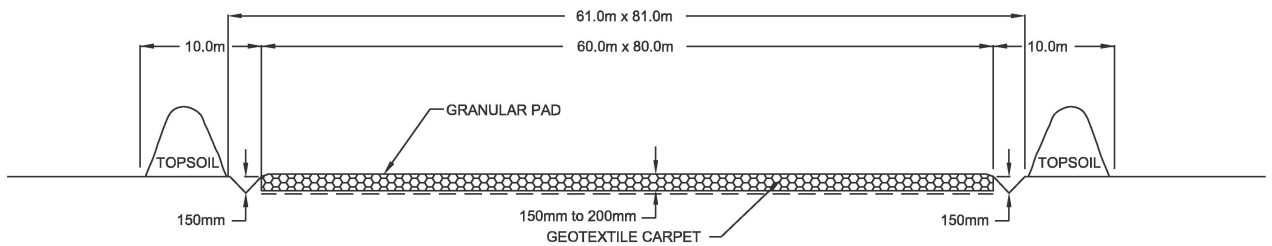
Typical Access Road and Work Area Detail



TYPICAL TEMPORARY ACCESS ROAD



TYPICAL PERMANENT ACCESS ROAD



TYPICAL WELL DRILLING WORK AREA



**TYPICAL ACCESS ROAD
AND WORK AREA DETAIL**

No.	DATE	BY	APP'D	REMARKS	DRAWN BY	GARY HANUSZAK	DATE	2013-03-23	FILE REVISION DATE
01	2020/04/01	MP	GA	REVISION 1	CHECKED BY		DATE		2020-04-01
REVISIONS					APPROVED BY	GEORGE ADAMS	DATE	2013-03-23	DRAWING No.

Appendix D-1

Project Contact List

Surname	First Name	Organization	Department	Title/Role	Address	City/Town, Province	Postal Code	Telephone	E-Mail	Notes/Notice of Instructions	Notice of Upcoming Project	Notice of Commencement	ER Distribution	OPCC Reminder Email
Provincial Agencies														
-	-	Hydro One Networks Inc.	Secondary Land Use, Environmental Assessment Distribution	-	-	-	-	-	SecondaryLandUse@HydroOne.com		Sent	Y		
-	-	Bluewater Power	General Inbox	-	855 Confederation St. P.O. Box 2140	Sarnia, ON	N7T 7L6	519-332-3878	emailus@bluewaterpower.com		Sent	Y		
Deisley	Melissa	St. Clair Region Conservation Authority	Planning and Regulations	Director of Planning and Regulations	205 Mill Pond Cres.	Strathroy, ON	N7G 3P9	519-245-3710 Ext. 251	mdeisley@srcra.on.ca		Sent	Y	Y	
Viasman	Jeff	St. Clair Region Conservation Authority Infrastructure Ontario (IO)	Planning and Regulations	Regulations Coordinator	205 Mill Pond Cres.	Strathroy, ON	N7G 3P9	519-245-3710 Ext. 254	viasman@srcra.on.ca noticereview@infrastructureontario.ca		Sent	Y	Y	
Ontario Pipeline Coordinating Committee (OPCC) (as of February 2, 2024)														
Crnojacki	Zora	Ontario Pipeline Coordinating Committee	Ontario Energy Board	OPCC Co-Chair	2300 Yonge Street	Toronto, ON	M4P1E4	416-440-8104	OPCC_Chair@oeb.ca		Sent	Sent	Y	Y
Murray	Ritchie	Ontario Pipeline Coordinating Committee	Ontario Energy Board	OPCC Co-Chair	2300 Yonge Street	Toronto, ON	M4P1E4	416-440-8104	OPCC_Chair@oeb.ca		Sent	Sent	Y	Y
Geerts	Helma	Ontario Pipeline Coordinating Committee	Ministry of Agriculture	Policy Advisor, Food and Rural Affairs	1 Stone Road West, 3rd Floor SE	Guelph, ON	N1G 4Y2	519-546-7423	helma.geerts@ontario.ca	cc: omafra.eanotices@ontario.ca	Sent	Sent	Y	Y
Barboza	Karla	Ontario Pipeline Coordinating Committee	Ministry of Citizenship and Multiculturalism	Team Lead, Heritage	400 University Ave. 5th Floor	Toronto, ON	M7A 2R9	416-660-1027	karla.barboza@ontario.ca	cc: heritage@ontario.ca james.hamilton@ontario.ca	Sent	Sent	Y	Y
Sharkey	Emma	Ontario Pipeline Coordinating Committee	Ministry of Energy	Senior Advisor, Indigenous Energy Policy Unit	77 Grenville Street, 6th Floor	Toronto, ON	M7A 2C1	437-239-6154	Emma.Sharkey@ontario.ca	cc: shannon.mccabe@ontario.ca	Sent	Sent	Y	Y
Evers	Andrew	Ontario Pipeline Coordinating Committee	Ministry of Environment, Conservation and Parks	Manager, Environmental Assessment Services	135 St. Clair Avenue West, 1st Floor	Toronto, ON	M4V 1P5	647-961-4850	Andrew.evers@ontario.ca	cc: sourceprotectionscreening@ontario.ca eanotification.swregion@ontario.ca	Sent	Sent	Y	Y
Ostrowka	Cory	Ontario Pipeline Coordinating Committee	Infrastructure Ontario	Environmental Manager	2000 - 1 Dundas Street West	Toronto, ON	M5G 2L5	647-264-3331	cory.ostrowka@infrastructureontario.ca		Sent	Sent	Y	Y
Boyd	Erick	Ontario Pipeline Coordinating Committee	Ministry of Municipal Affairs and Housing	Manager, Community Planning and Development	659 Exeter Road, 2nd Floor	London, ON	N6E 1L3	519-873-4025	erick.boyd@ontario.ca		Sent	Sent	Y	Y
Johnston	Keith	Ontario Pipeline Coordinating Committee	Ministry of Natural Resources and Forestry	Team Lead, Environmental Planning	300 Water Street, 3rd Floor South	Peterborough, ON	K9J 3C7	705-313-6960	keith.johnston@ontario.ca		Sent	Sent	Y	Y
Highfield	Gary	Ontario Pipeline Coordinating Committee	Technical Standards and Safety Authority (TSSA)	Engineering Manager	345 Carlingview Drive	Toronto, ON	M9W 6N9	1-877-682-8772	ghighfield@tssa.org	cc: ryu@tssa.org	Sent	Sent	Y	Y
Prelipcean	Daniel	Ontario Pipeline Coordinating Committee	Ministry of Transportation	Senior Project Manager	301 St. Paul Street	St. Catharines, ON	L2R 7R4	289-407-4238	daniel.prelipcean@ontario.ca	cc: alicia.edwards@ontario.ca	Sent	Sent	Y	Y
Municipal Elected Officials and Municipal Agencies														
Thiffeault	Stephane	County of Lambton	Corporate Services	Chief Administrative Officer (CAO)	789 Broadway Street, Box 3000	Wyoming, ON	N0N 1R0	519-845-0801	stephane.thiffeault@county-lambton.on.ca		Sent	Sent	Y	
Nauta	Corrine	County of Lambton	Planning Department	Manager, Planning & Development Services	789 Broadway Street, Box 3000	Wyoming, ON	N0N 1R0	519-845-0801 Ext. 5352	corrine.nauta@county-lambton.on.ca		Sent	Sent	Y	
Cole	Jason	County of Lambton	Infrastructure and Development	General Manager	789 Broadway Street, Box 3000	Wyoming, ON	N0N 1R0	519-845-5413	jason.cole@county-lambton.on.ca		Sent	Sent	Y	
Deline	Matt	County of Lambton	Public Works	Manager	789 Broadway Street, Box 3000	Wyoming, ON	N0N 1R0	519-845-0801	matt.deline@county-lambton.on.ca		Sent	Sent	Y	
Rodey	John	St. Clair Township	Corporate Services	CAO	1155 Emily Street	Mooretown, ON	N0N 1M0	519-867-2021	jrodey@twp.stclair.on.ca		Sent	Sent	Y	
Baranek	Jeff	St. Clair Township	Corporate Services	Clerk	1155 Emily Street	Mooretown, ON	N0N 1M0	519-867-2021	jbaranek@stclairtownship.ca		Sent	Sent	Y	
McClemens	Carlie	St. Clair Township	Corporate Services/ Planning	Deputy Clerk/ Coordinator of Planning	1155 Emily Street	Mooretown, ON	N0N 1M0	519-867-2021	cmcclemens@stclairtownship.ca		Sent	Sent	Y	
Black	Brian	St. Clair Township	Public Works	Director of Public Works	1155 Emily Street	Mooretown, ON	N0N 1M0	519-867-2993 Ext. 3	bblack@stclairtownship.ca		Sent	Sent	Y	

Appendix D-2

Landowner Mailing List

Appendix E

Project Notices



Enbridge Gas
50 Keil Drive North
Chatham, Ontario N7M 5M1
Canada

May 17, 2024

Dear Recipient,

Enbridge Gas – Notice of Upcoming Project for the 2025 Waubuno Well Drilling Project

This letter is to notify you of a planned upcoming project in your area.

To ensure the continued safe and reliable delivery of natural gas to existing and future Enbridge Gas customers, Enbridge Gas is proposing to drill one new natural gas storage well and install approximately 100m of Nominal Pipe Size (“NPS”) 8-inch lateral natural gas pipeline in the Waubuno Designated Storage Area (DSA). The DSA is located in the County of Lambton within St. Clair Township, near the intersection of Oil Spring Line and Telfer Road. A map of the proposed well location and DSA is attached.

The drilling of well is needed to replace the deliverability lost in the Waubuno Storage Pool due to well relines and abandonments.

The 2025 Waubuno Well Drilling Project is proposed to be undertaken pending a positive recommendation from the Ontario Energy Board (OEB) to the Minister of Natural Resources for the issuance of well drilling licences under section 40(1) of the OEB Act.

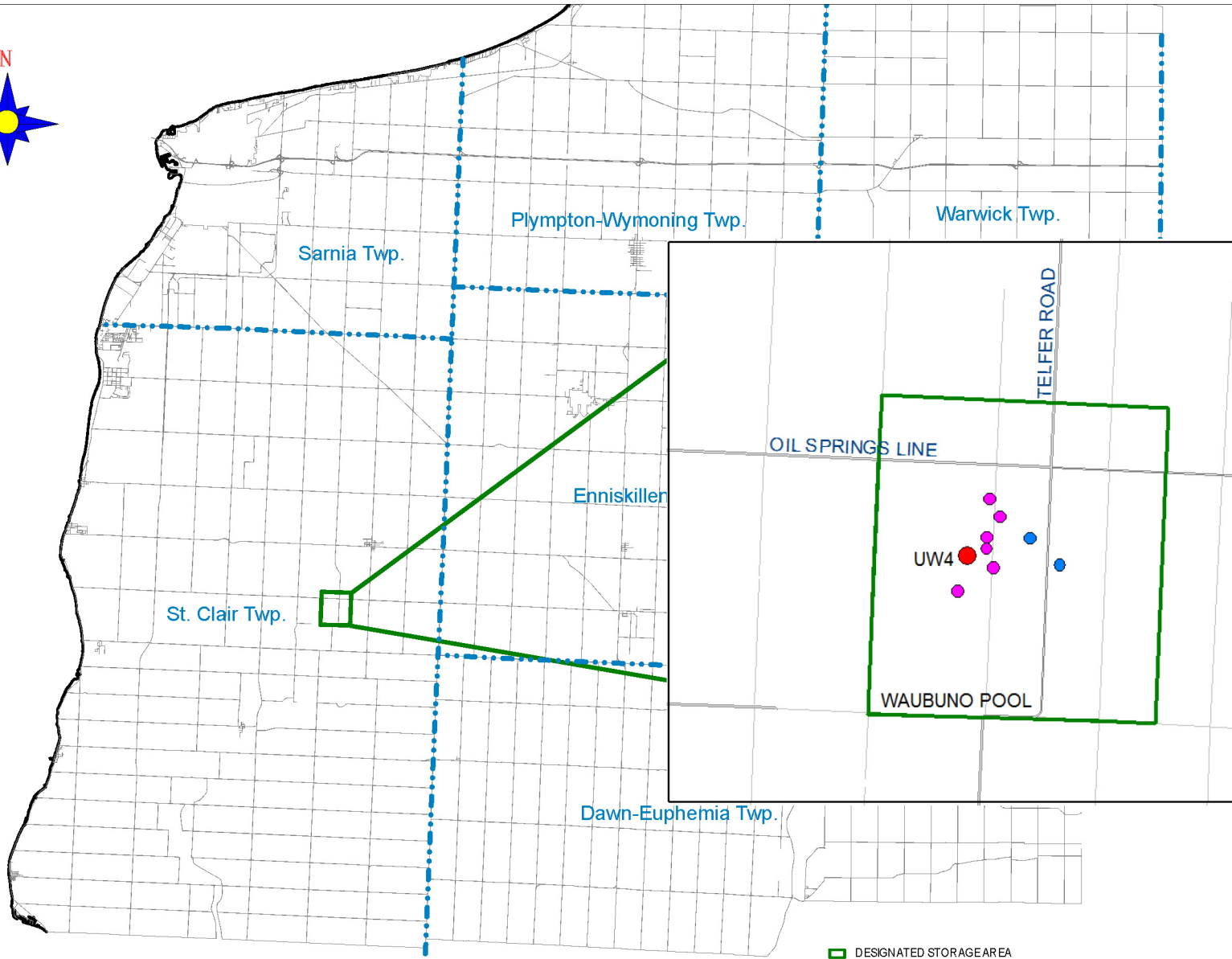
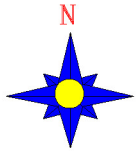
In support of this upcoming OEB application, Enbridge Gas will be undertaking environmental studies in 2024 to review the proposed construction and operation of the project. The environmental studies will include a consultation program, impact assessment, and a cumulative effects assessment.

Enbridge Gas is committed to undertaking consultation with local stakeholders as an integral component of the planning process. Additional details regarding the project and how to become involved during public consultation will be provided in future correspondence. If you have any questions or comments during the development stages of this project, please contact the undersigned.

Sincerely,

Ryan Park
Sr. Environmental Advisor
Enbridge Gas
Ryan.Park@enbridge.com
519-350-4296

GEOGRAPHICAL LOCATION OF THE WAUBUNO DESIGNATED STORAGE AREA



- DESIGNATED STORAGE AREA
- OBSERVATION WELL
- NATURAL GAS STORAGE WELL
- PROPOSED WELL

Appendix F

Stakeholder Engagement Logs

1.0

Agency Correspondence

1.1

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	May 17, 2024	Hydro One Networks Inc. (Hydro One) Contact: Secondary Land Use	Dillon Consulting Limited (Dillon) representative emailed Hydro One and provided the Notice of Upcoming Project. Dillon representative noted that the Project is located in Lambton County and involves the drilling of a new natural gas storage well and installation of approximately 100 metres of Nominal Pipe Size (NPS) 8-inch lateral natural gas pipeline in the Waubuno Designated Storage Area (DSA). Dillon representative indicated that Enbridge Gas has retained Dillon to undertake an environmental study for the Project and that the study will include a stakeholder engagement program, impact assessment, and a cumulative effects assessment. Dillon representative noted that as part of the stakeholder engagement program, Enbridge Gas and Dillon will be hosting a virtual public information session and that a Notice will be circulated at a later date with details about the information session. Dillon representative stated that they are interested in comments or concerns that Hydro One may have in regard to the Project. Dillon representative requested that Hydro One send any comments or concerns to the Project email inbox.	May 21, 2024	Hydro One emailed Dillon representative and provided a letter of advice regarding the Project. The letter indicated that there are no existing Hydro One Transmission assets in the subject area. Hydro one noted that if plans for the Project change or the study area expands beyond what is shown to contact Hydro One to assess impacts to existing or future planned electricity infrastructure.
1.2	June 13, 2024	Hydro One Contact: Secondary Land Use	Dillon representative emailed Hydro One Secondary Land Use and thanked them for their response regarding the Waubuno Drilling Project. Dillon representative noted they will continue to consult with Hydro One on the Project and will notify them of any changes to the Project area.	N/A	N/A
1.3	August 20, 2024	Hydro One Contact: Secondary Land Use	Dillon representative emailed Hydro One Secondary Land Use and provided the Notice of Commencement and Public Information Session for the Project. Dillon representative provided Project details and noted that the virtual Public Information Session would be held from August 29, 2024 to September 6, 2024. Dillon representative requested comments on the Project by September 23, 2024.	August 28, 2024	Hydro One Secondary Land Use emailed Dillon representative and provided a response letter to the Project's Notice of Commencement. Hydro One's letter indicated that there are no existing Hydro One transmission assets in the subject area and noted that if there are changes to the Study area to contact Hydro

Line Item	Date of Consultation	Name of Agency and/or Contact	Description of Consultation Activity	Date of Response	Response and Issue Resolution (If Applicable)
					One for them to assess impacts to existing or future planned electricity infrastructure.
2.1	May 17, 2024	Blue Water Power Contact: General Inbox	Dillon representative emailed Blue Water Power and provided the Notice of Upcoming Project. Dillon representative noted that the Project is located in Lambton County and involves the drilling of a new natural gas storage well and installation of approximately 100 metres of NPS 8-inch lateral natural gas pipeline in the Waubuno DSA. Dillon representative indicated that Enbridge Gas has retained Dillon to undertake an environmental study for the Project and that the study will include a stakeholder engagement program, impact assessment, and a cumulative effects assessment. Dillon representative noted that as part of the stakeholder engagement program, Enbridge Gas and Dillon will be hosting a virtual public information session and that a Notice will be circulated at a later date with details about the information session. Dillon representative stated that they are interested in comments or concerns that Blue Water Power may have in regard to the Project. Dillon representative requested that Blue Water Power send any comments or concerns to the Project email inbox.	N/A	N/A
2.2	August 20, 2024	Blue Water Power Contact: General Inbox	Dillon representative emailed Blue Water Power and provided the Notice of Commencement and Public Information Session for the Project. Dillon representative provided Project details and noted that the virtual Public Information Session would be held from August 29, 2024 to September 6, 2024. Dillon representative requested comments on the Project by September 23, 2024.	N/A	N/A
3.1	May 17, 2024	St. Clair Region Conservation Authority (SCRCA) Planning and Regulations Contacts: Melissa Deisley and Jeff Vlasman	Dillon representative emailed SCRCA representatives and provided the Notice of Upcoming Project. Dillon representative noted that the Project is located in Lambton County and involves the drilling of a new natural gas storage well and installation of approximately 100 metres of NPS 8-inch lateral natural gas pipeline in the Waubuno DSA. Dillon representative indicated that Enbridge Gas has retained Dillon to undertake an environmental study for the Project and that the study will include a stakeholder engagement program, impact assessment, and a cumulative effects assessment. Dillon representative noted that	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)
			as part of the stakeholder engagement program, Enbridge Gas and Dillon will be hosting a virtual public information session and that a Notice will be circulated at a later date with details about the information session. Dillon representative stated that they are interested in comments or concerns that the SCRCA representatives may have in regard to the Project. Dillon representative requested that the SCRCA representatives send any comments or concerns to the Project email inbox.		
3.2	August 20, 2024	SCRCA Contacts: Melissa Deisley and Jeff Vlasman	Dillon representative emailed the SCRCA and provided the Notice of Commencement and Public Information Session for the Project. Dillon representative provided Project details and noted that the virtual Public Information Session would be held from August 29, 2024 to September 6, 2024. Dillon representative requested comments on the Project by September 23, 2024.	N/A	N/A
3.3	October 7, 2024	SCRCA Contacts: Melissa Deisley and Jeff Vlasman	Dillon representative emailed the SCRCA and notified them that the Project's draft ER was ready for review. Dillon representative provided a link to the draft ER.		

1.2

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	May 17, 2024	Ontario Pipeline Coordinating Committee (OPCC) Co-Chairs Contacts: Zora Crnojacki and Ritchie Murray	Dillon representative emailed the OPCC Co-Chairs and provided the Notice of Upcoming Project. Dillon representative noted that the Project is located in Lambton County and involves the drilling of a new natural gas storage well and installation of approximately 100 metres of NPS 8-inch lateral natural gas pipeline in the Waubuno DSA. Dillon representative indicated that Enbridge Gas has retained Dillon to undertake an environmental study for the Project and that the study will include a stakeholder engagement program, impact assessment, and a cumulative effects assessment. Dillon representative noted that as part of the stakeholder engagement program, Enbridge Gas and Dillon will be hosting a virtual public information session and that a Notice will be circulated at a later date	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)
			with details about the information session. Dillon representative stated that they are interested in comments or concerns that the OPCC Co-chairs may have in regard to the Project. Dillon representative requested that the OPCC Co-Chairs send any comments or concerns to the Project email inbox.		
1.2	August 20, 2024	OPCC – Co-Chairs Contacts: Zora Crnojacki and Ritchie Murray	Dillon representative emailed the OPCC Co-chairs and provided the Notice of Commencement and Public Information Session for the Project. Dillon representative provided Project details and noted that the virtual Public Information Session would be held from August 29, 2024 to September 6, 2024. Dillon representative requested comments on the Project by September 23, 2024.	N/A	N/A
1.3	October 7, 2024	OPCC – Co-Chairs Contacts: Zora Crnojacki and Ritchie Murray	Dillon representative emailed the OPCC Co-Chairs and notified them that the Project’s draft Environmental Report (ER) was ready and available for review. Dillon representative noted that with a favourable report from the Ontario Energy Board (OEB) to the Minister of Natural Resources, drilling of the well and construction of the pipeline are anticipated to begin in spring 2025. Dillon representative provided a link to the ER and requested feedback by November 18, 2024.	N/A	N/A
1.4	November 1, 2024	OPCC – Co-Chairs Contacts: Zora Crnojacki and Ritchie Murray	Dillon representative emailed the OPCC Co-Chairs representative to remind them to submit their review letter, or summary of review, for the Project’s draft ER by November 18, 2024. Dillon representative indicated that according to the OEB’s <i>Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th edition (2023)</i> (OEB Guidelines), each OPCC member will provide the applicant with review letter informing the applicant in writing that the OPCC member has completed their review of the draft ER.	N/A	N/A
2.1	May 17, 2024	OPCC – Ministry of Citizenship and Multiculturalism (MCM) Contacts: Karla Barboza cc’ James Hamilton	Dillon representative emailed the OPCC MCM and provided the Notice of Upcoming Project. Dillon representative noted that the Project is located in Lambton County and involves the drilling of a new natural gas storage well and installation of approximately 100 metres of NPS 8-inch lateral natural gas pipeline in the Waubuno	June 7, 2024	The OPCC MCM representative emailed Dillon representative and provided a letter of advice on behalf of the MCM.

Line Item	Date of Consultation	Name of Agency and/or Contact	Description of Consultation Activity	Date of Response	Response and Issue Resolution (If Applicable)
			DSA. Dillon representative indicated that Enbridge Gas has retained Dillon to undertake an environmental study for the Project and that the study will include a stakeholder engagement program, impact assessment, and a cumulative effects assessment. Dillon representative noted that as part of the stakeholder engagement program, Enbridge Gas and Dillon will be hosting a virtual public information session and that a Notice will be circulated at a later date with details about the information session. Dillon representative stated that they are interested in comments or concerns that the MCM may have in regard to the Project. Dillon representative requested that the MCM send any comments or concerns to the Project email inbox.		
2.2	June 19, 2024	OPCC – MCM Contacts: Joseph Harvey on behalf of Karla Barboza	Dillon representative emailed the OPCC MCM representative and thanked them for the letter of advice, noting that they would continue to consult with the MCM as the Project progresses.	N/A	N/A
2.3	August 20, 2024	OPCC – MCM Contacts: Joseph Harvey on behalf of Karla Barboza	Dillon representative emailed the OPCC MCM representative and provided the Notice of Commencement and Public Information Session for the Project. Dillon representative provided Project details and noted that the virtual Public Information Session would be held from August 29, 2024 to September 6, 2024. Dillon representative requested comments on the Project by September 23, 2024.	N/A	N/A
2.4	September 16, 2024	OPCC – MCM Contacts: Joseph Harvey on behalf of Karla Barboza	The OPCC MCM representative emailed the Project inbox and provided a letter of advice, outlining specific information to be included in the upcoming ER for the Project. The letter from MCM noted that a Stage 2 Archaeological Assessment (AA) was recommended for the Project Study Area and that this study and any further assessments should be completed as early as possible in the detailed design phase of the Project and prior to any ground disturbance.	September 16, 2024	Dillon representative emailed the OPCC MCM representative and thanked them for the letter of advice, noting that they would continue to provide the MCM with Project Notices, reports, and documentation.
2.5	October 7, 2024	OPCC – MCM Contacts: Joseph Harvey on behalf of Karla Barboza	Dillon representative emailed the OPCC MCM representative and notified them that the Project's draft ER was ready and available for review. Dillon representative noted that with a favourable report from the OEB to the Minister of Natural Resources, drilling of the well	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)
			and construction of the pipeline are anticipated to begin in spring 2025. Dillon representative provided a link to the ER and requested feedback by November 18, 2024.		
2.6	November 1, 2024	OPCC – MCM Contacts: Joseph Harvey on behalf of Karla Barboza	Dillon representative emailed the OPCC MCM representative to remind them to submit their review letter, or summary of review, for the Project’s draft ER by November 18, 2024. Dillon representative indicated that according to the OEB Guidelines, each OPCC member will provide the applicant with review letter informing the applicant in writing that the OPCC member has completed their review of the draft ER.	November 18, 2024	The OPCC MCM representative emailed Dillon representative and provided a comment letter for the Project draft ER. The comment letter included the MCM’s previous comments and noted that the MCM found that due diligence had been undertaken.
2.7	November 19, 2024	OPCC – MCM Contacts: Joseph Harvey on behalf of Karla Barboza	Dillon representative emailed the OPCC MCM representative and thanked them for their response on behalf of the MCM.	N/A	N/A
3.1	May 17, 2024	OPCC – Ministry of the Environment, Conservation and Parks (MECP) Contacts: Andrew Evers cc’ EA Notification southwest region	Dillon representative emailed the OPCC MECP and provided the Notice of Upcoming Project. Dillon representative noted that the Project is located in Lambton County and involves the drilling of a new natural gas storage well and installation of approximately 100 metres of NPS 8-inch lateral natural gas pipeline in the Waubuno DSA. Dillon representative indicated that Enbridge Gas has retained Dillon to undertake an environmental study for the Project and that the study will include a stakeholder engagement program, impact assessment, and a cumulative effects assessment. Dillon representative noted that as part of the stakeholder engagement program, Enbridge Gas and Dillon will be hosting a virtual public information session and that a Notice will be circulated at a later date with details about the information session. Dillon representative stated that they are interested in comments or concerns that the MECP may have in regard to the Project. Dillon representative requested that the MECP send any comments or concerns to the Project email inbox.	N/A	N/A
3.2	August 20, 2024	OPCC MECP Contact: Andrew Evers	Dillon representative emailed the OPCC MECP representative and provided the Notice of Commencement and Public Information Session for the Project. Dillon representative provided Project details	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)
			and noted that the virtual Public Information Session would be held from August 29, 2024 to September 6, 2024. Dillon representative requested comments on the Project by September 23, 2024.		
3.3	October 7, 2024	OPCC – MECP Contact: Andrew Evers	Dillon representative emailed the OPCC MECP representative and notified them that the Project’s draft ER draft was ready and available for review. Dillon representative noted that with a favourable report from the OEB to the Minister of Natural Resources, drilling of the well and construction of the pipeline are anticipated to begin in spring 2025. Dillon representative provided a link to the ER and requested feedback by November 18, 2024.	N/A	N/A
3.4	November 1, 2024	OPCC – MECP Contact: Andrew Evers	Dillon representative emailed the OPCC MECP representative to remind them to submit their review letter, or summary of review, for the Project’s draft ER by November 18, 2024. Dillon representative indicated that according to the OEB Guidelines, each OPCC member will provide the applicant with review letter informing the applicant in writing that the OPCC member has completed their review of the draft ER.	N/A	N/A
4.1	May 17, 2024	OPCC – MECP Source Protection Branch (SPB)	Dillon representative emailed the OPCC MECP SPB and provided the Notice of Upcoming Project. Dillon representative noted that the Project is located in Lambton County and involves the drilling of a new natural gas storage well and installation of approximately 100 metres of NPS 8-inch lateral natural gas pipeline in the Waubuno DSA. Dillon representative indicated that Enbridge Gas has retained Dillon to undertake an environmental study for the Project and that the study will include a stakeholder engagement program, impact assessment, and a cumulative effects assessment. Dillon representative noted that as part of the stakeholder engagement program, Enbridge Gas and Dillon will be hosting a virtual public information session and that a Notice will be circulated at a later date with details about the information session. Dillon representative stated that they are interested in comments or concerns that the MECP may have in regard to the Project. Dillon representative	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)
			requested that the MECP send any comments or concerns to the Project email inbox.		
4.2	August 20, 2024	OPCC – MECP SPB Contact: Monika Lemke	Dillon representative emailed the OPCC MECP SPB representative and provided the Notice of Commencement and Public Information Session for the Project. Dillon representative provided Project details and noted that the virtual Public Information Session would be held from August 29, 2024 to September 6, 2024. Dillon representative requested comments on the Project by September 23, 2024.	September 6, 2024	The OPCC MECP SPB representative emailed Dillon representative and provided a memo of comments for the Project. The memo outlined provisions required under the <i>Clean Water Act (2006)</i> , including the delineation of vulnerable areas around surface water intakes and wellheads for drinking water systems located in a source protection area and included in the Local Source Protection Plans. The memo confirmed there are no Wellhead Protection Areas (WHPAs), surface water Intake Protection Zones (IPZs), Significant Groundwater Recharge Areas (SGRAs), Highly Vulnerable Aquifers (HVAs) or other vulnerable areas in the Designated Storage Area. The memo stated that the Environmental Reports for the Project should document and discuss how the Project addresses applicable policies in the local source protection plan.
4.3	September 9, 2024	OPCC – MECP SPB Contact: Monika Lemke	Dillon representative emailed the OPCC MECP SPB representative and thanked them for their comments for the Project. Dillon representative stated that their comments have noted, and provisions will be included in the draft ER to address them.	N/A	N/A
4.4	October 7, 2024	OPCC – MECP SPB Contact: Monika Lemke	Dillon representative emailed the OPCC MECP SPB representative and notified them that the Project's draft ER was ready and available for review. Dillon representative noted that with a favourable report from the OEB to the Minister of Natural Resources, drilling of the well and construction of the pipeline are anticipated to begin in spring 2025. Dillon representative provided a link to the ER and requested feedback by November 18, 2024.	October 18, 2024	The OPCC MECP SPB representative emailed the Project inbox and provided an ER comment letter. The MECP SPB representative noted that the letter was to satisfy the OEB Guidelines to provide the applicant in writing that the OPCC member has completed their review of the ER. The MECP SPB comment letter provided general information about the <i>Clean Water Act, 2006</i> and how the ER should demonstrate how mitigation measures protect sources of drinking water.

Line Item	Date of Consultation	Name of Agency and/or Contact	Description of Consultation Activity	Date of Response	Response and Issue Resolution (If Applicable)
4.5	October 21, 2024	OPCC – MECP SPB Contact: Monika Lemke	Dillon representative emailed the OPCC MECP SPB representative and thanked them for providing their ER comment letter. Dillon representative noted it was their understanding that the MECP SPB had identified no source protection features within the Study Area and that no change to the ER was required as a result of their review. Dillon representative indicated that, as per the ER, the Environmental Protection Plan for the Project will contain mitigation measures and protective measures regarding spills and surface and groundwater conditions.	October 21, 2024	The MECP SPB representative emailed Dillon representative and confirmed that no source protection features were identified within the Project Study Area and that no change is required as a result of their review.
5.1	May 17, 2024	OPCC – Ministry of Transportation (MTO) Contacts: Daniel Prelipcean and Alicia Edwards	Dillon representative emailed the MTO and provided the Notice of Upcoming Project. Dillon representative noted that the Project is located in Lambton County and involves the drilling of a new natural gas storage well and installation of approximately 100 metres of NPS 8-inch lateral natural gas pipeline in the Waubuno DSA. Dillon representative indicated that Enbridge Gas has retained Dillon to undertake an environmental study for the Project and that the study will include a stakeholder engagement program, impact assessment, and a cumulative effects assessment. Dillon representative noted that as part of the stakeholder engagement program, Enbridge Gas and Dillon will be hosting a virtual public information session and that a Notice will be circulated at a later date with details about the information session. Dillon representative stated that they are interested in comments or concerns that the MTO may have in regard to the Project. Dillon representative requested that the MTO send any comments or concerns to the Project email inbox.	May 23, 2024	The MTO representative emailed the Project inbox and stated that the Project is located outside of MTO permit control areas. The MTO representative requested that since they have no comments and the Project is outside of permit control area, to please remove them from the emailing list for the Project.
5.2	August 20, 2024	OPCC – MTO Contacts: Alicia Edwards on behalf of Daniel Prelipcean	Dillon representative emailed the OPCC MTO representative and provided the Notice of Commencement and Public Information Session for the Project. Dillon representative provided Project details and noted that the virtual Public Information Session would be held from August 29, 2024 to September 6, 2024. Dillon representative requested comments on the Project by September 23, 2024.	August 23, 2024	MTO representative emailed Dillon representative and noted that at the time the MTO had no comments on the Project.
5.3	October 7, 2024	OPCC – MTO	Dillon representative emailed the OPCC MTO representative and notified them that the Project's draft ER was ready and available for	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)
		Contacts: Alicia Edwards on behalf of Daniel Prelipcean	review. Dillon representative noted that with a favourable report from the OEB to the Minister of Natural Resources, drilling of the well and construction of the pipeline are anticipated to begin in spring 2025. Dillon representative provided a link to the ER and requested feedback by November 18, 2024.		
5.4	November 1, 2024	OPCC – MTO Contacts: Alicia Edwards on behalf of Daniel Prelipcean	Dillon representative emailed the OPCC MTO representative to remind them to submit their review letter, or summary of review, for the Project’s draft ER by November 18, 2024. Dillon representative indicated that according to the OEB Guidelines, each OPCC member will provide the applicant with review letter informing the applicant in writing that the OPCC member has completed their review of the draft ER.	November 1, 2024	The OPCC MTO representative emailed Dillon representative and stated that the MTO had reviewed the draft ER and had no comments.
5.5	November 4, 2024	OPCC – MTO Contacts: Alicia Edwards on behalf of Daniel Prelipcean	Dillon representative emailed the OPCC MTO representative and thanked them for their review of the draft ER.	November 4, 2024	The OPCC MTO representative emailed Dillon representative and stated that it was no problem.
6.1	May 17, 2024	OPCC- Ontario Ministry of Agriculture and Rural Affairs (OMAFRA) Contacts: Helma Geerts, EA Notice Inbox	Dillon representative emailed the OPCC OMAFRA representative and provided the Notice of Upcoming Project. Dillon representative noted that the Project is located in Lambton County and involves the drilling of a new natural gas storage well and installation of approximately 100 metres of NPS 8-inch lateral natural gas pipeline in the Waubuno DSA. Dillon representative indicated that Enbridge Gas has retained Dillon to undertake an environmental study for the Project and that the study will include a stakeholder engagement program, impact assessment, and a cumulative effects assessment. Dillon representative noted that as part of the stakeholder engagement program, Enbridge Gas and Dillon will be hosting a virtual public information session and that a Notice will be circulated at a later date with details about the information session. Dillon representative stated that they are interested in comments or concerns that the OMAFRA may have in regard to the Project. Dillon representative requested that the OMAFRA send any comments or concerns to the Project email inbox.	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)
6.2	August 20, 2024	OPCC – OMAFRA Contacts: Helma Geerts, EA Notice Inbox	Dillon representative emailed the OPCC OMAFRA representative and provided the Notice of Commencement and Public Information Session for the Project. Dillon representative provided Project details and noted that the virtual Public Information Session would be held from August 29, 2024 to September 6, 2024. Dillon representative requested comments on the Project by September 23, 2024.	N/A	N/A
6.3	October 7, 2024	OPCC – OMAFRA Contacts: Helma Geerts, EA Notice Inbox	Dillon representative emailed the OPCC OMAFRA representative and notified them that the Project’s draft ER was ready and available for review. Dillon representative noted that with a favourable report from the OEB to the Minister of Natural Resources, drilling of the well and construction of the pipeline are anticipated to begin in spring 2025. Dillon representative provided a link to the ER and requested feedback by November 18, 2024.	N/A	N/A
6.4	November 1, 2024	OPCC – OMAFRA Contacts: Helma Geerts, EA Notice Inbox	Dillon representative emailed the OPCC MTO representative to remind them to submit their review letter, or summary of review, for the Project’s draft ER by November 18, 2024. Dillon representative indicated that according to the OEB Guidelines, each OPCC member will provide the applicant with review letter informing the applicant in writing that the OPCC member has completed their review of the draft ER.	N/A	N/A
7.1	May 17, 2024	OPCC - Ministry of Energy and Electrification (MOEE) Contacts: Emma Sharkey cc’ Shannon McCabe	Dillon representative emailed the MOE and provided the Notice of Upcoming Project. Dillon representative noted that the Project is located in Lambton County and involves the drilling of a new natural gas storage well and installation of approximately 100 metres of NPS 8-inch lateral natural gas pipeline in the Waubuno DSA. Dillon representative indicated that Enbridge Gas has retained Dillon to undertake an environmental study for the Project and that the study will include a stakeholder engagement program, impact assessment, and a cumulative effects assessment. Dillon representative noted that as part of the stakeholder engagement program, Enbridge Gas and Dillon will be hosting a virtual public information session and that a Notice will be circulated at a later date with details about the information session. Dillon representative stated that they are	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)
			interested in comments or concerns that the MOE may have in regard to the Project. Dillon representative requested that the MOE send any comments or concerns to the Project email inbox.		
7.2	August 20, 2024	OPCC – MOEE Contacts: Emma Sharkey cc' Shannon McCabe	Dillon representative emailed the OPCC MOE representative and provided the Notice of Commencement and Public Information Session for the Project. Dillon representative provided Project details and noted that the virtual Public Information Session would be held from August 29, 2024 to September 6, 2024. Dillon representative requested comments on the Project by September 23, 2024.	N/A	N/A
7.3	October 7, 2024	OPCC – MOEE Contacts: Emma Sharkey cc' Shannon McCabe	Dillon representative emailed the OPCC MOEE representative and notified them that the Project's draft ER was ready and available for review. Dillon representative noted that with a favourable report from the OEB to the Minister of Natural Resources, drilling of the well and construction of the pipeline are anticipated to begin in spring 2025. Dillon representative provided a link to the ER and requested feedback by November 18, 2024.	October 9, 2024	The OPCC MOEE representative emailed Dillon representative and thanked them for sharing the draft ER. The OPCC MOEE representative requested that the Dillon representative update the Project distribution list to include the new lead OPCC representative for the MOEE and provided the contact.
7.4	October 9, 2024	OPCC – MOEE Contacts: Chloe Lazakis and Shannon McCabe	Dillon representative emailed the OPCC MOEE representative and stated that they understood that they were the new OPCC representative for the MOEE. Dillon representative noted to see the forwarded email for details regarding the Project's draft ER.	N/A	N/A
7.5	November 1, 2024	OPCC – MOEE Contacts: Chloe Lazakis and Shannon McCabe	Dillon representative emailed the OPCC MOEE representative to remind them to submit their review letter, or summary of review, for the Project's draft ER by November 18, 2024. Dillon representative indicated that according to the OEB Guidelines, each OPCC member will provide the applicant with review letter informing the applicant in writing that the OPCC member has completed their review of the draft ER.	November 18, 2024	The OPCC MOEE representative emailed Dillon representative and the OPCC Co-Chairs and indicated that the MOEE had completed a review of the Project's draft ER that pertain to Indigenous consultation and had no concerns with the report. The OPCC MOEE representative noted that if any questions arise through their conversations with communities, they would raise them with Enbridge Gas directly at their standing monthly meeting series.
7.6	November 18, 2024	OPCC – MOEE and OPCC Co-Chairs Contacts: Chloe Lazakis and Shannon McCabe	The OPCC Co-Chair emailed the OPCC MOEE representative and Dillon representative and thanked the MOEE representative.	November 19, 2024	Dillon representative emailed the OPCC MOEE representative and the OPCC Co-Chair and thanked the MOEE representative for their review of the Project draft ER on behalf of the MOEE.

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	May 17, 2024	OPCC – Ministry of Natural Resources (MNR) Contact: Keith Johnston	Dillon representative emailed MNR and provided the Notice of Upcoming Project. Dillon representative noted that the Project is located in Lambton County and involves the drilling of a new natural gas storage well and installation of approximately 100 metres of NPS 8-inch lateral natural gas pipeline in the Waubuno DSA. Dillon representative indicated that Enbridge Gas has retained Dillon to undertake an environmental study for the Project and that the study will include a stakeholder engagement program, impact assessment, and a cumulative effects assessment. Dillon representative noted that as part of the stakeholder engagement program, Enbridge Gas and Dillon will be hosting a virtual public information session and that a Notice will be circulated at a later date with details about the information session. Dillon representative stated that they are interested in comments or concerns that the MNR may have in regard to the Project. Dillon representative requested that the MNR send any comments or concerns to the Project email inbox.	June 10, 2024	The MNR representative emailed Dillon representative and thanked them for circulating the Notice of Upcoming Project. The MNR representative noted that MNR staff have not completed a screening of natural heritage or other resource values for the Project at this time. The MNR representative provided Natural Heritage, Natural Hazard, Fish and Wildlife Conservation Act, and Public Lands Act & Lakes and Rivers Improvement Act information.
8.2	June 11, 2024	OPCC – MNR Contact: Dave Marriott on behalf of Keith Johnston	Dillon representative emailed MNR representative and thanked them for their response regarding the Project. Dillon representative indicated that they understand that a full screening of natural heritage features has not been completed. Dillon representative thanked the MNR representative for providing the information to guide the Project Team during the assessment process. Dillon representative stated that the Environmental Report will assess the impacts on natural heritage and resources outlined in the MNR's email and will use the references provided.	N/A	N/A
8.3	August 20, 2024	OPCC – MNR Contacts: Dave Marriott on behalf of Keith Johnston	Dillon representative emailed the OPCC MNR representative and provided the Notice of Commencement and Public Information Session for the Project. Dillon representative provided Project details and noted that the virtual Public Information Session would be held from August 29, 2024 to September 6, 2024. Dillon representative requested comments on the Project by September 23, 2024.	N/A	N/A
8.4	September 17, 2024	OPCC – MNR	MNR representative emailed Dillon and provided the MNR Southern Region Information Package – For External Proponent Environmental	September 18, 2024	Dillon representative emailed MNR representative and thanked them for sending the MNR Southern Region

Line Item	Date of Consultation	Name of Agency and/or Contact	Description of Consultation Activity	Date of Response	Response and Issue Resolution (If Applicable)
		Contacts: Sarah Bale on behalf of Keith Johnston	Assessments. The MNR representative noted that the package is to help proponents understand MNR's role as a commenting agency and interests related to environmental assessment within the Ministry's mandate. The MNR representative indicated 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 it is the proponents responsibility to ensure that the information used to support project planning and compliance with <i>Environmental Assessment Act</i> requirements is current and accurate as well as being aware of and complying with all federal or provincial legislation, municipal by-laws and/or other agency approvals. The MNR representative stated that if no MNR interests are identified based on the information contained in the package, there is no need to further circulate MNR as a commenting agency when undertaking consultation and review under the applicable EA process.		Information Package and noted that the draft ER would be sent to OPCC members for review. Dillon representative stated that the ER included a discussion on provincial planning policies, outlined in Section 3 of the Information Package.
8.5	October 7, 2024	OPCC – MNR Contacts: Sarah Bale on behalf of Keith Johnston	Dillon representative emailed the OPCC MNR representative and notified them that the Project's draft ER was ready and available for review. Dillon representative noted that with a favourable report from the OEB to the Minister of Natural Resources, drilling of the well and construction of the pipeline are anticipated to begin in spring 2025. Dillon representative provided a link to the ER and requested feedback by November 18, 2024.	N/A	N/A
8.5	November 1, 2024	OPCC – MNR Contacts: Sarah Blade on behalf of Keith Johnston	Dillon representative emailed the OPCC MNR representative to remind them to submit their review letter, or summary of review, for the Project's draft ER by November 18, 2024. Dillon representative indicated that according to the OEB Guidelines, each OPCC member will provide the applicant with review letter informing the applicant in writing that the OPCC member has completed their review of the draft ER.	N/A	N/A
9.1	May 17, 2024	OPCC – Infrastructure Ontario (IO) Contact: Cory Ostrowka cc' Notice Review	Dillon representative emailed IO and provided the Notice of Upcoming Project. Dillon representative noted that the Project is located in Lambton County and involves the drilling of a new natural	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)
			gas storage well and installation of approximately 100 metres of NPS 8-inch lateral natural gas pipeline in the Waubuno DSA. Dillon representative indicated that Enbridge Gas has retained Dillon to undertake an environmental study for the Project and that the study will include a stakeholder engagement program, impact assessment, and a cumulative effects assessment. Dillon representative noted that as part of the stakeholder engagement program, Enbridge Gas and Dillon will be hosting a virtual public information session and that a Notice will be circulated at a later date with details about the information session. Dillon representative stated that they are interested in comments or concerns that the IO may have in regard to the Project. Dillon representative requested that IO send any comments or concerns to the Project email inbox.		
9.2	August 20, 2024	OPCC – IO Contact: Cory Ostrowka cc' Notice Review	Dillon representative emailed the OPCC IO representative and provided the Notice of Commencement and Public Information Session for the Project. Dillon representative provided Project details and noted that the virtual Public Information Session would be held from August 29, 2024 to September 6, 2024. Dillon representative requested comments on the Project by September 23, 2024.	N/A	N/A
9.3	October 7, 2024	OPCC – IO Contacts: Cory Ostrowka cc' Notice Review	Dillon representative emailed the OPCC IO representative and notified them that the Project's draft ER was ready and available for review. Dillon representative noted that with a favourable report from the Ontario Energy Board (OEB) to the Minister of Natural Resources, drilling of the well and construction of the pipeline are anticipated to begin in spring 2025. Dillon representative provided a link to the ER and requested feedback by November 18, 2024.	N/A	N/A
9.4	November 1, 2024	OPCC – IO Contact: Cory Ostrowka cc' Notice Review	Dillon representative emailed the OPCC IO representative to remind them to submit their review letter, or summary of review, for the Project's draft ER by November 18, 2024. Dillon representative indicated that according to the OEB Guidelines, each OPCC member will provide the applicant with review letter informing the applicant in writing that the OPCC member has completed their review of the draft ER.	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	May 17, 2024	OPCC – TSSA Contact: Robin Yu on behalf of Gary Highfield	Dillon representative emailed the OPCC TSSA representative and provided the Notice of Upcoming Project. Dillon representative noted that the Project is located in Lambton County and involves the drilling of a new natural gas storage well and installation of approximately 100 metres of NPS 8-inch lateral natural gas pipeline in the Waubuno DSA. Dillon representative indicated that Enbridge Gas has retained Dillon to undertake an environmental study for the Project and that the study will include a stakeholder engagement program, impact assessment, and a cumulative effects assessment. Dillon representative noted that as part of the stakeholder engagement program, Enbridge Gas and Dillon will be hosting a virtual public information session and that a Notice will be circulated at a later date with details about the information session. Dillon representative stated that they are interested in comments or concerns that the TSSA may have in regard to the Project. Dillon representative requested that the TSSA send any comments or concerns to the Project email inbox.	N/A	N/A
10.2	August 20, 2024	OPCC – TSSA Contact: Robin Yu on behalf of Gary Highfield	Dillon representative emailed the OPCC TSSA representative and provided the Notice of Commencement and Public Information Session for the Project. Dillon representative provided Project details and noted that the virtual Public Information Session would be held from August 29, 2024 to September 6, 2024. Dillon representative requested comments on the Project by September 23, 2024.	August 27, 2024	The TSSA representative emailed Dillon representative and noted that after reviewing the Project scope, it was determined that the Project falls outside of the TSSA's jurisdiction. The TSSA representative indicated that through the Memorandum of Understanding between the MNR and TSSA, gas wells and gathering lines fall within the MNR's jurisdiction.
10.3	August 28, 2024	OPCC – TSSA Contacts: Robin Yu on behalf of Gary Highfield	Dillon representative emailed the TSSA representative and thanked them for their response and acknowledged that the jurisdiction for gas wells and gathering lines falls under the MNR.	N/A	N/A
10.4	October 7, 2024	OPCC – TSSA Contacts: Robin Yu on behalf of Gary Highfield	Dillon representative emailed the OPCC TSSA representative and notified them that the Project's draft ER was ready and available for review. Dillon representative noted that with a favourable report from the OEB to the Minister of Natural Resources, drilling of the well and construction of the pipeline are anticipated to begin in spring	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)
			2025. Dillon representative provided a link to the ER and requested feedback by November 18, 2024.		
10.5	November 1, 2024	OPCC – TSSA Contacts: Robin Yu on behalf of Gary Highfield	Dillon representative emailed the OPCC TSSA representative to remind them to submit their review letter, or summary of review, for the Project's draft ER by November 18, 2024. Dillon representative indicated that according to the OEB Guidelines, each OPCC member will provide the applicant with review letter informing the applicant in writing that the OPCC member has completed their review of the draft ER.	N/A	N/A
11.1	May 17, 2024	OPCC – Ministry of Municipal Affairs and Housing (MMAH) Contact: Erick Boyd	Dillon representative emailed the MMAH and provided the Notice of Upcoming Project. Dillon representative noted that the Project is located in Lambton County and involves the drilling of a new natural gas storage well and installation of approximately 100 metres of NPS 8-inch lateral natural gas pipeline in the Waubuno DSA. Dillon representative indicated that Enbridge Gas has retained Dillon to undertake an environmental study for the Project and that the study will include a stakeholder engagement program, impact assessment, and a cumulative effects assessment. Dillon representative noted that as part of the stakeholder engagement program, Enbridge Gas and Dillon will be hosting a virtual public information session and that a Notice will be circulated at a later date with details about the information session. Dillon representative stated that they are interested in comments or concerns that the MMAH may have in regard to the Project. Dillon representative requested that the MMAH send any comments or concerns to the Project email inbox.	N/A	N/A
11.2	August 20, 2024	OPCC – MMAH Contact: Erick Boyd	Dillon representative emailed the OPCC MMAH representative and provided the Notice of Commencement and Public Information Session for the Project. Dillon representative provided Project details and noted that the virtual Public Information Session would be held from August 29, 2024 to September 6, 2024. Dillon representative requested comments on the Project by September 23, 2024.	N/A	N/A
11.3	October 7, 2024	OPCC – MMAH Contact: Erick Boyd	Dillon representative emailed the OPCC MMAH representative and notified them that the Project's draft ER was ready and available for	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)
			review. Dillon representative noted that with a favourable report from the OEB to the Minister of Natural Resources, drilling of the well and construction of the pipeline are anticipated to begin in spring 2025. Dillon representative provided a link to the ER and requested feedback by November 18, 2024.		
11.4	November 1, 2024	OPCC – MMAH Contact: Erick Boyd	Dillon representative emailed the OPCC MMAH representative to remind them to submit their review letter, or summary of review, for the Project's draft ER by November 18, 2024. Dillon representative indicated that according to the OEB Guidelines, each OPCC member will provide the applicant with review letter informing the applicant in writing that the OPCC member has completed their review of the draft ER.	N/A	N/A

1.3

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	August 23, 2024	St. Clair Township Contacts: Mayor Agar and Council	Enbridge Gas representative emailed the Mayor and Council of St. Clair Township and provided the Notice of Commencement for the Project. Enbridge Gas representative noted that Enbridge Gas had retained Dillon to lead a virtual Public Information Session and encouraged the Mayor and Council to reach out to Dillon directly with any questions.	N/A	N/A
2.1	May 17, 2024	County of Lambton Contacts: Stephane Thiffeault, Corrine Nauta, Jason Cole, and Matt Deline	Dillon representative, on behalf of Enbridge Gas, emailed the County of Lambton representatives and provided the Notice of Upcoming Project. Dillon representative noted that the Project is located in Lambton County and involves the drilling of a new natural gas storage well and installation of approximately 100 metres of NPS 8-inch lateral natural gas pipeline in the Waubuno DSA. Dillon representative indicated that Enbridge Gas has retained Dillon to undertake an environmental study for 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)
			and that the study will include a stakeholder engagement program, impact assessment, and a cumulative effects assessment. Dillon representative noted that as part of the stakeholder engagement program, Enbridge Gas and Dillon will be hosting a virtual public information session and that a Notice will be circulated at a later date with details about the information session. Dillon representative stated that they are interested in comments or concerns that the County of Lambton representatives may have in regard to the Project. Dillon representative requested that the County of Lambton send any comments or concerns to the Project email inbox.		
2.2	August 22, 2024	County of Lambton Contacts: Stephane Thiffeault, Corrine Nauta, Jason Cole, and Matt Deline	Dillon representative emailed the County of Lambton representatives and provided the Notice of Commencement and Public Information Session for the Project. Dillon representative provided Project details and noted that the virtual Public Information Session would be held from August 29, 2024 to September 6, 2024. Dillon representative requested comments on the Project by September 23, 2024.	N/A	N/A
3.1	May 17, 2024	St. Clair Township Contacts: John Rodey, Jeff Baranek, Carlie McClemens, and Brian Black	Dillon representative emailed the St. Clair Township representatives and provided the Notice of Upcoming Project. Dillon representative noted that the Project is located in Lambton County and involves the drilling of a new natural gas storage well and installation of approximately 100 metres of NPS 8-inch lateral natural gas pipeline in the Waubuno DSA. Dillon representative indicated that Enbridge Gas has retained Dillon to undertake an environmental study for the Project and that the study will include a stakeholder engagement program, impact assessment, and a cumulative effects assessment. Dillon representative noted that as part of the stakeholder engagement program, Enbridge Gas and Dillon will be hosting a virtual public information session and that a	May 21, 2024	A St. Clair Township representative emailed Dillon representative and requested clarification on the location of the proposed well. The St. Clair Township representative noted that the written comments indicate the proposed well is located at Telfer Road and Oil Springs Line, but the map provided shows Kimball Road and Oil Springs Line.

Line Item	Date of Consultation	Name of Agency and/or Contact	Description of Consultation Activity	Date of Response	Response and Issue Resolution (If Applicable)
			Notice will be circulated at a later date with details about the information session. Dillon representative stated that they are interested in comments or concerns that the St. Clair Township may have in regard to the Project. Dillon representative requested that the Township send any comments or concerns to the Project email inbox.		
3.2	May 23, 2024	St. Clair Township Contact: Brian Black	Dillon representative emailed the St. Clair Township representatives and thanked them for pointing out the discrepancy between the Project description and the provided map. Dillon representative confirmed the Project location west of Telfer Road and Oil Springs Line. Dillon representative stated they will be sure to correct the discrepancy on a revised map and apologized for the confusion.	May 24, 2024	St. Clair Township representative emailed Dillon representative and thanked them for the update.
3.3	August 22, 2024	St. Clair Township Contacts: John Rodey, Jeff Baranek, Carlie McClemens, and Brian Black	Dillon representative emailed the OPCC TSSA representative and provided the Notice of Commencement and Public Information Session for the Project. Dillon representative provided Project details and noted that the virtual Public Information Session would be held from August 29, 2024 to September 6, 2024. Dillon representative requested comments on the Project by September 23, 2024.	N/A	N/A

2.0

Public 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	August 19, 2024.	Landowners within the Waubuno DSA	Landowners within the Waubuno DSA received a hand-delivered copy of the Notice of Commencement.	N/A	N/A
1.1	August 29 – September 6, 2024	Members of the Public	Dillon hosted a virtual Public Information Session for members of the public to review Project information and details and to provide an opportunity for members of the public to comment on the Project.	N/A	N/A



Appendix G

Agency Letters



Enbridge Gas
50 Keil Drive North
Chatham, Ontario N7M 5M1
Canada

May 17, 2024

Dear Recipient,

Enbridge Gas – Notice of Upcoming Project for the 2025 Waubuno Well Drilling Project

This letter is to notify you of a planned upcoming project in your area.

To ensure the continued safe and reliable delivery of natural gas to existing and future Enbridge Gas customers, Enbridge Gas is proposing to drill one new natural gas storage well and install approximately 100m of Nominal Pipe Size (“NPS”) 8-inch lateral natural gas pipeline in the Waubuno Designated Storage Area (DSA). The DSA is located in the County of Lambton within St. Clair Township, near the intersection of Oil Spring Line and Telfer Road. A map of the proposed well location and DSA is attached.

The drilling of well is needed to replace the deliverability lost in the Waubuno Storage Pool due to well relines and abandonments.

The 2025 Waubuno Well Drilling Project is proposed to be undertaken pending a positive recommendation from the Ontario Energy Board (OEB) to the Minister of Natural Resources for the issuance of well drilling licences under section 40(1) of the OEB Act.

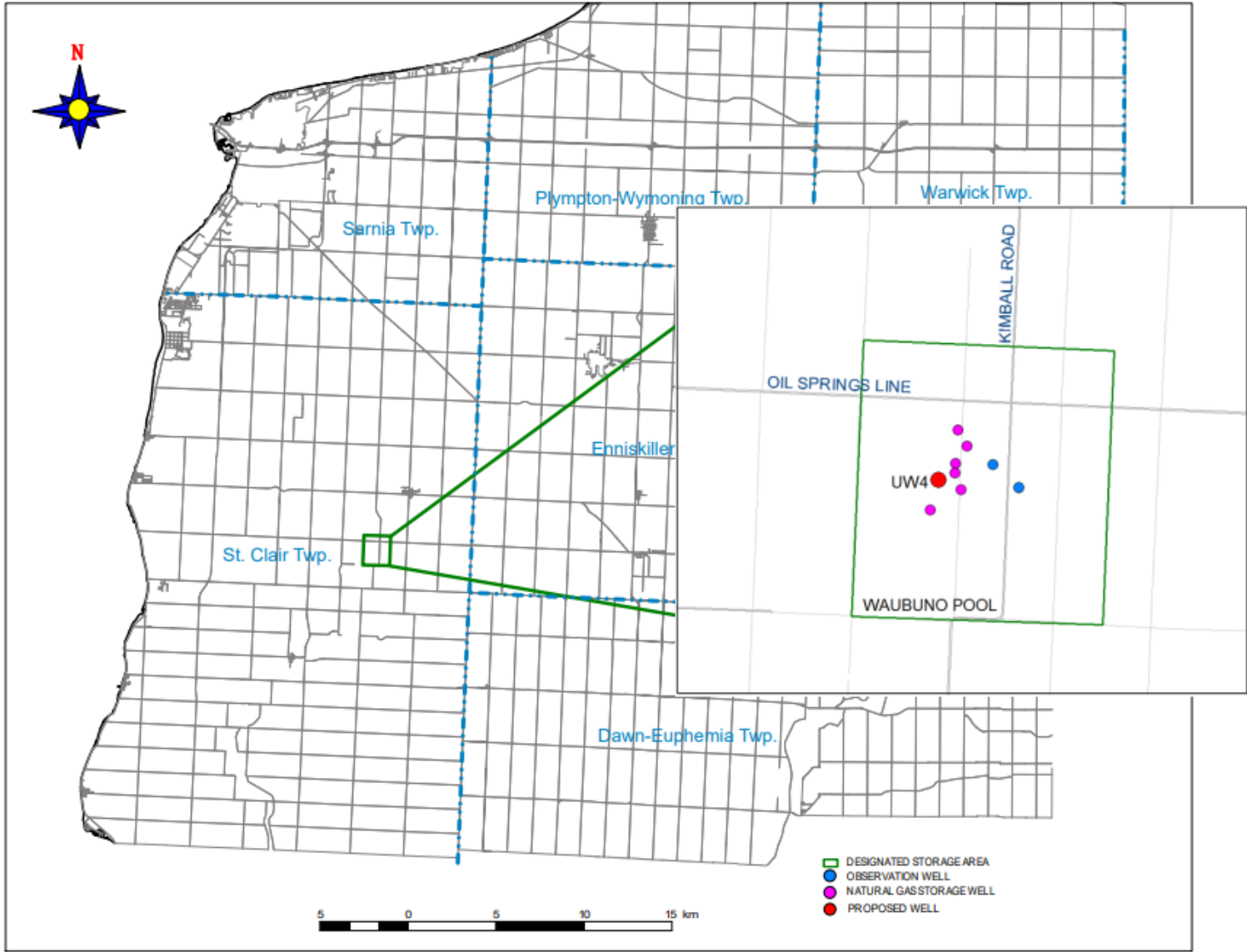
In support of this upcoming OEB application, Enbridge Gas will be undertaking environmental studies in 2024 to review the proposed construction and operation of the project. The environmental studies will include a consultation program, impact assessment, and a cumulative effects assessment.

Enbridge Gas is committed to undertaking consultation with local stakeholders as an integral component of the planning process. Additional details regarding the project and how to become involved during public consultation will be provided in future correspondence. If you have any questions or comments during the development stages of this project, please contact the undersigned.

Sincerely,

Ryan Park
Sr. Environmental Advisor
Enbridge Gas
Ryan.Park@enbridge.com
519-350-4296

GEOGRAPHICAL LOCATION OF THE WAUBUNO DESIGNATED STORAGE AREA





August 20, 2024

**Re: Enbridge Gas
Proposed 2025 Waubuno Well Drilling Project
Township of St. Clair (Lambton County), Ontario
Notice of Study Commencement and Virtual Public Information Session**

51 Breithaupt Street
Suite 200
Kitchener, Ontario
N2H 5G5

Telephone
519-571-9833
Fax
519-571-7424

To whom it may concern,

Enbridge Gas Inc. (Enbridge Gas) has retained Dillon Consulting Limited (Dillon) to undertake an environmental study for the proposed 2025 Waubuno Well Drilling Project in Lambton County, Ontario.

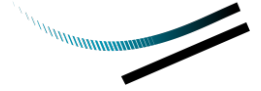
The proposed project will involve the drilling of one new natural gas storage well and installation of approximately 100 metres of 8-inch lateral natural gas pipeline in the Waubuno Designated Storage Area (DSA)¹. The proposed well and pipeline constructed for this project is required to ensure the continued safe and reliable delivery of natural gas to existing and future Enbridge Gas customers.

The proposed well and pipeline location is approximately 650 metres southwest of the intersection of Telfer Road and Oil Springs Line in the Township of St. Clair. Project activities will commence with the construction of a temporary gravel drilling pad measuring up to 60 metres by 100 metres. Upon completion of drilling activities, a permanent gravel pad measuring 8 metres by 12 metres will be installed around the well and the new natural gas pipeline will be installed.

The study is being conducted in accordance with the Ontario Energy Board's (OEB's) *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 natural, cultural, and socio-economic environment, evaluate the project from a natural, cultural and socio-economic environmental perspective, outline safety measures and provide appropriate measures for impact mitigation and monitoring. Pending a positive recommendation from the OEB to the Minister of Natural Resources for the issuance of a well drilling licence under section 40 of the *OEB Act*, construction is planned to begin as early as spring 2025.

Stakeholder involvement will play a key role in the project. In order to undertake a successful consultation program, we have developed a mailing list of government agencies (federal, provincial, and municipal), Indigenous communities, and other

¹ Area of land designated by the Ontario Energy Board under section 36.1(1)(a) of the *Ontario Energy Board Act*, which contains geological formations suitable for the storage of natural gas underground.



groups that may have an interest in the study. Enbridge Gas will also be hosting a Virtual Public Information Session as part of the study. Details about the session are provided in the attached Notice of Study Commencement and Virtual Public Information Session.

As part of the initial phase of the study, we are collecting information on the cultural, socio-economic, and natural environment, at the proposed well site. Examples of data being collected include information on archaeological and heritage resources, terrestrial and aquatic vegetation and wildlife, groundwater, surface water, soils, geology, existing infrastructure, and human occupancy and resource use in the area.

We are interested in hearing from you with any comments that you or your organization may have regarding this project. We are also requesting any information relating to natural and/or human environments at the proposed well and pipeline location that may fall within your mandate.

Please send this information to my attention at the above address or by email to 2025Waubunowellproject@dillon.ca by **September 23, 2024**. If you require any further information, please do not hesitate to contact me using the information below.

If there is a more appropriate contact at your organization who should receive this letter, please kindly forward the letter at your discretion and notify us as we will update our project consultation list.

Sincerely,

Bill Olds

Bill Olds
Project Manager
Tel: 905-905-5521

Attachment: Notice of Study Commencement and Virtual Public Information Session

Proposed 2025 Waubuno Well Drilling Project
Notice of Study Commencement and Virtual Public Information Session
 TOWNSHIP OF ST. CLAIR (LAMBTON COUNTY), ONTARIO
 ENBRIDGE GAS INC.

The Study

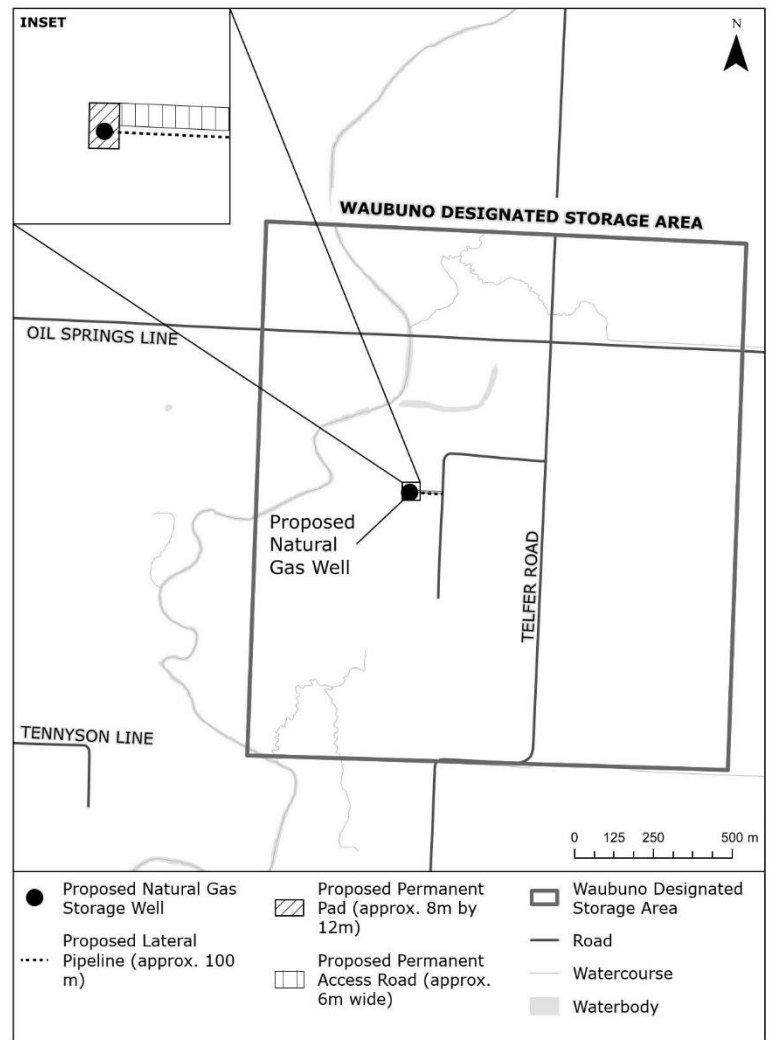
Enbridge Gas has retained Dillon Consulting to undertake an environmental study for the proposed 2025 Waubuno Well Drilling Project in Lambton County, Ontario.

To ensure the continued safe and reliable delivery of natural gas to existing and future Enbridge Gas customers, Enbridge Gas is proposing to drill one new natural gas storage well and install approximately 100 metres of 8-inch natural gas pipeline in the Waubuno Designated Storage Area (DSA) – an area of land designated by the Ontario Energy Board (OEB) under section 36.1(1)(a) of the *OEB Act*, which contains geological formations suitable for the storage of natural gas underground.

The proposed well and pipeline location is approximately 650 metres southwest of the intersection of Telfer Road and Oil Springs Line in the Township of St. Clair. Project activities will commence with the construction of a temporary gravel drilling pad measuring up to 60 metres by 100 metres. Upon completion of drilling activities, a permanent gravel pad measuring 8 metres by 12 metres will be installed around the well and the new natural gas pipeline will be installed.

The Process

The study is being conducted in accordance with the *OEB's 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 natural, cultural and socio-economic environment, evaluate the project from a natural, cultural, and socio-economic perspective, outline safety measures, and provide appropriate measures for impact mitigation and monitoring. Pending a positive recommendation from the OEB to the Minister of Natural Resources for the issuance of well drilling licences under section 40 of the *OEB Act*, construction is planned to begin as early as spring 2025.



Invitation to the Community

Stakeholder and Indigenous consultation is a key component of this study. Members of the general public, landowners, government agencies, Indigenous communities, and other interested parties are invited to participate in the study. We are hosting a Virtual Public Information Session to provide you with an opportunity to review the project and provide input.

To access the Virtual Public Information Session, visit: www.WaubunoWellDrilling.ca from **Thursday, August 29, 2024 to Friday, September 6, 2024**.

If you are interested in participating or would like to provide comments, please visit the Virtual Public Information Session or contact one of the individuals listed below through the project email. The last day to submit comments for consideration in the draft environmental study is **September 23, 2024**. You can also visit the **Enbridge Gas Project Website** at www.enbridgegas.com/2025WellProject.

Project Contacts
Bill Olds
 Project Manager
 Dillon Consulting Limited

Project Email:
 2025waubunowellproject@dillon.ca
Telephone: 905-905-5521





August 20, 2024

**To: Melissa Deisley, Director of Planning and Regulations
St. Clair Region Conservation Authority**

**Re: Enbridge Gas
Proposed 2025 Waubuno Well Drilling Project
Township of St. Clair (Lambton County), Ontario
Notice of Study Commencement and Virtual Public Information Session**

51 Breithaupt Street
Suite 200
Kitchener, Ontario
N2H 5G5

Telephone
519-571-9833
Fax
519-571-7424

Dear Ms. Deisley,

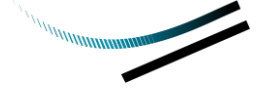
Enbridge Gas Inc. (Enbridge Gas) has retained Dillon Consulting Limited (Dillon) to undertake an environmental study for the proposed 2025 Waubuno Well Drilling Project in Lambton County, Ontario.

The proposed project will involve the drilling of one new natural gas storage well and installation of approximately 100 metres of 8-inch lateral natural gas pipeline in the Waubuno Designated Storage Area (DSA)¹. The proposed well and pipeline constructed for this project is required to ensure the continued safe and reliable delivery of natural gas to existing and future Enbridge Gas customers.

The proposed well and pipeline location is approximately 650 metres southwest of the intersection of Telfer Road and Oil Springs Line in the Township of St. Clair. Project activities will commence with the construction of a temporary gravel drilling pad measuring up to 60 metres by 100 metres. Upon completion of drilling activities, a permanent gravel pad measuring 8 metres by 12 metres will be installed around the well and the new natural gas pipeline will be installed.

The study is being conducted in accordance with the Ontario Energy Board's (OEB's) *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 natural, cultural, and socio-economic environment, evaluate the project from a natural, cultural and socio-economic environmental perspective, outline safety measures and provide appropriate measures for impact mitigation and monitoring. Pending a positive recommendation from the OEB to the Minister of Natural Resources for the issuance of a well drilling licence under section 40 of the *OEB Act*, construction is planned to begin as early as spring 2025.

¹ Area of land designated by the Ontario Energy Board under section 36.1(1)(a) of the *Ontario Energy Board Act*, which contains geological formations suitable for the storage of natural gas underground.



Stakeholder involvement will play a key role in the project. In order to undertake a successful consultation program, we have developed a mailing list of government agencies (federal, provincial, and municipal), Indigenous communities, and other groups that may have an interest in the study. Enbridge Gas will also be hosting a Virtual Public Information Session as part of the study. Details about the session are provided in the attached Notice of Study Commencement and Virtual Public Information Session.

As part of the initial phase of the study, we are collecting information on the cultural, socio-economic, and natural environment, at the proposed well site. Examples of data being collected include information on archaeological and heritage resources, terrestrial and aquatic vegetation and wildlife, groundwater, surface water, soils, geology, existing infrastructure, and human occupancy and resource use in the area.

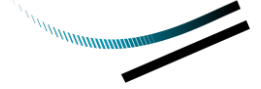
We are interested in hearing from you with any comments that you or your organization may have regarding this project. We are also requesting any information relating to natural and/or human environments at the proposed well and pipeline location that may fall within your mandate and, in particular, whether the following are within, or in the vicinity of, the project:

- environmentally sensitive areas;
- floodplains; and,
- distinctive natural features that would warrant protection.

Please send this information to my attention at the above address or by email to 2025Waubunowellproject@dillon.ca by **September 23, 2024**. If you require any further information, please do not hesitate to contact me using the information below.

If there is a more appropriate contact at your organization who should receive this letter, please kindly forward the letter at your discretion and notify us as we will update our project consultation list.

Page 3
August 20, 2024



Sincerely,

Bill Olds

Bill Olds
Project Manager
Tel: 905-905-5521

Attachment: Notice of Study Commencement and Virtual Public Information Session

Proposed 2025 Waubuno Well Drilling Project
Notice of Study Commencement and Virtual Public Information Session
TOWNSHIP OF ST. CLAIR (LAMBTON COUNTY), ONTARIO
ENBRIDGE GAS INC.

The Study

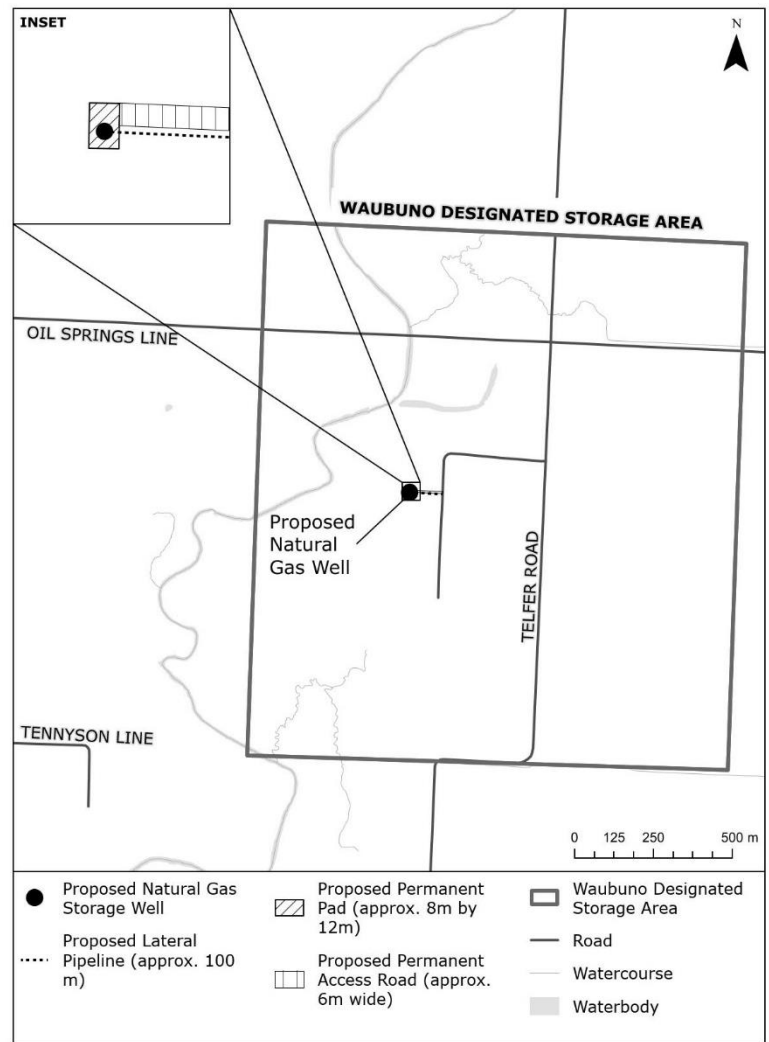
Enbridge Gas has retained Dillon Consulting to undertake an environmental study for the proposed 2025 Waubuno Well Drilling Project in Lambton County, Ontario.

To ensure the continued safe and reliable delivery of natural gas to existing and future Enbridge Gas customers, Enbridge Gas is proposing to drill one new natural gas storage well and install approximately 100 metres of 8-inch natural gas pipeline in the Waubuno Designated Storage Area (DSA) – an area of land designated by the Ontario Energy Board (OEB) under section 36.1(1)(a) of the *OEB Act*, which contains geological formations suitable for the storage of natural gas underground.

The proposed well and pipeline location is approximately 650 metres southwest of the intersection of Telfer Road and Oil Springs Line in the Township of St. Clair. Project activities will commence with the construction of a temporary gravel drilling pad measuring up to 60 metres by 100 metres. Upon completion of drilling activities, a permanent gravel pad measuring 8 metres by 12 metres will be installed around the well and the new natural gas pipeline will be installed.

The Process

The study is being conducted in accordance with the *OEB's 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 natural, cultural and socio-economic environment, evaluate the project from a natural, cultural, and socio-economic perspective, outline safety measures, and provide appropriate measures for impact mitigation and monitoring. Pending a positive recommendation from the OEB to the Minister of Natural Resources for the issuance of well drilling licences under section 40 of the *OEB Act*, construction is planned to begin as early as spring 2025.



Invitation to the Community

Stakeholder and Indigenous consultation is a key component of this study. Members of the general public, landowners, government agencies, Indigenous communities, and other interested parties are invited to participate in the study. We are hosting a Virtual Public Information Session to provide you with an opportunity to review the project and provide input.

To access the Virtual Public Information Session, visit: www.WaubunoWellDrilling.ca from **Thursday, August 29, 2024 to Friday, September 6, 2024**.

If you are interested in participating or would like to provide comments, please visit the Virtual Public Information Session or contact one of the individuals listed below through the project email. The last day to submit comments for consideration in the draft environmental study is **September 23, 2024**. You can also visit the **Enbridge Gas Project Website** at www.enbridgegas.com/2025WellProject.

**Project
Contacts**

Bill Olds
Project Manager
Dillon Consulting Limited

Project Email:
2025waubunowellproject@dillon.ca
Telephone: 905-905-5521



Appendix H

Virtual Public Information Session Presentation, Video Transcript, and Comment Form



2025 Waubuno Well Drilling Project

Virtual Public Information Session

Thursday, August 29, 2024 to Friday, September 6, 2024



Welcome!



This Virtual Public Information Session will be live for one week from **Thursday, August 29, 2024** to **Friday, September 6, 2024**. After **Friday, September 6, 2024**, this presentation, accompanying video transcript, and the comment form will be available for download on the Enbridge Gas website at www.enbridgegas.com/2025wellproject.

You can provide your input on the 2025 Waubuno Well Drilling Project by:

- Completing the comment form available on the Virtual Public Information Session website at www.WaubunoWellDrilling.ca
- Visiting the Enbridge Gas project website
- Emailing the project team at 2025waibunowellproject@dillon.ca

Please submit your comments by **September 23, 2024** for consideration in the Environmental Report (ER) that will be submitted to the Ontario Energy Board.

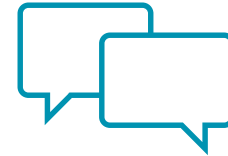


Enbridge Gas' Commitment

Enbridge Gas is dedicated to engaging with Indigenous communities, agencies, interest groups, and community members. They commit to providing up-to-date information in an open, honest, and respectful manner while carefully considering input.

With over 3.9 million residential, commercial, and industrial customers, Enbridge Gas is committed to delivering natural gas safely and reliably.

Environmental stewardship is also a top priority for Enbridge Gas, and they conduct their operations in an environmentally responsible manner.



Enbridge Gas' Engagement with Indigenous Peoples

Enbridge recognizes the diversity of Indigenous peoples who live where we work and operate. We understand that certain laws and policies have had destructive impacts on Indigenous cultures, languages, and the social and economic well-being of Indigenous peoples. We also recognize the importance of reconciliation between Indigenous peoples and broader society. We are committed to building positive and sustainable relationships with Indigenous peoples, based on trust and respect, and focused on finding common goals through open dialogue.

The Indigenous engagement program is based on adherence to the Ontario Energy Board's (OEB) Guidelines and Enbridge Inc.'s company-wide Indigenous Peoples Policy, which Enbridge Gas follows. Enbridge's Indigenous Peoples Policy lays out key principles for establishing relationships with Indigenous groups, including:

- Recognizing the importance of the United Nations Declaration on the Rights of Indigenous peoples in the context of existing Canadian law
- Recognizing the legal and constitutional rights possessed by Indigenous peoples in Canada and the importance of the relationship between Indigenous Peoples and their traditional lands and resources
- Engaging early to achieve meaningful relationships with Indigenous groups by providing timely exchanges of information, understanding and addressing Indigenous project-specific concerns, and ensuring ongoing dialogue regarding its projects, their potential impacts and benefits
- Aligning Enbridge's interests with those of Indigenous communities through meaningful, direct Indigenous economic activity in projects corresponding to community capacity and project needs, where possible

Purpose of the Information Session

- Provide information on the project purpose and illustrate the proposed construction activities that will occur within the Waubuno Designated Storage Area.
- Consult with Indigenous communities and engage with members of the public and regulatory authorities regarding the proposed project, potential impacts, and proposed mitigation.
- Provide an opportunity for these individuals and affected landowners to review the proposed project, and to ask questions and/or provide comments to representatives from Enbridge Gas and Dillon Consulting.



Project Overview

- The project will involve the drilling of one new natural gas well and installation of approximately 100 metres of steel natural gas pipeline in the Waubuno Designated Storage Area (DSA), located in St. Clair Township on privately-owned lands.
- The project will start with the construction of a permanent access road and a temporary gravel drilling pad measuring up to 80 metres by 100 metres.
- After the well is drilled, a permanent gravel pad measuring 8 metres by 12 metres will be installed around the well and the new 100-metre pipeline will be installed.
- The project is needed for the safe and reliable delivery of natural gas to existing and future Enbridge Gas customers.

What is a Designated Storage Area?

DSAs are areas of land designated by the OEB under Section 36.1(1)(a) of the *OEB Act*, which contain geological formations suitable for the storage of natural gas underground.

Project Distribution System

- Due to geological considerations, no alternative well locations have been considered. The well will be located in the Waubuno Designated Storage Area, which contains geological formations suitable for the storage of natural gas underground.
- The target depth of the storage well will be approximately 640 metres. The well will be situated on a permanent pad measuring 8 metres by 12 metres and a permanent access road will be constructed (measuring approximately 6 metres wide) that will allow for access to and from the well.
- The new natural gas pipeline will be approximately 100 metres in length.



Environmental Study Process



As part of the planning process, Enbridge Gas has retained Dillon Consulting to undertake an Environmental Study for the project. The Environmental Study will fulfill the requirements of the Ontario Energy Board's Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023).

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.
- Be conducted during the earliest phase of the project.
- Identify potential impacts of the project.
- Develop environmental mitigation and protective measures to avoid or reduce potential impacts.
- Develop an appropriate environmental inspection, monitoring, and follow-up program.

OEB Review and Approval Process



It is anticipated that the Environmental Report for the study will be completed in December 2024. The Environmental Report will present a summary of the environmental findings of the study, describe land requirements, summarize consultation with Indigenous communities and engagement with agencies, interest groups, and community members on the project, outline safety measures, and provide appropriate measures for impact mitigation and monitoring.

Pending a positive recommendation from the Ontario Energy Board to the Minister of Natural Resources for the issuance of a well drilling licence under section 40 of the *Ontario Energy Board Act*, construction is planned to begin as early as spring 2025.

Additional information about the Ontario Energy Board process can be found online at: www.oeb.ca.

Information on well drilling licence applications can be found on the Ontario Government website.

Consultation and Engagement



- Consultation and engagement are key components of the Environmental Report.
- At the outset of the project, Enbridge Gas submits a Project Description to the Ministry of Energy and Electrification (MOEE). Upon review, the MOEE determines potential impacts on Aboriginal or treaty rights and identifies Indigenous communities that Enbridge Gas will consult with during the entirety of the project.
- The consultation and engagement program helps identify and address Indigenous community and stakeholder concerns and issues, provides information about the project to the stakeholders, and allows for participation in the project review and development process.
- Input received during the public information session, and from comment forms, and emails submitted to the project inbox will be used to inform the development of mitigation plans for the project.

Environmental Study Process

Date	Activity
May 17, 2024	Notice of Upcoming Project
June to August 2024	Baseline Data Collection and Desktop Review
August 15, 2024	Notice of Study Commencement
August 29 to September 6, 2024	Virtual Public Information Session
September 23, 2024	Last Day for Public Comments for Inclusion in the Draft Environmental Report
August to September 2024	Identify Potential Effects and Mitigation Measures for Well Drilling Activities
August to September 2024	Effects Assessment and Cumulative Effects Assessment
October 2024	Draft Environmental Report submitted to Ontario Pipeline Coordinating Committee for 42-day Review Period
December 2024	Anticipated date for submission of the Well Drilling Licence Application to the Ministry of Natural Resources and Forestry (MNRF)
December 2024	Anticipated date for submission of the Final Environmental Report to Ontario Energy Board
As early as Spring 2025	Potential Construction Start – Early Activities (access road and pad)
April to May 2025	Tentative Well Drilling Start Date (pending receipt of all permits and approvals)
December 2025	Potential Construction Completion Date



Environment, Health and Safety Policy



Our Commitment

- Enbridge Gas is committed to protecting the health and safety of all individuals affected by our activities.
- Enbridge Gas will provide a safe and healthy working environment and will not compromise the health and safety of any individual.
- Our goal is to have no incidents and mitigate impacts on the environment by working with our stakeholders, peers, and others to promote responsible environmental practices and continuous improvement.
- Enbridge Gas is committed to environmental protection and stewardship and recognizes that pollution prevention, biodiversity, and resource conservation are key to a sustainable environment.
- All employees are responsible and accountable for contributing to a safe working environment, for fostering safe working attitudes, and for operating in an environmentally responsible manner.

Access and Land Requirements



This project will be constructed on private lands in the Waubuno Designated Storage Area and will require a permanent easement as well as temporary working space during construction.

Enbridge Gas has a comprehensive Landowner Relations Program that uses a dedicated Lands Advisor who would:

- Provide direct contact and liaison between landowners and Enbridge Gas.
- Be available to the landowner during the length of the project and throughout construction activities.
- Act as a singular point of contact for all landowners, and address concerns and questions.
- Address legal matters relating to the temporary use of property, access agreements, permanent easements, and impacts or remedies to property.

Wellhead Design, Construction and Safety



Design and Safety

- Enbridge Gas takes many steps to safely and reliably operate their network of natural gas systems and storage facilities, such as:
- Designing, constructing, and testing systems and facilities to meet or exceed requirements set by industry standards and regulatory authorities;
- Ensuring that work is respectful of community activities, regulations, and bylaws;
- Continuously monitoring their network and facilities; and,
- Performing field surveys to detect potential issues and confirm the integrity of the storage facilities.

Construction

The construction work is temporary. Once the well drilling and pipeline construction activities are complete, areas of temporary disturbance will be restored to as close to pre-construction condition as possible.

General Construction Overview – Well Drilling Activities

Typical well drilling activities involve drilling with a rotary rig then running casing, and cementing the hole in place from larger to smaller diameters:

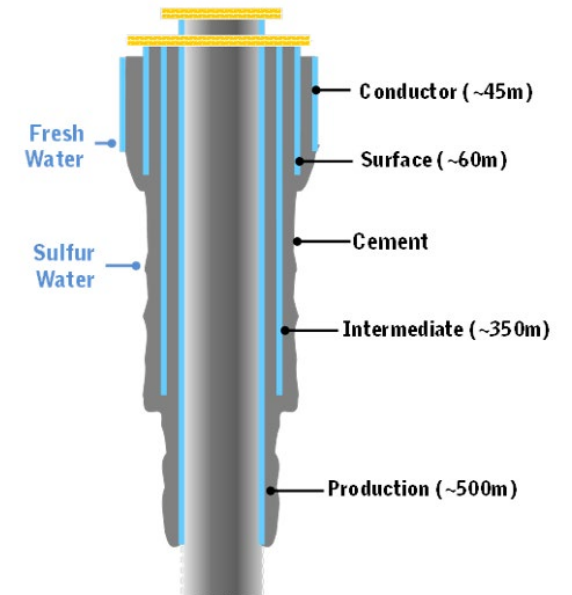
1. Surface Casing (set into bedrock to protect drinking water)
2. Intermediate Casing (isolates storage gas zones)
3. Production Casing (isolates storage gas zones)

The final activity for the well drilling is the installation of a wellhead which meets industry standards.

Image 1. Typical Injection – Withdrawal Well Wellhead



Figure 1. Typical cross-section of a storage well configuration



Constructing an Enbridge Gas pipeline

The pipeline construction process includes various procedures.

- **Photo 1:** Shows a typical Enbridge Gas natural gas pipeline. The Waubuno Well Drilling Project will involve the installation of an 8-inch pipeline which will be smaller than the pipeline shown in Photo 1.
- **Photo 2:** Represents a typical trench that is created during the installation process.
- **Photo 3:** Represents the process of backfilling a trench.
- **Photo 4:** Represents final clean-up and restoration. Once the pipeline has been installed, clean-up will involve the restoration of the right-of-way and other work areas.



Pipeline Design



A 100-metre steel pipeline will be installed for the project. The pipeline is designed to meet and/or exceed the standards of the Canadian Standards Association (Z662 Oil and Gas Pipeline Systems) and of the Technical Standards and Safety Authority (TSSA).

Pipeline safety and integrity

Enbridge Gas takes many steps to maintain the safe, reliable operation of our network of natural gas pipelines, including:

- Designing, constructing, and testing our pipelines to meet or exceed requirements set by industry standards and regulatory authorities;
- Continuously monitor the entire network; and,
- Perform regular field surveys to detect leaks and confirm that corrosion prevention methods are working as intended.

Socio-Economic Features



The project will be located on private lands approximately 650 m southwest of the intersection of Oil Springs Line and Telfer Road, in St. Clair Township, Lambton County. The project is in a rural area and the prominent surrounding land uses include agriculture and natural heritage areas associated with Bear Creek. The project will be constructed on private property within an agricultural field and within the existing municipal road right-of-way.

Potential effects

- Temporary increases in noise, dust, and air emissions.
- Increased construction traffic volumes.
- Temporary impairment of the use of residential and/or agricultural property.

Example mitigation measures

- Provide access across the construction area.
- Develop and implement a Traffic Control Plan.
- Place fencing at appropriate locations for safety.
- Make contact information for a designated Enbridge Gas representative available prior to and throughout construction.
- Implement dust control measures.

Cultural Heritage Resources



During construction, cultural heritage features such as archaeological finds, and heritage buildings, fences, and landscapes may be encountered. A Stage 1 Archaeological Assessment (AA) and a Cultural Heritage Screening Report (CHSR) have been completed for the project. The CHSR did not identify federally or provincially designated heritage properties, historic sites, buildings, museums, cemeteries, or other properties/ landscapes of heritage interest within the project area. The Stage 1 AA property inspection visually confirmed that portions of the project area consisting of agricultural fields retain archaeological potential. A Stage 2 AA is recommended and is planned for the fall of 2024.

Potential effects

- Damage or destruction of archaeological or historical resources.

Example mitigation measures

- Archaeological assessment of the construction footprint, with review and acceptance from the Ministry of Citizenship and Multiculturalism (MCM).
- Cultural heritage assessment (for built heritage features and cultural heritage landscapes) of the construction right-of-way, with review and comment from the MCM.
- Reporting of previously unknown archaeological or historical resources uncovered or suspected of being uncovered during excavation.

Terrestrial Resources



Natural environment features, such as wildlife habitat and vegetated/wooded areas associated with Bear Creek, located approximately 250 metres west of the project, occur adjacent to the project study area. Preliminary species-at-risk (SAR) habitat assessments, general wildlife assessments, and Ecological Land Classification field studies have been completed. The project will be constructed on private agricultural lands with little to no potential for SAR or SAR habitat. Potential for SAR may occur in natural areas in proximity to the project.

Potential effects

- Damage or removal of vegetation and wildlife habitat in the construction area.
- Disturbance and/or mortality to local wildlife.

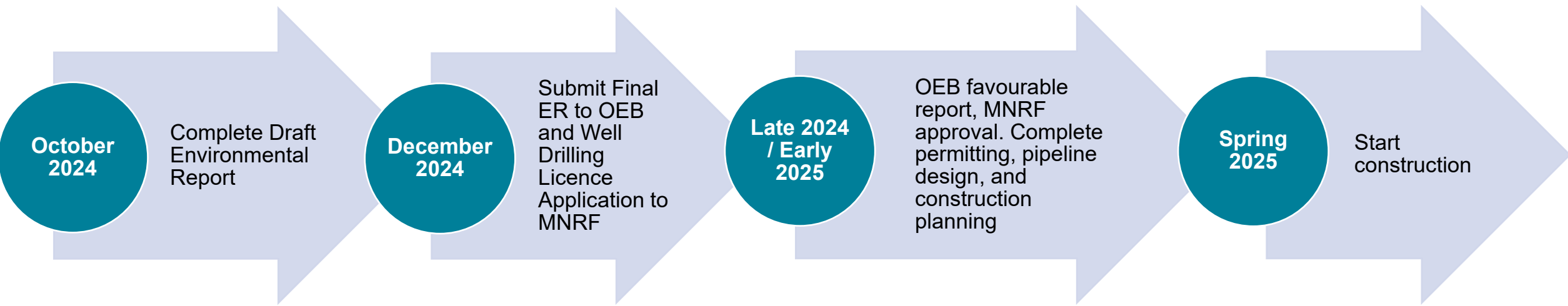
Example mitigation measures

- Conduct surveys in advance of construction to determine potential wildlife and wildlife habitat presence (including SAR).
- Complete tree removal outside of migratory bird windows (typically from April 1 to August 31), to the extent possible.
- The limits of the workspace should be clearly marked to avoid encroachment into adjacent natural environment areas.
- Restore and seed disturbed areas to establish habitat and reduce erosion, if required.
- Secure necessary permits and follow conditions of approval.

Next Steps



After this Virtual Public Information Session, Enbridge Gas intends to pursue the following schedule of activities:



Thank you!

On behalf of the project team, thank you for attending the presentation. Please complete a Comment Form by September 23, 2024, or send an email to 2025WaubunoWellProject@dillon.ca for your comments to be considered as part of the Environmental Report.

Bill Olds

Project Manager
Dillon Consulting Limited
Phone: 905-902-5521

For more information about the proposed project, please visit the Enbridge Gas project website at:
www.enbridgegas.com/2025wellproject.



2025 Waubuno Well Drilling Project – Virtual Public Information Session Presentation Transcript

Slide No.	Slide Title	Transcript
1	Not Applicable (N/A) – Title Slide	<p>Hello and welcome to the 2025 Waubuno Well Drilling Project Virtual Public Information Session!</p> <p>At any time, you can press pause or stop this presentation. You will also have the opportunity to download the transcript to this video on the Virtual Public Information Session website, or on the Enbridge Gas project website. Links are provided on the next slide and at the end of the presentation.</p>
2	Welcome	<p>This Virtual Public Information Session will be live for one week from Thursday, August 29, 2024 to Friday, September 6, 2024. After Friday, September 6, 2024, this presentation, accompanying video transcript, and the comment form will be available for download on the Enbridge Gas website at www.enbridgegas.com/2025wellproject.</p> <p>You can provide your input on the 2025 Waubuno Well Drilling Project by:</p> <ul style="list-style-type: none"> • Completing the comment form available on the Virtual Public Information Session website at www.WaubunoWellDrilling.ca • Visiting the Enbridge Gas project website • Emailing the project team at 2025waubunowellproject@dillon.ca <p>Please submit your comments by September 23, 2024 for consideration in the Environmental Report that will be submitted to the Ontario Energy Board.</p>
3	Enbridge Gas' Commitment	<p>Enbridge Gas provides safe and reliable delivery of natural gas to more than 3.9 million residential, commercial, and industrial customers across Ontario.</p> <p>Enbridge Gas will carefully consider all input on the project and is dedicated to engaging with Indigenous communities, agencies, interest groups, and community members throughout the regulatory process. Enbridge Gas commits to providing up-to-date information in an open, honest, and respectful manner.</p> <p>Enbridge Gas is committed to environmental stewardship and conducts all of its operations in an environmentally responsible manner.</p>

Slide No.	Slide Title	Transcript
4	Enbridge Gas' Engagement with Indigenous Peoples	<p>Enbridge recognizes the diversity of Indigenous peoples who live where we work and operate. We understand that certain laws and policies have had destructive impacts on Indigenous cultures, languages, and the social and economic well-being of Indigenous peoples. We also recognize the importance of reconciliation between Indigenous peoples and broader society. We are committed to building positive and sustainable relationships with Indigenous peoples, based on trust and respect, and focused on finding common goals through open dialogue.</p> <p>The Indigenous engagement program is based on adherence to the Ontario Energy Board Guidelines and Enbridge Inc.'s company-wide Indigenous Peoples Policy, which Enbridge Gas follows. Enbridge's Indigenous Peoples Policy lays out key principles for establishing relationships with Indigenous groups, including:</p> <ul style="list-style-type: none"> • Recognizing the importance of the United Nations Declaration on the Rights of Indigenous peoples in the context of existing Canadian law. • Recognizing the legal and constitutional rights possessed by Indigenous peoples in Canada and the importance of the relationship between Indigenous Peoples and their traditional lands and resources. • Engaging early to achieve meaningful relationships with Indigenous groups by providing timely exchanges of information, understanding, and addressing Indigenous project-specific concerns, and ensuring ongoing dialogue regarding its projects, their potential impacts and benefits. <p>Aligning Enbridge's interests with those of Indigenous communities through meaningful, direct Indigenous economic activity in projects corresponding to community capacity and project needs, where possible</p>
5	Purpose of the Public Information Session	<p>The purpose of this Public Information Session is to:</p> <ul style="list-style-type: none"> • Provide information on the project purpose and illustrate the proposed construction activities that will occur within the Waubuno Designated Storage Area; • Consult with Indigenous communities and engage with members of the public and regulatory authorities regarding the proposed project, potential impacts, and proposed mitigation; and, • Provide an opportunity for these individuals and affected landowners to review the proposed project and ask questions and/or provide comments to representatives from Enbridge Gas and Dillon Consulting.
6	Project Overview	<ul style="list-style-type: none"> • The project will involve the drilling of one new natural gas well and installation of approximately 100 metres of steel natural gas pipeline in the Waubuno Designated Storage Area, located in St. Clair Township on privately owned lands. • The project will start with the construction of a permanent access road and a temporary gravel drilling pad measuring up to 80 metres by 100 metres. • After the well is drilled, a permanent gravel pad measuring 8 metres by 12 metres will be installed around the well and the new 100-metre pipeline will be installed. • The project is needed for the safe and reliable delivery of natural gas to existing and future Enbridge Gas customers.
7	Project Components	<p>This map provides an overview of the proposed project components. The temporary gravel pad is shown in blue, the permanent pad is shown in grey, the well is represented by a dark blue circle, the proposed permanent access road is shown in orange, and the proposed pipeline is shown in purple hatching. You may pause this video if you need additional time to review the map. An interactive map is available on the Virtual Public Information Session website.</p>

Slide No.	Slide Title	Transcript
8	Environmental Study Process	<p>As part of the planning process, Enbridge Gas has retained Dillon Consulting to undertake an environmental study for the project. The study will fulfill the requirements of the Ontario Energy Board’s 8th Edition of the <i>Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario</i>.</p> <p>The ongoing study:</p> <ul style="list-style-type: none"> • Undertakes engagement to understand the views of interested and potentially affected parties. • Includes consultation with Indigenous communities to understand interests and potential impacts. • Is conducted during the earliest phase of the project. • Identifies potential impacts of the project. • Develops environmental mitigation and protective measures to avoid or reduce potential impacts. • Develops an appropriate environmental inspection, monitoring, and follow-up program.
9	Review and Approval Process	<p>It is anticipated that the Environmental Report for the study will be completed in December 2024. The Environmental Report will present a summary of the environmental findings of the study, describe land requirements, summarize consultation with Indigenous communities and engagement with agencies, interest groups, and community members on the project, outline safety measures, and provide appropriate measures for impact mitigation and monitoring.</p> <p>Pending a positive recommendation from the Ontario Energy Board to the Minister of Natural Resources for the issuance of a well drilling licence under section 40 of the <i>Ontario Energy Board Act</i>, construction is planned to begin as early as spring 2025.</p> <p>Additional information about the Ontario Energy Board process can be found on the Ontario Energy Board website. Information on well drilling licence applications can be found on the Ontario Government website.</p>
10	Consultation and Engagement	<p>We are committed to a comprehensive consultation process and want to hear from you. Consultation and engagement are key components of the Environmental Report.</p> <p>At the outset of the project, Enbridge Gas submits a Project Description to the Ministry of Energy and Electrification. Upon review, the Ministry determines potential impacts on Aboriginal or treaty rights and identifies Indigenous communities that Enbridge Gas will consult with during the entirety of the project.</p> <p>The consultation and engagement program helps identify and address Indigenous community and stakeholder concerns and issues, provides information about the project to the stakeholders, and allows for participation in the project review and development process.</p> <p>Input received during the public information session, and from comment forms, and emails submitted to the project inbox will be used to inform the development of mitigation plans for the project.</p>
11	Environmental Assessment Process and Timeline	<p>This slide outlines the general environmental assessment process for the Project, beginning with the Notice of Upcoming Project and Notice of Study Commencement through to submission of the final Environmental Report to the Ontario Energy Board and well drilling licence application to the Ministry of Natural Resources and Forestry.</p>

Slide No.	Slide Title	Transcript
12	Environment, health and safety policy	<p>Enbridge Gas is committed to protecting the health and safety of all individuals affected by its activities.</p> <p>Enbridge Gas will provide a safe and healthy working environment and will not compromise the health and safety of any individual. Its goal is to have no workplace incidents and to mitigate, to the extent feasible, its impacts on the environment. To achieve this goal, Enbridge Gas will work with our stakeholders, peers, and others to promote responsible environmental practices and continuous improvement.</p> <p>Enbridge Gas is committed to environmental protection and stewardship, and recognizes that pollution prevention, biodiversity, and resource conservation are key to a sustainable environment. All employees are responsible and accountable for contributing to a safe working environment, for fostering safe working attitudes, and for operating in an environmentally responsible manner.</p>
13	Access and Land Requirements	<p>This project will be constructed on private lands in the Waubuno Designated Storage Area and will require a permanent easement as well as temporary working space during construction.</p> <p>Enbridge Gas has a comprehensive Landowner Relations Program that uses a dedicated Lands Advisor who would:</p> <ul style="list-style-type: none"> • Provide direct contact and liaison between landowners and Enbridge Gas. • Be available to the landowner during the length of the project and throughout construction activities. • Act as a singular point of contact for all landowners, and address concerns and questions. • Address legal matters relating to the temporary use of property, access agreements, permanent easements, and impacts or remedies to property.
14	Wellhead Design, Construction and Safety	<p>Enbridge Gas takes many steps to safely and reliably operate their network of natural gas systems and storage facilities, such as:</p> <ul style="list-style-type: none"> • Designing, constructing, and testing systems and facilities to meet or exceed requirements set by industry standards and regulatory authorities; • Ensuring that work is respectful of community activities, regulations and bylaws; • Continuously monitoring their network and facilities; and, • Performing field surveys to detect potential issues and confirm the integrity of the storage facilities. <p>The construction work is temporary. Once the well drilling and pipeline construction activities are complete, areas of temporary disturbance will be restored to as close to pre-construction condition as possible.</p>
15	General Construction Overview – Well Drilling Activities	<p>Typical well drilling activities are outlined on this slide. You may wish to take a moment to review the well drilling activities and figures shown here.</p>
16	Constructing an Enbridge Gas Pipeline	<p>This slide shows a series of photos depicting a typical construction process. You may wish to pause the video at this time in order to review the construction process illustrated in the four photos.</p>

Slide No.	Slide Title	Transcript
17	Pipeline Design	<p>A 100-metre steel pipeline will be installed for the project. The pipeline is designed to meet and/or exceed the standards of the Canadian Standards Association and of the Technical Standards and Safety Authority.</p> <p>Enbridge Gas takes many steps to maintain the safe, reliable operation of their network of natural gas pipelines, including:</p> <ul style="list-style-type: none"> • Designing, constructing, and testing their pipelines to meet or exceed requirements set by industry standards and regulatory authorities; • Continuously monitoring their network; and, • Performing field surveys to detect leaks and confirm that corrosion prevention methods are working as intended.
18	Socio-Economic Features	<p>This slide lists examples of potential effects on the socio-economic environment and the types of mitigation measures that may be considered in the environmental assessment.</p> <p>Measures will be implemented during construction to reduce noise, control dust, and maintain traffic flow on affected roads.</p> <p>It is anticipated that well drilling activities, including pad construction, will occur continuously over a period of up to 4 to 6 weeks until the approximate 640-metre well depth is achieved. Pipeline construction will occur over a period of between 2 to 3 months.</p>
19	Cultural Heritage Resources	<p>A Stage 1 Archaeological Assessment and Cultural Heritage Screening have been completed for the project. The Cultural Heritage Screening Report did not identify federally or provincially designated heritage properties, historic sites, buildings, museums, cemeteries, nor other properties/landscapes of heritage interest within the project area. The Stage 1 Archaeological Assessment property inspection visually confirmed that portions of the project area consisting of agricultural fields retain archaeological potential and will require further assessment. A Stage 2 Archaeological Assessment is recommended and is planned for the fall of 2024.</p> <p>This slide lists examples of potential effects on cultural heritage resources and the types of mitigation measures that may be considered in the environmental assessment.</p>
20	Terrestrial Resources	<p>Natural environment features, such as wildlife habitat and vegetated/wooded areas associated with Bear Creek, located approximately 250 metres west of the project, occur adjacent to the project study area. Preliminary species-at-risk habitat assessments, general wildlife assessments, and Ecological Land Classification field studies have been completed. The project will be constructed on private agricultural lands with little to no potential for species at risk or species at risk habitat. Potential for species at risk may occur in natural areas in proximity to the project.</p> <p>This slide lists examples of potential effects on terrestrial resources and the types of mitigation measures that may be considered in the environmental assessment. Temporary workspace, where required, will be sited to avoid sensitive environmental features.</p>

Slide No.	Slide Title	Transcript
21	Next Steps	<p>After this Public Information Session, Enbridge Gas intends to pursue the following schedule of activities:</p> <ul style="list-style-type: none"> • Completion of the Draft Environmental Report in October 2024 • Submission of supporting evidence, including Final Environmental Report, to the Ontario Energy Board in December 2024 • Application to Ministry of Natural Resources and Forestry for Well Drilling License in December 2024 • Anticipated Ontario Energy Board approval, permitting, and design and construction planning in late 2024 and early 2025 • Anticipated construction starting as early as spring 2025
22	Thank You	<p>Thank you for participating in the Virtual Public Information Session!</p> <p>We want to hear from you! Please complete the comment form on the Virtual Public Information Session website at www.WaubunoWellDrilling.ca to provide your input and opinion of the project. If you would prefer, you can also download the comment form and submit your feedback by email to 2025WaubunoWellProject@dillon.ca.</p> <p>After Friday, September 6, 2024, this presentation, the accompanying video transcript, and comment form will be available for download on the Enbridge Gas website at www.enbridgegas.com/2025WellProject.</p> <p>Please submit your feedback by September 23, 2024 so it can be considered in the Environmental Report that will be submitted to the Ontario Energy Board.</p> <p>For more information, or to submit comments or questions, please use the contact information provided on this slide to contact a member of the project team.</p>

2025 Waubuno Well Drilling Project - Comment Form

We want to hear from you! We encourage you to review the Virtual Public Information Session material. Following your review, please fill out and submit this comment form. Your input is welcome and appreciated. You can also provide your input by email to 2025WaubunoWellProject@dillon.ca

* Indicates required question

1. Email *

2. Name *

3. How did you hear about the project? (Select all that apply)

Check all that apply.

- Received Notice via Email
- Received Notice via Standard Mail (Canada Post)
- Newspaper
- From a Friend or Neighbour
- Social Media
- Other: _____

4. Do you own property, live, or work in the vicinity of the project?

Mark only one oval.

- Yes
- No, but I am interested in the project

5. Please explain your interest in the project

6. Which group represents you best?

Mark only one oval.

- Landowner or resident in the area
- Member of an Indigenous community
- Member of a community interest group
- Government employee or official
- Other: _____

7. What is your view of the proposed project?

Mark only one oval.

- I am supportive
- I am not supportive
- No opinion at this time

8. Please explain your view of the project (supportive or not supportive)

9. Are there any environmental, socio-economic, or cultural heritage features adjacent to the project that you would like to identify?

10. Are there any potential effects from the project (e.g., to you, your property, business, or otherwise) and any mitigation measures that you think Enbridge Gas should consider?

11. Was sufficient information provided on the Ontario Energy Board and environmental assessment process?

Mark only one oval.

Yes

No

12. Did this Virtual Public Information Session meet your expectations?

Mark only one oval.

Yes, completely

Yes, well enough

No

13. If you answered no to the previous question, please indicate why.

14. Overall, how would you rate your satisfaction with this Virtual Public Information Session?

Mark only one oval.

- Very satisfied
- Satisfied
- Neither Satisfied nor Dissatisfied
- Dissatisfied
- Very Dissatisfied

15. Please provide any additional comments, questions, or feedback that you have with regards to the project.

Collection and Use of Personal Information

Any personal information (PI), such as names and addresses, collected by Enbridge Gas Inc. (EGI) 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. EGI 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 I

Indigenous Consultation Logs

Table I-1: Aamjiwnaang First Nation (“AFN”)

Line Item	Date	Method	Summary of Enbridge Gas Inc. ("Enbridge Gas") Consultation Activity	Summary of Community Consultation Activity	Issues or Concerns Raised and Enbridge Gas Responses
1.0	May 21, 2024	Email	<p>An Enbridge Gas representative emailed the AFN representative to notify them of the Waubuno Well Drilling Project (“Project”). The Enbridge Gas representative advised that it does not trigger a Leave to Construct (“LTC”), however they are engaging based on Enbridge’s Lifecycle Engagement protocols and keeping AFN informed of work in the area. The Enbridge Gas representative advised that Enbridge Gas was proposing to drill one new natural gas storage well and install approximately 100m of Nominal Pipe Size (“NPS”) 8-inch lateral natural gas pipeline in the Designated Storage Area (DSA) and provided a map of the proposed well location and DSA.</p> <p>The Enbridge Gas representative advised that Enbridge Gas had reached out to the Ministry of Energy for delegation of the Duty to Consult and expects to hear from them in the next couple of weeks.</p> <p>The Enbridge Gas representative also advised that there will also be upcoming Stage 2 archaeology fieldwork and TMHC would be reaching out for monitoring opportunities.</p>		
1.1	May 24, 2024	Email	<p>Timmins Martelle Heritage Consultants (TMHC), acting on behalf of Enbridge Gas, emailed the AFN representatives to advise that they would be completing the Stage 2 archaeology fieldwork. TMHC provided an anticipated date for the fieldwork and advised AFN to reach out to Enbridge Gas to complete the monitoring agreement.</p>		
1.2	August 19, 2024	Email	<p>An Enbridge Gas representative emailed the AFN representative to provide the Project Notification. The Enbridge Gas representative also provided them with the Virtual Information Session and map. The Enbridge Gas representative advised them to reach out if they had any questions.</p>		

Line Item	Date	Method	Summary of Enbridge Gas Inc. ("Enbridge Gas") Consultation Activity	Summary of Community Consultation Activity	Issues or Concerns Raised and Enbridge Gas Responses
1.3	August 19, 2024	Email		An AFN representative emailed the Enbridge Gas representative to provide them an additional contact to include in all information being provided going forward.	
1.4	August 20, 2024	Email		An AFN representative emailed the Enbridge Gas representative to invite them to present about the Project at the upcoming Environment Committee Meeting and provided various potential dates for the presentation.	
1.5	August 20, 2024	Email	An Enbridge Gas representative emailed the AFN representative to confirm receipt of the additional contact to be included going forward.		
1.6	August 21, 2024	Email		An AFN representative emailed the Enbridge Gas representative to provide updated available time slots for the presentation.	
1.7	August 22, 2024	Email	An Enbridge Gas representative emailed the AFN representative to confirm a presentation time on September 17, 2024. The Enbridge Gas representative requested a virtual meeting invite for those not attending in person.		
1.8	August 26, 2024	Email		An AFN representative emailed the Enbridge Gas representative to confirm the date and time for the presentation and to advise that a link will be sent soon.	
1.9	August 29, 2024	Email		An AFN representative emailed the Enbridge Gas representative to provide the presentation guidelines.	
1.10	September 12, 2024	Email	An Enbridge Gas representative emailed the AFN representative to provide the presentation for the upcoming meeting and to remind the AFN representative to send the virtual meeting link.		
1.11	September 13, 2024	Email		An AFN representative emailed the Enbridge Gas representative to provide the virtual meeting link.	

Line Item	Date	Method	Summary of Enbridge Gas Inc. ("Enbridge Gas") Consultation Activity	Summary of Community Consultation Activity	Issues or Concerns Raised and Enbridge Gas Responses
1.12	September 13, 2024	Email	An Enbridge Gas representative emailed the AFN representative to thank them for the virtual meeting link.		
1.13	September 17, 2024	Meeting	Enbridge Gas representatives met with AFN representatives to provide an overview of the Project. The Enbridge Gas representative went over the Virtual Public information Session and presented the slides describing the Project. Topics of discussion included completion of the species at risk (SAR) survey and permits, archaeology summary, continued monitoring opportunities with Tri-Tribal Monitoring Services (TTMS), Project application and approval process, drilling depth process, and seismic testing. The Enbridge Gas representative advised that the Environmental Report ("ER") will be provided to AFN at the end of the month.	<p>An AFN representative asked if SAR survey has been completed. Enbridge Gas advised that it had not been completed but would be included in the environmental review.</p> <p>An AFN representative asked if permits have been obtained. Enbridge Gas responded that they would be applying to the MNR for a permit for the well drilling.</p> <p>An AFN representative asked about the archaeology summary and noted that they would continue to contact TTMS for monitoring. Enbridge Gas responded that archaeology work was still being completed and TMHC would be reaching out soon.</p> <p>An AFN representative asked about the application process and expectation of approval. An Enbridge Gas representative reviewed the scheduling slide and discussed where Enbridge Gas was in the process and how the process worked.</p> <p>An AFN representative advised they would like the full community to be aware of the Project. Enbridge Gas advised they would continue to work with the Environmental Committee on the Project.</p>	

Table I-2: Chippewas of Kettle and Stoney Point First Nation (“CKSPFN”)

Line Item	Date	Method	Summary of Enbridge Gas Inc. ("Enbridge Gas") Consultation Activity	Summary of Community Consultation Activity	Issues or Concerns Raised and Enbridge Gas Responses
2.0	May 21, 2024	Email	<p>An Enbridge Gas representative emailed the CKSPFN/TFG representative to notify them of an upcoming Project. The Enbridge Gas representative advised that it does not trigger an LTC, however they are engaging based on Enbridge’s Lifecycle Engagement protocols and keeping CKSPFN/TFG informed of work in the area. The Enbridge Gas representative advised that Enbridge Gas is proposing to drill one new natural gas storage well and install approximately 100m of NPS 8-inch lateral natural gas pipeline in the DSA and provided a map of the proposed well location and DSA.</p> <p>The Enbridge Gas representative advised that Enbridge Gas had reached out to the Ministry of Energy for delegation of the Duty to Consult and expects to hear from them in the next couple of weeks.</p> <p>The Enbridge Gas representative also advised that there will also be upcoming Stage 2 archaeology fieldwork and TMHC would be reaching out for monitoring opportunities.</p>		
2.1	May 24, 2024	Email	<p>TMHC, acting on behalf of Enbridge Gas, emailed the CKSPFN/TFG representatives to advise that they would be completing the Stage 2 archaeology fieldwork. TMHC provided an anticipated date for the fieldwork and advised CKSPFN/TFG to reach out to Enbridge Gas to complete the monitoring agreement.</p>		
2.2	May 27, 2024	Email		<p>A CKSPFN/TFG representative emailed TMHC and Enbridge Gas to advise they were interested in participating and seeking a monitor agreement.</p>	
2.3	May 27, 2024	Email		<p>A CKSPFN /TFG representative emailed the Enbridge Gas representative to acknowledge the early notification and advise they were interested in learning more about the cumulative effects assessment and impact assessment and how TFG/CKSPFN might be involved in those studies.</p>	

Line Item	Date	Method	Summary of Enbridge Gas Inc. ("Enbridge Gas") Consultation Activity	Summary of Community Consultation Activity	Issues or Concerns Raised and Enbridge Gas Responses
2.4	May 30, 2024	Email	An Enbridge Gas representative emailed the CKSPFN/TFG representative to provide a monitoring agreement for the Project.		
2.5	May 31, 2024	Email		A CKSPFN/TFG representative emailed the Enbridge Gas representative to confirm receipt of the agreement and to advise that they will provide it back to the Enbridge Gas representative immediately. The CKSPFN/TFG representative advised that they would have a representative available for the planned work.	
2.6	June 5, 2024	Email		A CKSPFN/TFG representative emailed the Enbridge Gas representative to provide them the signed monitoring agreement.	
2.7	June 5, 2024	Email	An Enbridge Gas representative emailed the CKSPFN/TFG representative to confirm receipt of the email.		
2.8	August 19, 2024	Email	An Enbridge Gas representative emailed the CKSPFN/TFG representative to provide the Project Notification. The Enbridge Gas representative also provided them with the Virtual Information Session and map. The Enbridge Gas representative advised them to reach out if they had any questions.		

Table I-3: Chippewas of the Thames First Nation (“COTTFN”)

Line Item	Date	Method	Summary of Enbridge Gas Inc. ("Enbridge Gas") Consultation Activity	Summary of Community Consultation Activity	Issues or Concerns Raised and Enbridge Gas Responses
3.0	May 22, 2024	Email	<p>An Enbridge Gas representative emailed the COTTFN representative to notify them of an upcoming Project. The Enbridge Gas representative advised that it does not trigger an LTC, however they are engaging based on Enbridge’s Lifecycle Engagement protocols and keeping COTTFN informed of work in the area. The Gas Enbridge Gas representative advised that Enbridge Gas is proposing to drill one new natural gas storage well and install approximately 100m of NPS 8-inch lateral natural gas pipeline in the DSA and provided a map of the proposed well location and DSA.</p> <p>The Enbridge Gas representative advised that Enbridge Gas had reached out to the Ministry of Energy for delegation of the Duty to Consult and expects to hear from them in the next couple of weeks.</p> <p>The Enbridge Gas representative also advised that there will also be upcoming Stage 2 archaeology fieldwork and TMHC would be reaching out for monitoring opportunities.</p>		
3.1	May 24, 2024	Email	<p>TMHC, acting on behalf of Enbridge Gas, emailed the COTTFN representatives to advise that they would be completing the Stage 2 archaeology fieldwork. TMHC provided an anticipated date for the fieldwork and advised COTTFN to reach out to Enbridge Gas to complete the monitoring agreement.</p>		
3.2	May 24, 2024	Email		<p>A COTTFN representative emailed the TMHC representative to advise they were interested in archaeology monitoring.</p>	
3.3	May 24, 2024	Email	<p>An Enbridge Gas representative emailed the COTTFN representative to provide a monitoring agreement for the Project.</p>		
3.4	May 24, 2024	Email		<p>A COTTFN representative emailed an Enbridge Gas representative to thank them for getting the monitoring agreement back to them so quickly.</p>	

Line Item	Date	Method	Summary of Enbridge Gas Inc. ("Enbridge Gas") Consultation Activity	Summary of Community Consultation Activity	Issues or Concerns Raised and Enbridge Gas Responses
3.5	August 19, 2024	Email	An Enbridge Gas representative emailed the COTTFN representative to provide the Project Notification. The Enbridge Gas representative also provided them with the Virtual Information Session and map. The Enbridge Gas representative advised them to reach out if they had any questions to reach out.		

Table I-4: Oneida of the Thames First Nation (“Oneida Nation”)

Line Item	Date	Method	Summary of Enbridge Gas Inc. ("Enbridge Gas") Consultation Activity	Summary of Community Consultation Activity	Issues or Concerns Raised and Enbridge Gas Responses
4.0	May 22, 2024	Email	An Enbridge Gas representative emailed the OTFN representative information regarding archaeological fieldwork at the request of another Oneida Nation representative. The Enbridge Gas representative confirmed that they will forward all information on archaeological fieldwork that takes place. The Enbridge Gas representative advised that if they have any questions to contact the Enbridge representative or TMHC representative.		
4.1	May 24, 2024	Email	TMHC, acting on behalf of Enbridge Gas, emailed the Oneida Nation representatives to advise that they would be completing the Stage 2 archaeology fieldwork. TMHC provided an anticipated date for the fieldwork and advised Oneida Nation to reach out to Enbridge Gas to complete the monitoring agreement.		
4.2	May 27, 2024	Email		An Oneida Nation representative emailed the TMHC and Enbridge Gas representative to advise them to involve an Oneida Nation representative.	
4.3	May 27, 2024	Email	An Enbridge Gas representative emailed the Oneida Nation representative to provide the TMHC email and advise they will forward the Oneida Nation contact onto TMHC.		
4.4	August 19, 2024	Email	An Enbridge Gas representative emailed the Oneida Nation representative to provide the Project Notification. The Enbridge Gas representative also provided them with the Virtual Information Session and map. The Enbridge Gas representative advised them to reach out if they had any questions.		

Table I-5: Walpole Island First Nation (“WIFN”)

Line Item	Date	Method	Summary of Enbridge Gas Inc. ("Enbridge Gas") Consultation Activity	Summary of Community Consultation Activity	Issues or Concerns Raised and Enbridge Gas Responses
5.0	May 21, 2024	Email	<p>An Enbridge Gas representative emailed the WIFN representative to notify them of an upcoming Project. The Enbridge Gas representative advised that it does not trigger an LTC, however they are engaging based on Enbridge’s Lifecycle Engagement protocols and keeping WIFN informed of work in the area. The Enbridge Gas representative advised that Enbridge Gas is proposing to drill one new natural gas storage well and install approximately 100m of NPS 8-inch lateral natural gas pipeline in the DSA and provided a map of the proposed well location and DSA.</p> <p>The Enbridge Gas representative advised that Enbridge Gas had reached out to the Ministry of Energy for delegation of the Duty to Consult and expects to hear from them in the next couple of weeks.</p> <p>The Enbridge Gas representative also advised that there will also be upcoming Stage 2 archaeology fieldwork and TMHC would be reaching out for monitoring opportunities.</p>		
5.1	May 24, 2024	Email	<p>TMHC, acting on behalf of Enbridge Gas, emailed the WIFN representatives to advise that they would be completing the Stage 2 archaeology fieldwork. TMHC provided an anticipated date for the fieldwork and advised WIFN to reach out to Enbridge Gas to complete the monitoring agreement.</p>		
5.2	August 19, 2024	Email	<p>An Enbridge Gas representative emailed the WIFN representative to provide the Project Notification. The Enbridge Gas representative also provided the Virtual Information Session and map. The Enbridge Gas representative advised them to reach out if they had any questions.</p>		

Appendix J

Wildlife Species Records

Notes:

- Federal SARA (END = Endangered, THR = Threatened, SC = Special Concern)
- Provincial ESA (END = Endangered, THR = Threatened, SC = Special Concern)
- Ontario S-Rank (S5= widespread in Ontario; S4 = apparently secure; S3 = vulnerable; S2 = imperilled; S1 = extremely rare in Ontario; ? = inexact or uncertain; B = breeding status; N = non-breeding status; SH = considered to be possibly extirpated (historical); SNA = not applicable/non-native)
- *Botanical species identified during records review

Table J-1: Background data review: Bird Species with Known Occurrences within the General Area

Scientific Name	Common Name	SARA	ESA	SRank
<i>Empidonax alnorum</i>	Alder Flycatcher	N/A	N/A	S5B
<i>Corvus brachyrhynchos</i>	American Crow	N/A	N/A	S5B
<i>Carduelis tristis</i>	American Goldfinch	N/A	N/A	S5B
<i>Falco sparverius</i>	American Kestrel	N/A	N/A	S4
<i>Setophaga ruticilla</i>	American Redstart	N/A	N/A	S5B
<i>Turdus migratorius</i>	American Robin	N/A	N/A	S5B
<i>Haliaeetus leucocephalus</i>	Bald Eagle	N/A	SC	S2N,S4B
<i>Icterus galbula</i>	Baltimore Oriole	N/A	N/A	S4B
<i>Hirundo rustica</i>	Barn Swallow	THR	SC	S4B
<i>Poecile atricapillus</i>	Black-capped Chickadee	N/A	N/A	S5
<i>Cyanocitta cristata</i>	Blue Jay	N/A	N/A	S5
<i>Polioptila caerulea</i>	Blue-gray Gnatcatcher	N/A	N/A	S4B
<i>Vermivora cyanoptera</i>	Blue-winged Warbler	N/A	N/A	S4B
<i>Dolichonyx oryzivorus</i>	Bobolink	THR	THR	S4B
<i>Certhia americana</i>	Brown Creeper	N/A	N/A	S5B
<i>Toxostoma rufum</i>	Brown Thrasher	N/A	N/A	S4B
<i>Molothrus ater</i>	Brown-headed Cowbird	N/A	N/A	S4B
<i>Bombycilla cedrorum</i>	Cedar Waxwing	N/A	N/A	S5B
<i>Setophaga pensylvanica</i>	Chestnut-sided Warbler	N/A	N/A	S5B
<i>Spizella passerine</i>	Chipping Sparrow	N/A	N/A	S5B
<i>Petrochelidon pyrrhonota</i>	Cliff Swallow	N/A	N/A	S4B

Scientific Name	Common Name	SARA	ESA	SRank
<i>Quiscalus quiscula</i>	Common Grackle	N/A	N/A	S5B
<i>Geothlypis trichas</i>	Common Yellowthroat	N/A	N/A	S5B
<i>Spiza americana</i>	Dickcissel	N/A	N/A	SNA
<i>Picoides pubescens</i>	Downy Woodpecker	N/A	N/A	S5
<i>Sialia sialis</i>	Eastern Bluebird	N/A	N/A	S5B
<i>Tyrannus tyrannus</i>	Eastern Kingbird	N/A	N/A	S4B
<i>Sturnella magna</i>	Eastern Meadowlark	THR	THR	S4B
<i>Sayornis phoebe</i>	Eastern Phoebe	N/A	N/A	S5B
<i>Pipilo erythrophthalmus</i>	Eastern Towhee	N/A	N/A	S4B
<i>Contopus virens</i>	Eastern Wood-pewee	SC	SC	S4B
<i>Sturnus vulgaris</i>	European Starling	N/A	N/A	SNA
<i>Spizella pusilla</i>	Field Sparrow	N/A	N/A	S4B
<i>Ammodramus savannarum</i>	Grasshopper Sparrow	SC	SC	S4B
<i>Dumetella carolinensis</i>	Gray Catbird	N/A	N/A	S4B
<i>Ardea Herodias</i>	Great Blue Heron	N/A	N/A	S4
<i>Myiarchus crinitus</i>	Great Crested Flycatcher	N/A	N/A	S4B
<i>Butorides virescens</i>	Green Heron	N/A	N/A	S4B
<i>Picoides villosus</i>	Hairy Woodpecker	N/A	N/A	S5
<i>Eremophila alpestris</i>	Horned Lark	N/A	N/A	S5B
<i>Carpodacus mexicanus</i>	House Finch	N/A	N/A	SNA
<i>Passer domesticus</i>	House Sparrow	N/A	N/A	SNA
<i>Troglodytes aedon</i>	House Wren	N/A	N/A	S5B
<i>Passerina cyanea</i>	Indigo Bunting	N/A	N/A	S4B
<i>Charadrius vociferus</i>	Killdeer	N/A	N/A	S5B,S5N
<i>Empidonax minimus</i>	Least Flycatcher	N/A	N/A	S4B
<i>Anas platyrhynchos</i>	Mallard	N/A	N/A	S5
<i>Zenaida macroura</i>	Mourning Dove	N/A	N/A	S5
<i>Cardinalis cardinalis</i>	Northern Cardinal	N/A	N/A	S5
<i>Colaptes auratus</i>	Northern Flicker	N/A	N/A	S4B
<i>Icterus spurius</i>	Orchard Oriole	N/A	N/A	S4B
<i>Seiurus aurocapilla</i>	Ovenbird	N/A	N/A	S4B
<i>Dryocopus pileatus</i>	Pileated Woodpecker	N/A	N/A	S5

Scientific Name	Common Name	SARA	ESA	SRank
<i>Protonotaria citrea</i>	Prothonotary Warbler	END	END	S1B
<i>Progne subis</i>	Purple Martin	N/A	N/A	S4B
<i>Melanerpes carolinus</i>	Red-bellied Woodpecker	N/A	N/A	S4
<i>Vireo olivaceus</i>	Red-eyed Vireo	N/A	N/A	S5B
<i>Melanerpes erythrocephalus</i>	Red-headed Woodpecker	END	END	S3
<i>Buteo jamaicensis</i>	Red-tailed Hawk	N/A	N/A	S5
<i>Agelaius phoeniceus</i>	Red-winged Blackbird	N/A	N/A	S4
<i>Columba livia</i>	Rock Pigeon	N/A	N/A	SNA
<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak	N/A	N/A	S4B
<i>Passerculus sandwichensis</i>	Savannah Sparrow	N/A	N/A	S4B
<i>Piranga olivacea</i>	Scarlet Tanager	N/A	N/A	S4B
<i>Melospiza melodia</i>	Song Sparrow	N/A	N/A	S5B
<i>Actitis macularius</i>	Spotted Sandpiper	N/A	N/A	S5
<i>Tachycineta bicolor</i>	Tree Swallow	N/A	N/A	S4B
<i>Baeolophus bicolor</i>	Tufted Titmouse	N/A	N/A	S4
<i>Cathartes aura</i>	Turkey Vulture	N/A	N/A	S5B
<i>Poocetes gramineus</i>	Vesper Sparrow	N/A	N/A	S4B
<i>Vireo gilvus</i>	Warbling Vireo	N/A	N/A	S5B
<i>Sitta carolinensis</i>	White-breasted Nuthatch	N/A	N/A	S5
<i>Meleagris gallopavo</i>	Wild Turkey	N/A	N/A	S5
<i>Empidonax traillii</i>	Willow Flycatcher	N/A	N/A	S5B
<i>Hylocichla mustelina</i>	Wood Thrush	THR	SC	S4B
<i>Setophaga petechia</i>	Yellow Warbler	N/A	N/A	S5B
<i>Coccyzus americanus</i>	Yellow-billed Cuckoo	N/A	N/A	S4B
<i>Vireo flavifrons</i>	Yellow-throated Vireo	N/A	N/A	S4B

Table J-2: Background data review: Fish Species with Known Occurrences within the General Area

Scientific Name	Common Name	SARA	ESA	SRank
<i>Fundulus notatus</i>	Blackstripe Topminnow	SC	SC	S2
<i>Ammocrypta pellucida</i>	Eastern Sand Darter (Ontario populations)	THR	END	S2

Table J-3: Background data review: Mollusc Species with Known Occurrences within the General Area

Scientific Name	Common Name	SARA	ESA	SRank
<i>Quadrula quadrula</i>	Mapleleaf Mussel (Great Lakes - Western St. Lawrence population)	SC	SC	S2
<i>Simpsonias ambigua</i>	Salamander Mussel	END	END	S1
<i>Lampsilis fasciola</i>	Wavy-rayed Lampmussel	SC	THR	S1

Table J-4: Background data review: Mammal Species with Known Occurrences within the General Area

Scientific Name	Common Name	SARA	ESA	SRank
<i>Taxidea taxus jacksoni</i>	American Badger (Southwestern Ontario population)	END	END	N/A
<i>Mustela vison</i>	American Mink	N/A	N/A	S4
<i>Castor canadensis</i>	Beaver	N/A	N/A	S5
<i>Eptesicus fuscus</i>	Big Brown Bat	N/A	N/A	S5
<i>Canis latrans</i>	Coyote	N/A	N/A	S5
<i>Peromyscus maniculatus</i>	Deer Mouse	N/A	N/A	S5
<i>Tamias striatus</i>	Eastern Chipmunk	N/A	N/A	S5
<i>Sylvilagus floridanus</i>	Eastern Cottontail	N/A	N/A	S5
<i>Sciurus carolinensis</i>	Eastern Gray Squirrel	N/A	N/A	S5
<i>Scalopus aquaticus</i>	Eastern Mole	SC	SC	S2
<i>Lasiurus borealis</i>	Eastern Red Bat	N/A	N/A	S4
<i>Myotis leibii</i>	Eastern Small-footed Myotis	N/A	END	S2S3
<i>Mustela erminea</i>	Ermine	N/A	N/A	S5
<i>Urocyon cinereoargenteus</i>	Gray Fox	THR	THR	S1

Scientific Name	Common Name	SARA	ESA	SRank
<i>Lasiurus cinereus</i>	Hoary Bat	N/A	N/A	S4
<i>Cryptotis parva</i>	Least Shrew	N/A	N/A	SH
<i>Mustela nivalis</i>	Least Weasel	N/A	N/A	SU
<i>Myotis lucifugus</i>	Little Brown Myotis	END	END	S4
<i>Mustela frenata</i>	Long-tailed Weasel	N/A	N/A	S4
<i>Sorex cinereus</i>	Masked Shrew	N/A	N/A	S5
<i>Zapus hudsonius</i>	Meadow Jumping Mouse	N/A	N/A	S5
<i>Microtus pennsylvanicus</i>	Meadow Vole	N/A	N/A	S5
<i>Ondatra zibethicus</i>	Muskrat	N/A	N/A	S5
<i>Lontra canadensis</i>	North American River Otter	N/A	N/A	S5
<i>Myotis septentrionalis</i>	Northern Myotis	END	END	S3
<i>Procyon lotor</i>	Northern Raccoon	N/A	N/A	S5
<i>Blarina brevicauda</i>	Northern Short-tailed Shrew	N/A	N/A	S5
<i>Vulpes vulpes</i>	Red Fox	N/A	N/A	S5
<i>Tamiasciurus hudsonicus</i>	Red Squirrel	N/A	N/A	S5
<i>Lasionycteris noctivagans</i>	Silver-haired Bat	N/A	N/A	S4
<i>Sorex fumeus</i>	Smoky Shrew	N/A	N/A	S5
<i>Glaucomys Volans</i>	Southern Flying Squirrel	N/A	N/A	S4
<i>Clethrionomys gapperi</i>	Southern Red-backed Vole	N/A	N/A	S5
<i>Condylura cristata</i>	Star-nosed Mole	N/A	N/A	S5
<i>Mephitis mephitis</i>	Striped Skunk	N/A	N/A	S5
<i>Pipistrellus subflavus</i>	Tri-colored Bat	END	END	S3?
<i>Didelphis virginiana</i>	Virginia Opossum	N/A	N/A	S4
<i>Peromyscus leucopus</i>	White-footed Mouse	N/A	N/A	S5
<i>Odocoileus virginianus</i>	White-tailed Deer	N/A	N/A	S5
<i>Marmota monax</i>	Woodchuck	N/A	N/A	S5
<i>Napaeozapus insignis</i>	Woodland Jumping Mouse	N/A	N/A	S5
<i>Microtus pinetorum</i>	Woodland Vole	SC	SC	S3?

Table J-5: Background data review: Herpetofauna Species with Known Occurrences within the General Area

Scientific Name	Common Name	SARA	ESA	SRank
<i>Anaxyrus americanus</i>	American Toad	N/A	N/A	S5
<i>Ambystoma laterale</i>	Blue-spotted Salamander	N/A	N/A	S4
<i>Thamnophis butleri</i>	Butler's Gartersnake	END	END	S2
<i>Storeria dekayi</i>	DeKay's Brownsnake	N/A	N/A	S5
<i>Pantherophis gloydi</i> pop. 2	Eastern Foxsnake (Carolinian population)	END	END	S2
<i>Thamnophis sirtalis sirtalis</i>	Eastern Gartersnake	N/A	N/A	S5
<i>Hyla versicolor</i>	Gray Treefrog	N/A	N/A	S5
<i>Lithobates clamitans</i>	Green Frog	N/A	N/A	S5
<i>Chrysemys picta marginata</i>	Midland Painted Turtle	N/A	N/A	S4
<i>Lampropeltis triangulum</i>	Eastern Milksnake	SC	N/A	S3
<i>Lithobates pipiens</i>	Northern Leopard Frog	N/A	N/A	S5
<i>Opheodrys vernalis</i>	Smooth Greensnake	N/A	N/A	S4
<i>Chelydra serpentina</i>	Snapping Turtle	SC	SC	S3
<i>Pseudacris crucifer</i>	Spring Peeper	N/A	N/A	S5
<i>Pseudacris triseriata</i> pop. 2	Western Chorus Frog (Carolinian Population)	N/A	N/A	S4
<i>Lithobates sylvaticus</i>	Wood Frog	N/A	N/A	S5

Table J-6: Background data review: Carabidae Species with Known Occurrences within the General Area

Scientific Name	Common Name	SARA	ESA	SRank
<i>Cicindela patruela</i>	Northern Barrens Tiger Beetle	END	END	S1

Table J-7: Background data review: Lepidoptera Species with Known Occurrences within the General Area.

Scientific Name	Common Name	SARA	ESA	SRank
<i>Danaus plexippus</i>	Monarch	SC	SC	S2N,S4B
<i>Erynnis martialis</i>	Mottled Duskywing	N/A	END	S2
<i>Haploa reversa</i>	Reversed Haploa Moth	N/A	THR	S1?

Table J-8: Background data review: Botanical Species with Known Occurrences within the General Area.

Scientific Name	Common Name	SARA	ESA	SRank
<i>Fraxinus quadrangulate*</i>	Blue Ash	SC	THR	S2?
<i>Arisaema dracontium*</i>	Green Dragon	N/A	SC	S3
<i>Carex davisii*</i>	Davis' Sedge	N/A	N/A	S2
<i>Carex muskingumensis*</i>	Muskingum Sedge	N/A	N/A	S3
<i>Cirsium pitcheri*</i>	Pitcher's Thistle	SC	THR	S2
<i>Cornus florida*</i>	Eastern Flowering Dogwood	END	END	S2?
<i>Platanthera leucophaea*</i>	Eastern Prairie Fringed-orchid	END	END	S2
<i>Viola striata*</i>	Striped Cream Violet	N/A	N/A	S3

Appendix K

Incidental Wildlife Observation

Notes:

- Federal SARA (END = Endangered, THR = Threatened, SC = Special Concern)
- Provincial ESA (END = Endangered, THR = Threatened, SC = Special Concern)
- Ontario S-Rank (S5= widespread in Ontario; S4 = apparently secure; S3 = vulnerable; S2 = imperilled; S1 = extremely rare in Ontario; ? = inexact or uncertain; B = breeding status; N = non-breeding status; SH = considered to be possibly extirpated (historical); SNA = not applicable/non-native)

Table K-1: Botanical Species Observed During the Preliminary Field Investigation within the Study Area

Scientific Name	Common Name	SARA	ESA	SRank
<i>Picea</i> sp.	Spruce species			
<i>Bromus inermis</i>	Awnless Brome	N/A	N/A	SNA
<i>Cirsium</i> sp.	Thistle species			
<i>Leucanthemum vulgare</i>	Oxeye Daisy	N/A	N/A	SNA
<i>Solidago</i> sp.	Goldenrod species			
<i>Dipsacus fullonum</i>	Fuller's Teasel	N/A	N/A	SE5
<i>Quercus</i> sp.	Oak species	N/A	N/A	
<i>Asclepias</i> sp.	Milkweed species			
<i>Juglans nigra</i>	Black Walnut	N/A	N/A	S4
<i>Rumex</i> sp.	Dock species	N/A	N/A	SNA
<i>Rhamnus cathartica</i>	Common Buckthorn	N/A	N/A	SNA
<i>Vitis riparia</i>	Riverbank Grape	N/A	N/A	S5
<i>Crataegus</i> sp.	Hawthorn species			
<i>Rubus occidentalis</i>	Black Raspberry	N/A	N/A	S5
<i>Galium</i> sp.	Bedstraw species	N/A	N/A	SNA
<i>Picea</i> sp.	Spruce species			
<i>Bromus inermis</i>	Awnless Brome	N/A	N/A	SNA
<i>Cirsium</i> sp.	Thistle species			
<i>Leucanthemum vulgare</i>	Oxeye Daisy	N/A	N/A	SNA

Scientific Name	Common Name	SARA	ESA	SRank
<i>Solidago</i> sp.	Goldenrod species			
<i>Dipsacus fullonum</i>	Fuller's Teasel	N/A	N/A	SE5
<i>Quercus</i> sp.	Oak species	N/A	N/A	
<i>Asclepias</i> sp.	Milkweed species			
<i>Juglans nigra</i>	Black Walnut	N/A	N/A	S4
<i>Rumex</i> sp.	Dock species	N/A	N/A	SNA
<i>Rhamnus cathartica</i>	Common Buckthorn	N/A	N/A	SNA
<i>Vitis riparia</i>	Riverbank Grape	N/A	N/A	S5
<i>Crataegus</i> sp.	Hawthorn species			

Table K-2: Bird Species Observed During the Preliminary Field Investigation within the Study Area

Scientific Name	Common Name	SARA	ESA	SRank
<i>Branta canadensis</i>	Canada Goose	N/A	N/A	S5
<i>Meleagris gallopavo</i>	Wild Turkey	N/A	N/A	S5
<i>Ardea herodias</i>	Great Blue Heron	N/A	N/A	S4
<i>Cathartes aura</i>	Turkey Vulture	N/A	N/A	S5B
<i>Accipiter striatus</i>	Sharp-shinned Hawk	N/A	N/A	S5
<i>Buteo jamaicensis</i>	Red-tailed Hawk	N/A	N/A	S5
<i>Haliaeetus leucocephalus</i>	Bald Eagle	N/A	SC	S2N,S4B
<i>Charadrius vociferus</i>	Killdeer	N/A	N/A	S5B,S5N
<i>Myiarchus crinitus</i>	Great Crested Flycatcher	N/A	N/A	S4B
<i>Vireo gilvus</i>	Warbling Vireo	N/A	N/A	S5B
<i>Cyanocitta cristata</i>	Blue Jay	N/A	N/A	S5
<i>Eremophila alpestris</i>	Horned Lark	N/A	N/A	S5B
<i>Hirundo rustica</i>	Barn Swallow	THR	SC	S4B
<i>Turdus migratorius</i>	American Robin	N/A	N/A	S5B
<i>Setophaga petechia</i>	Yellow Warbler	N/A	N/A	S5B

Scientific Name	Common Name	SARA	ESA	SRank
<i>Melospiza melodia</i>	Song Sparrow	N/A	N/A	S5B
<i>Passerculus sandwichensis</i>	Savannah Sparrow	N/A	N/A	S4B
<i>Spizella passerina</i>	Chipping Sparrow	N/A	N/A	S5B
<i>Agelaius phoeniceus</i>	Red-winged Blackbird	N/A	N/A	S4
<i>Molothrus ater</i>	Brown-headed Cowbird	N/A	N/A	S4B
<i>Carduelis tristis</i>	American Goldfinch	N/A	N/A	S5B

Table K-3: Mammal Species Observed During the Preliminary Field Investigation within the Study Area

Scientific Name	Common Name	SARA	ESA	SRank
<i>Odocoileus virginianus</i>	White-tailed Deer	N/A	N/A	S5

Table K-4: Herptile Species Observed During the Preliminary Field Investigation within the Study Area

Scientific Name	Common Name	SARA	ESA	SRank
<i>Anaxyrus americanus</i>	American Toad	N/A	N/A	S5
<i>Lithobates clamitans</i>	Green Frog	N/A	N/A	S5
<i>Lithobates pipiens</i>	Northern Leopard Frog	N/A	N/A	S5

Appendix L

Updates to the Environmental Report Following OPCC Review Period

Table L-1: Updates to the Environmental Report (ER) Following OPCC Review Period

Item #	Comment Summary	Revision to the ER
1	The proponent should provide additional rationale (e.g., based on best available literature, Indigenous knowledge, case studies) that a 125-metre buffer around all the Project components is inclusive of all areas likely to be directly or indirectly affected by the proposed Project.	Section 2.1.1 of the ER has been updated to include additional details regarding the rationale for the Project Study Area.
2	The proponent should update the ER to reflect potential Project interactions with groundwater during operations, and vegetation, wildlife and wildlife habitat during construction.	Table 2-3 of the ER has been corrected to indicate that there is potential for Project operations to interact with vegetation and wildlife during construction and groundwater conditions during operations as described in Sections 6.1.2 and 8.1.2 of the ER.
3	The proponent should describe how surface and groundwater flows to Bear Creek will be maintained throughout construction.	Section 4.2.2 of the ER has been updated with additional information about surface and groundwater flows. Section 6.1.2 has been updated with the mitigation of dual-purpose sediment and erosion control and wildlife exclusion fencing.
4	The Study Area has the potential to support reptile species, the proponent should take every reasonable step to protect reptiles and their habitat from potential impacts.	Section 6.1.2 has been updated to include additional mitigation measures for dual-purpose sediment and wildlife exclusion fencing.

Item #	Comment Summary	Revision to the ER
5	The proponent should describe in the ER the extent of removal/disturbance required to complete the proposed Project.	Section 6.2.5 has been updated to provide more details and specific mitigation measures regarding the extent of vegetation clearing and tree pruning required for the Project. In addition, details on tree pruning have been updated throughout the ER and references to tree removals have been removed from the ER.
6	The proponent should replace the statement “with the exception of Barn Swallow (<i>Hirundo rustica</i>) and Bald Eagle (<i>Haliaeetus leucocephalus</i>) ... no SAR or SCC were observed in the Study Area” with “Barn Swallow (<i>Hirundo rustica</i>) and Bald Eagle (<i>Haliaeetus leucocephalus</i>), which are listed as Special Concern provincially under the SARO list (O. Reg. 230/08) were observed in the Study Area”.	Section 4.2.6.2 of the ER was updated to clarify that Barn Swallow and Bald Eagle were observed as fly-overs and that suitable habitat was not observed for these species within the Study Area.
7	The proponent should update the ER to reflect that species listed as Special Concern under the Endangered Species Act are provincially listed SAR.	Section 4.2.7 has been updated to include language to distinguish that references to SAR in the ER refer to those species with the designations of Threatened or Endangered and that are afforded species and habitat protection under the Endangered Species Act.

Item #	Comment Summary	Revision to the ER
8	The proponent should update the ER to describe how the Water Well Monitoring Program survey radius of 1 kilometre was determined.	Section 10.1 of the ER was updated to describe how the Water Well Monitoring Program survey radius was determined.
9	The proponent should include Treaty context and Indigenous occupation of the area in the cumulative effects section of the ER.	<p>The ER has been updated to include Section 7.2.1.1 Treaty History which acknowledges Indigenous occupation of the area and outlines the history of the Treaty History (Huron Tract).</p> <p>Section 7.2.1.2 County of Lambton has also been updated to include an acknowledgement of the historical Indigenous occupation in the area now known as County of Lambton.</p>
10	Completion of Stage 2 Archaeological Assessment (AA) and acceptance by the Ministry of Citizenship and Multiculturalism.	Table 1-1 and Section 6.3.7 of the ER were updated to include the results of the Stage 2 AA and to indicate that the Stage 2 was entered into the Public Register of Archaeological Reports.
11	Obtainment of St. Clair Region Conservation Authority (SCRCA) permit.	Table 1-1, Table 6-1, Table 6-2 of the ER were updated to reflect that a SCRCA permit was obtained for Project construction activities. Specific mitigation measures from the permit were included in Table 6-1 and Table 6-2.

Item #	Comment Summary	Revision to the ER
12	Revision of OEB and MNR Application submission date from October 2024 to December 2024.	Section 1.4.1 of the ER was updated to note that submission of the Final ER to the OEB and Application submission to the MNR is planned for December 2024.