Dawn Parkway Renewal Program: Dawn to Enniskillen: Environmental Report

Draft Report

November 6, 2026

Prepared for:
Enbridge Gas Inc.

Prepared by:
Stantec Consulting Ltd.

Project/File:
160901400

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Stantec

Limitations and Sign-off

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Prepared by _____
(signature)

Sydney Canhoto, BES
Environmental Consultant

Reviewed by _____
(signature)

Mark Knight, MA, RPP, MCIP
Senior Environmental Planner

Approved by _____
(signature)

Dave Wesenger, BES
Operations Leader – Environmental Services

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Executive Summary

Enbridge Gas Inc. (Enbridge Gas) is proposing the Dawn Parkway Renewal Program: Dawn to Enniskillen (the Project). The Project is driven by the need to restore capacity, due to identified integrity features, and to ensure the continued safe and reliable operation of the existing system. The Project involves removing approximately 16.7 kilometres of nominal pipeline size (NPS) 26-inch natural gas pipeline between the existing Dawn Natural Gas Storage and Transportation Facility (the Dawn Hub) in the Township of Dawn-Euphemia and the existing Enniskillen Station in the Township of Enniskillen. The removed pipeline will be replaced with a new NPS 48-inch diameter natural gas pipeline in the location of or in proximity to the existing easement; new permanent easement will be required. Small sections of the NPS 26-inch pipeline may be abandoned in place, in consultation with landowners, where removal is detrimental or not practicable. Upgrades to the Dawn Hub and Enniskillen Station are required at the two stations.

Enbridge Gas has retained Stantec Consulting Ltd. to undertake an environmental study of the construction and operation of the proposed Project. The environmental study will fulfill the requirements of the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition* (2023), as well as relevant federal and provincial environmental guidance and regulations. The Environmental Report, which summarizes the environmental study, will accompany a future Enbridge Gas Leave to Construct application to the OEB for the Project.

Because the new pipeline will parallel the existing Dawn Parkway Transmission System, no alternative routes were proposed. Engagement and consultation were undertaken with Indigenous communities, federal and provincial agencies and authorities, municipal personnel and elected officials, special interest groups and third-party utility owners/operators, and directly affected landowners. Engagement and consultation

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activities included letters and emails, newspaper notices, social media, a Project webpage, a Virtual and In-Person Information Session, and meetings.

The potential effects and impacts of the Project on physical, biophysical, and socio-economic features have been assessed for the Project. In the opinion of Stantec, the recommended program of supplemental studies, mitigation, protective, and contingency measures are considered appropriate to protect the features encountered. Monitoring will assess that mitigation, and protective measures, have been effective in both the short and long term.

The potential cumulative effects of the Project were assessed by considering development that may begin during construction or that may begin sometime in the future. A 100-meter Study Area boundary was used to assess potential effects of the Project and other developments on environmental and socio-economic features. The cumulative effects assessment determined that, provided the mitigation and protective measures outlined in this report are implemented and that concurrent projects implement similar mitigation and protective measures, potential cumulative effects are not anticipated to occur, or if they do occur are not anticipated to be significant.

With the implementation of the recommendations in this Report, continued engagement and consultation, and compliance with applicable permit, regulatory, and legislative requirements, potential adverse residual environmental and socio-economic impacts of the Project are not anticipated to be significant.

DRAFT

Table of Contents

1 Introduction 1
1.1 Project Description 1
1.2 Environmental Study 2
1.2.1 Objectives 2
1.2.2 Process 2
1.2.3 The Environmental Report 4
1.2.4 The OEB Regulatory Process 5
1.2.5 Additional Regulatory Processes 6
2 Engagement and Consultation Program 11
2.1 Objectives 11
2.2 Identifying Interested and Potentially Affected Parties 12
2.2.1 Identifying Indigenous Communities 12
2.2.2 Identifying Interested and Potentially Affected Parties 12
2.3 Communication Methods 13
2.3.1 Letters and Emails 13
2.3.2 Newspaper Notices 14
2.3.3 Social Media 15
2.3.4 Project Webpage 15
2.4 Engagement and Consultation Events 15
2.4.1 Virtual Information Session 15
2.4.2 In-Person Information Session 17
2.4.3 Meetings with Indigenous Communities 17
2.5 Input Received 18
2.5.1 Public Input 18
2.5.2 Agency and Elected Officials Input 21
2.5.3 Municipal Input 22
2.5.4 Interest Group Input 22
2.5.5 Indigenous Input 23
2.6 Issues Resolution 24
2.7 Refinements Based on Input 24
3 Existing Conditions 25
3.1 Study Area 25
3.2 Data Sources 25
3.3 Physical Features 25
3.3.1 Bedrock Geology and Drift Thickness 25

DRAFT

3.3.2 Physiography and Surficial Geology 26
3.3.3 Groundwater 26
3.3.4 Aggregates and Petroleum Resources 27
3.3.5 Soil and Soil Capability 28
3.3.6 Soybean Cyst Nematode (SCN) 29
3.3.7 Agricultural Tile Drainage 29
3.3.8 Natural Hazards and Regulated Areas 29
3.4 Biophysical Features 30
3.4.1 Methods 30
3.4.2 Aquatic Features 32
3.4.3 Terrestrial Features 39
3.5 Socio-Economic Environment 60
3.5.1 Demographics 60
3.5.2 Employment and Business 62
3.5.3 Community Services & Infrastructure 65
3.5.4 Culture, Tourism and Recreational Facilities 68
3.5.5 Air Quality and Noise 69
3.5.6 Land Use 70
3.5.7 Landfills and Contaminated Sites 72
3.5.8 Archaeological Resources 73
3.5.9 Built Heritage Resources and Cultural Heritage Landscapes 74
4 Route Evaluation and Selection 75
4.1 The Process 75
4.2 Input on the Pipeline Route 75
4.3 Confirmation of the Pipeline Route 75
5 Potential Impacts, Mitigation and Protective Measures and Net Impacts ... 76
5.1 Methods 76
5.1.1 Construction 78
5.1.2 Operation and Maintenance 79
5.2 Summary Table 81
6 Cumulative Effects Assessment 100
6.1 Methods 100
6.2 Study Boundaries 101
6.3 Project Inclusion List 102
6.4 Analysis of Cumulative Effects 103
6.4.1 Construction – Year 2028 103
6.4.2 Operation and Maintenance – Year 2032 105
6.5 Summary of Cumulative Effects 106

DRAFT

7 Monitoring and Contingency Plans 107
7.1 Monitoring 107
7.1.1 Exposed Soils 108
7.1.2 Water Wells 108
7.1.3 Watercourse Crossings 109
7.1.4 Vegetation 109
7.1.5 Species at Risk 109
7.1.6 Residents and Businesses 109
7.1.7 Municipal Roads 110
7.1.8 Cultural Heritage Resources 110
7.2 Contingency 111
7.2.1 Contaminated Sites (Suspect Soils Program) 111
7.2.2 Private Water Well Complaint 112
7.2.3 Watercourse Sedimentation 112
7.2.4 Accidental Spills 113
7.2.5 Unexpected Finds: Archaeological or Heritage Resources 114
8 Conclusion 115
9 References 116

List of Tables

Table 1.1 Summary of Potential Environmental Permit and Approval Requirements 7
Table 2.1 Summary of Public Input Received at In-Person Information Session 19
Table 3.1 Watercourses Crossed by the Proposed Pipeline 33
Table 3.2 Fish Species Recorded in the Vicinity of the Proposed Pipeline 37
Table 3.3 Aquatic Species at Risk Recorded in the vicinity (1km) of the Proposed Pipeline 39
Table 3.4 Preliminary Ecological Land Classification in the Study Area 42
Table 3.5 Terrestrial Species of Conservation Concern Recorded in the Vicinity of the Pipeline Route 48
Table 3.6 Terrestrial Species at Risk Recorded in the Vicinity of the Pipeline Route 54
Table 3.7 Population, 2021 60
Table 3.8 Gender, Age and Indigenous Peoples, 2021 61
Table 3.9 Labour Characteristics for Persons > 15 years, 2021 63
Table 3.10 Median Income, 2020 64

DRAFT

Table 5.1 Potential Impacts and Recommended Mitigation and Protective Measures 81

List of Appendices

Appendix A Existing Conditions Figures
Figure 1 Bedrock Geology
Figure 2 Drift Thickness
Figure 3 Physiography
Figure 4 Surficial Geology
Figure 5 Groundwater Conditions
Figure 6 Aggregate and Petroleum Resources
Figure 7 Soil Type
Figure 8 Soil Capabilities
Figure 9 Known Agricultural Tile Drainage
Figure 10 Floodplain and Regulation Limit
Figure 11 Watersheds
Figure 12 Potential Watercourse Crossings
Figure 13 Designated Natural Heritage Features

Appendix B Environmental Alignment Sheets

Appendix C Consultation
C.1 Letter of Delegation
C.2 Project Contact List
C.3 Notice of Upcoming Environmental Study Letters and Preliminary Desktop Environmental and Cultural Heritage Summary Memo
C.4 Notice of Environmental Study Commencement and Information Sessions Letters
C.5 Newspaper Notices
C.6 Information Session Display Boards and Exit Questionnaire
C.7 Project Correspondence
C.8 Indigenous Consultation Record

Appendix D Stage 1 Archaeological Assessment

Appendix E Cultural Heritage Assessment Report, and Cultural Heritage Memo

Appendix F Significant Wildlife Habitat Assessment

Appendix G DFO- Enbridge Gas Generic Watercourse Crossing Drawings

DRAFT

Acronyms / Abbreviations

AMO	Atlas of the Mammals of Ontario
CLI	Canada Land Inventory
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
COTTFN	Chippewas of the Thames First Nation
DFO	Fisheries and Oceans Canada
EASR	Environmental Activity and Sector Registry
ECCC	Environment and Climate Change Canada
ELC	Ecological Land Classification
Enbridge Gas	Enbridge Gas Inc.
ER	Environmental Report
ESC	Erosion and sediment control
FCSI	Federal Contaminated Sites Inventory
GEO	Geospatial Ontario
KM	kilometre
MBCA	*Migratory Birds Convention Act*
MBR	*Migratory Birds Regulation*
MECP	Ministry of the Environment, Conservation and Parks
MCM	Ministry of Citizenship and Multiculturalism
MNR	Ministry of Natural Resources
MTO	Ministry of Transportation
NHIC	Natural Heritage Information Centre
NPS	Nominal Pipeline Size

DRAFT

OBBA	Atlas of Breeding Birds of Ontario
OEB	Ontario Energy Board
OGS	Ontario Geological Survey
OPCC	Ontario Pipeline Coordinating Committee
O. Reg.	Ontario Regulation
Project	Dawn Parkway Renewal Program: Dawn to Enniskillen
PSOL	Protected Species in Ontario List
SAR	Species at Risk
SARA	*Species at Risk Act*
SCA	*Species Conservation Act*
SCN	Soybean Cyst Nematode
SCRCA	St. Clair Region Conservation Authority
SOCC	Species of Conservation Concern
Stantec	Stantec Consulting Ltd.
SWH	Significant Wildlife Habitat
SWHTG	Significant Wildlife Habitat Technical Guide

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1 Introduction

1.1 Project Description

Enbridge Gas Inc. (Enbridge Gas) is proposing the Dawn Parkway Renewal Program: Dawn to Enniskillen (the Project). The Project is driven by the need to restore capacity, due to identified integrity features, and to ensure the continued safe and reliable operation of the existing system. As part of the Dawn Parkway Renewal Program, Enbridge Gas Inc. (Enbridge Gas) is proposing the removal of approximately 16.7 kilometres (km) of nominal pipeline size (NPS) 26-inch diameter natural gas pipeline between the existing Dawn Natural Gas Storage and Transportation Facility (the Dawn Hub) located at Bentpath Line and Dawn Valley Road in the Township of Dawn-Euphemia, and the existing Enniskillen Station located north of Oil Springs Line on Oakdale Road in the Township of Enniskillen (the Project). The removed pipeline will be replaced with a new NPS 48-inch diameter natural gas pipeline in the location of or in proximity to the existing easement; new permanent easement will be required. Small sections of the NPS 26-inch pipeline may be abandoned in place, in consultation with landowners, where removal is detrimental or not practicable. Upgrades to the Dawn Hub and Enniskillen Station are required at the two stations.

Enbridge Gas has retained Stantec Consulting Ltd. (Stantec) to undertake an environmental study of the construction and operation of the proposed Project. The environmental study will fulfill the requirements of the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition* (2023) (OEB Environmental Guidelines).

DRAFT

1.2 Environmental Study

1.2.1 Objectives

A multidisciplinary team of environmental planners and scientists from Stantec conducted the environmental study. Enbridge Gas provided environmental support and engineering expertise throughout the study. The environmental study was completed in accordance with the OEB *Environmental Guidelines* (2023), as well as relevant federal and provincial environmental guidelines and regulations.

The principal objective of the environmental study was to outline various environmental mitigation and protection measures for the construction and operation of the Project while meeting the intent of the OEB *Environmental Guidelines* (2023). To meet this objective, the environmental study was prepared to:

- Complete a detailed review of environmental and socio-economic features and assess the potential environmental impacts of the Project on these features.
- Establish mitigation and protective measures that may be used to reduce or avoid potential environmental impacts of the Project.
- Develop an engagement and consultation program to receive input from interested and potentially affected parties.
- Identify any necessary supplemental studies, monitoring, and contingency plans.

1.2.2 Process

The environmental study was divided into two main phases:

Phase I: Consultation on the Project

The environmental study began by delineating the Study Area for the Project; as the new NPS 48 will parallel the existing Dawn Parkway Transmission System, no alternative routes were proposed.

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The following groups were notified of the Project:

- Indigenous communities
- Federal and provincial agencies and authorities
- Municipal personnel and elected officials
- Special interest groups and third-party utility owners/operators
- Directly affected landowners
- Residents and businesses in proximity to the Project

Communication on the Project with these groups occurred through newspaper notices, letters and emails, social media, and a Project webpage. Feedback on the Project was sought from these groups through a Virtual Information Session, and an In-person Information Session.

Concurrent with engagement and consultation, environmental and socio-economic features in the Study Area were mapped and characterized using relevant published literature, maps, and digital data sources. Geographically based features were incorporated onto a series of digital base maps. Discussions with relevant agencies provided information for compiling the existing conditions inventory and mapping.

The Study Area and maps of existing conditions are in **Appendix A.**

Phase II: Confirmation of the Pipeline Route and Development of the Environmental Report

No feedback was received during the engagement and consultation to result in a change to the pipeline route. The final phase of the environmental study involved the determination of potential environmental and socio-economic impacts and cumulative effects that would result from the Project, and recommending supplemental studies and developing mitigation and protective measures, monitoring, and contingency plans to reduce or avoid potential impacts.

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The environmental study concluded with the preparation of this Environmental Report (ER) and accompanying Environmental Alignment Sheets to identify site-specific mitigation and protective measures to be implemented during construction (Appendix B).

1.2.3 The Environmental Report

The environmental study has relied on technically sound and consistently applied procedures that are replicable and transparent. The ER, which documents the environmental study, will form the foundation for future environmental management activities related to the Project.

The ER is organized into the following sections:

1.0 **Introduction:** provides a description of the Project and the environmental study

2.0 **Engagement and Consultation Program**: provides a description of engagement and consultation activities that were undertaken during the environmental study

3.0 **Existing Conditions**: describes the existing conditions of the physical, biophysical, and socio-economic features in the Study Area

4.0 **Route Evaluation and Selection**: provides an overview of the pipeline route evaluation and selection process

5.0 **Potential Impacts, Mitigation, and Protective Measures**: predicts potential effects and impacts the Project may have upon the existing conditions; describes the mitigation and protective measures to eliminate or reduce the potential effects and impacts of the Project on physical, biophysical, and socio-economic features that have been assessed in the Study Area

DRAFT

6.0 **Cumulative Effects Assessment**: provides an analysis of potential cumulative effects associated with the proposed Project

7.0 **Monitoring and Contingency Plans**: describes monitoring and contingency plans to address potential environmental impacts of the proposed Project

8.0 **Conclusion:** provides a discussion and consideration of the potential environmental impacts associated with the proposed Project

The ER also includes references, and appendices for documentation.

1.2.4 The OEB Regulatory Process

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

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

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1.2.5 Additional Regulatory Processes

Enbridge Gas will also be required to obtain additional environmental permits, approvals, and notifications from federal, provincial, and municipal authorities as outlined in Table 1.1 below. This ER will serve to support these permit and approval applications and notifications.

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Table 1.1 Summary of Potential Environmental Permit and Approval Requirements

Federal Permits and Approvals

Permit/Approval Name	Administering Agency	Description
Clearing of vegetation in accordance with the *Migratory Birds Convention Act, 1994* (MBCA) and *Migratory Birds Regulation 2022* (MBR)	Environment and Climate Change Canada (ECCC)	ECCC does not require a permit to be issued for vegetation clearing, however, precautions need to be taken so that breeding birds and their nests are not harmed or destroyed during the bird nesting season because of construction of the Project. A registration under the Abandoned Nest Registry and monitoring program or a permit is required to remove nests of MBR Schedule 1 species. This includes Pileated Woodpecker (*Dryopcopus pileatus)* and Great Blue Heron (*Ardea herodias)* which could occur in the Project area, with monitoring periods of 36 and 24 months, respectively, under the registration approach.
Review and authorization under the *Fisheries Act* (amended in November 2024)	Fisheries and Oceans Canada (DFO)	At detailed design, proposed work at locations that provide fish habitat will be reviewed to determine the potential for the Project to result in the death of fish or the harmful alteration, disruption, or destruction of fish habitat. The new project submission tool, implemented in October 2026, will be employed to submit the project for review by DFO if it is deemed that the project cannot adhere to the DFO-Enbridge Generic Watercourse Crossing Drawings (see **Appendix G**).

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Permit/Approval Name	Administering Agency	Description
Species at Risk Act (SARA) (2002) (amended in February 2026)	DFO (aquatic species) ECCC (terrestrial species)	Permits are required by those persons conducting activities that may affect species listed on Schedule 1 of the *SARA* as extirpated, endangered, or threatened and which contravene the Act's general or critical habitat prohibitions in watercourses (aquatic species), on federal lands (terrestrial species), or are migratory birds on lands throughout Canada.

Provincial Permits and Approvals

Permit/Approval Name	Administering Agency	Description
Development Permit under Ontario Regulation (O. Reg.) 41/24 of the *Conservation Authorities Act*	St. Clair Region Conservation Authority (SCRCA)	Required for works in SCRCA Regulated Areas.
Environmental Activity and Sector Registry (EASR) (surface and groundwater) under the *Ontario Water Resources Act* (1990) (amended in July 2025)	Ministry of the Environment, Conservation and Parks (MECP)	Under O. Reg 63/16, all construction dewatering projects regardless of dewatering volume can be completed under an EASR.
Species Conservation Act, 2025 (SCA)	MECP	A registration under the *SCA* is required for activities that could adversely affect species listed on the Protected Species in Ontario List (PSOL).

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Permit/Approval Name	Administering Agency	Description
Wildlife Scientific Collector's Authorization under the *Fish and Wildlife Conservation Act* (1997) (amended in June 2023)	Ministry of Natural Resources (MNR)	Permit required to relocate wildlife encountered during construction activities.
License to Collect Fish for Scientific Purposes under the *Fish and Wildlife Conservation Act* (1997) (amended in June 2023)	MNR	Permit required to relocate fish during construction activities.
Entry of archaeological assessment report(s) into the Ontario Public Register of Archaeological Reports	Ministry of Citizenship and Multiculturalism (MCM)	An Archaeological Assessment is required to identify areas of archaeological potential or archaeological resources prior to any ground disturbances and/ or site alterations.
Review of impacts to Built Heritage Resources and Cultural Heritage Landscapes	MCM	Assessments are required to determine the presence or absence of heritage resources in the Study Area.

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Municipal Permits and Approvals

Permit/Approval Name	Administering Agency	Description
By-Law No. 28 of 2016 - A By-Law Restricting Weight of Loads on Highways During a Reduced Load Period	County of Lambton	Seasonal load restrictions apply to designated County roads between March 1 and May 1 each year to protect road infrastructure. Construction vehicle routing, haul routes, and delivery of equipment and materials may be affected during the reduced load period. The roads subject to the restrictions are identified in Figure 1 of the County's Half Load Restrictions By-Law.
Drainage Act, 1990	Lambton County, Township of Dawn-Euphemia, Township of Enniskillen	Notification will be provided to the local drainage superintendent to outline all drain crossings. Depending on the site-specific nature of the drain and crossing activity, approval for the watercourse crossing under the *Drainage Act (1990)* may be required.
Woodland Conservation By-law No. 04 of 2012	Lambton County	Notification will be provided to Lambton County for all tree clearing operations in regulated woodlands. Restoration and compensation in Lambton County are required to meet the intent of the municipal Woodland Conservation By-law.

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2 Engagement and Consultation Program

2.1 Objectives

Consultation is an important component of the OEB *Environmental Guidelines* (2023). Consultation emphasizes the processes of identifying interested and potentially affected parties, informing them about the Project, soliciting information about their values and local environmental and socio-economic circumstances, and receiving input into key Project decisions before those decisions are finalized.

Stantec believes that community involvement and consultation is a critical and fundamental component of this environmental study, and that Indigenous community participation is essential to the Project. To demonstrate that we respect this view, we will use the term “engagement” throughout the remainder of this Report when we refer to seeking input from Indigenous peoples. The engagement and consultation program for the Project included the following objectives:

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

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2.2 Identifying Interested and Potentially Affected Parties

2.2.1 Identifying Indigenous Communities

Engagement with Indigenous communities was guided by the OEB *Environmental Guidelines* (2023), as noted above, and by the Enbridge Gas's Indigenous Peoples Policy.

Indigenous engagement commenced with the submission of a Project description to the Ministry of Energy and Mines; this submission provided details on the Project location and sought to determine the requirements of the duty to consult. In **Appendix C.1**, potentially impacted Indigenous communities were identified by the MEM in a Letter of Delegation dated August 19, 2026.

The Letter of Delegation confirmed that the MEM would be delegating the procedural aspects of consultation in respect to the Project to Enbridge Gas, and that, based on the Crown's assessment, the Aamjiwnaang First Nation, Walpole Island First Nation, Chippewas of Kettle and Stony Point First Nation, Chippewas of the Thames First Nation, and Oneida Nation of the Thames should be consulted.

2.2.2 Identifying Interested and Potentially Affected Parties

Identification of interested and potentially affected parties was undertaken using a variety of sources, including the OEB's OPCC Members List, the MECP Environmental Assessment Government Review Team Master Distribution List, and the experience of Enbridge Gas and Stantec.

The parties listed below were among those considered when developing the initial stakeholder contact lists:

- Federal and provincial agencies and authorities.

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- Municipal personnel.
- Special interest groups and third-party utility owners/operators.

The initial contact list was updated as the environmental study progressed because of changes in personnel, correspondence received, and attendees at the Information Session. The final Stakeholder Contact List, and Indigenous Contact List, is in **Appendix C.2**.

Directly affected and adjacent landowners were identified by Enbridge Gas.

2.3 Communication Methods

2.3.1 Letters and Emails

2.3.1.1 Notice of Upcoming Environmental Study

A Notice of Upcoming Environmental Study letter was sent via email to the Indigenous Contact List and the Stakeholder Contact List and mailed to landowners along the pipeline route on July 6, 2026. The Notice contained a description of the Project, a map of the general area where the Project would take place, and contact details.

Along with the Notice to the Indigenous Contact List, a Preliminary Desktop Environmental and Cultural Heritage Summary Memo was circulated. The Summary Memo outlined the preliminary findings of natural heritage features and cultural heritage information of the environmental study based on initial desktop research and was shared with Indigenous communities to support and facilitate ongoing consultation efforts.

A copy of the Notice, Landowner Letter, and Summary Memo is included in **Appendix C.3**.

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2.3.1.2 Notice of Environmental Study Commencement and Information Sessions

A Notice of Environmental Study Commencement and Information Sessions letter was sent via email to the Stakeholder Contact List on August 4, 2026, and to the Indigenous Contact List on August 6, 2026. The Notice of Environmental Study Commencement and Information Session letter was mailed to landowners along the pipeline route on August 4, 2026, and mailed to landowners via Canada Post Admail on August 4, 2026. The Notice provided information on the Project, the Project route, and the Virtual Information Session and In-Person Information Session.

On August 7, 2026, an email was sent to the previously listed parties with a corrected Virtual Information Session web address. On August 10, 2026, a letter was sent to landowners with a corrected Virtual Information Session web address.

A copy of the Notices and Landowner Letters are provided in **Appendix C.4**.

2.3.2 Newspaper Notices

A Notice of Environmental Study Commencement and Virtual Information Session and In-Person Information Session was published on August 8, 2026, in the Sarnia Observer. The notice provided information on the Project, the Project route, and the Virtual Information Session and In-Person Information Session.

In addition to the formal newspaper notice, information regarding the Project and consultation opportunities was also published by Sarnia News Today on August 27, 2026. The online article provided an overview of the Project and informed the public of the available consultation opportunities. The article also encouraged interested parties to provide feedback to Enbridge Gas as part of the environmental study process.

A copy of the tear sheet from the Sarnia Observer, and a copy of the article in the Sarnia News Today, are in **Appendix C.5**.

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2.3.3 Social Media

The Information Sessions and consultation opportunities were promoted through social media channels managed by Enbridge Gas, including Facebook and X. The social media campaign was used to raise awareness of the Project, provide information on public consultation opportunities, and direct interested parties to additional project information.

The campaign generated engagement, receiving approximately 15,640 views and reaching 8,225 individual viewers. The social media posts resulted in 1,252 engagements, including 1,186 link clicks directing users to project information, 980 landing page views, 45 reactions, 17 shares, and 4 saves.

2.3.4 Project Webpage

A Project webpage was developed by Enbridge Gas which contained information about the Project, a map of the Study Area, and the Project timeline. In the Project Information section, there were tabs which contained other significant information such as project updates, calendar, consultation, regulatory information, and contact information. The Project webpage was communicated to interested and potentially affected parties on the letters, emails, and notice.

2.4 Engagement and Consultation Events

2.4.1 Virtual Information Session

The Virtual Information Session was accessible from August 17, 2026, to September 16, 2026, on a separate project website developed by Stantec. This period was selected to allow ample opportunity to review the Project information and provide input.

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Presentation slides with a voice-over were developed for the Virtual Information Session. The presentation slides included the following general topics:

- Introduction
    - Project Overview and Purpose
    - Consultation & Indigenous Engagement
- Processes
    - Environmental Study Process
    - Regulatory approvals (OEB review and Leave to Construct application process)
    - Access and Land Requirements
- Technical Processes
    - Open Trenching
    - Maintaining Agricultural Drainage Systems
- Existing Conditions (socio-economic features, cultural heritage resources, aquatic resources, terrestrial resources, agricultural soils)
- Next Steps

A link to a questionnaire and an interactive map were also provided. A downloadable version of the presentation slides, script, and the exit questionnaire were provided. The questionnaire requested feedback on a variety of topics including potential impacts, the Project route, and the content of the Virtual Information Session. The interactive map allowed attendees to view the route and Study Area on a web-based map. A search function was made available on the interactive map to locate a specific address, and to review natural environment map layers such as waterways and wooded areas.

For the Virtual Information Session, there were: forty-eight (48) visits to the Project webpage, and five (5) visits to the presentation. No questionnaires were submitted for the Virtual Information Session.

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2.4.2 In-Person Information Session

An In-Person Information Session took place on August 27, 2026, from 5:00 PM to 8:00 PM at the Oil Springs Youth Centre (14517 Victoria Street, Oil Springs, ON). Parties attending the In-Person Information Session were offered an opportunity to register their attendance; a total of forty-five (45) individuals attended the Session, and a total of thirty-one (31) individuals registered their attendance.

The In-Person Information Session provided attendees with an opportunity to review display boards and maps describing the Project. The display boards included the same content as described above for the Virtual Information Session.

Representatives from Enbridge Gas and Stantec were available to answer questions, provide clarification on Project information, and discuss comments or concerns raised by attendees. A questionnaire was made available to attendees to provide feedback on the Project. Light refreshments and snacks were also provided during the event.

One (1) questionnaire was submitted from the In-Person Information Session.

Copies of the display boards and questionnaire are provided in **Appendix C.6**.

2.4.3 Meetings with Indigenous Communities

As a component of the environmental study, Enbridge Gas has reached out to Indigenous communities to meet and discuss the Project. To-date the following meetings have occurred:

- July 24 – Chippewas of Kettle and Stony Point First Nation/Three Fires Group
- August 5 – Chippewas of Kettle and Stony Point First Nation/Three Fires Group
- September 21 – Chippewas of Kettle and Stony Point First Nation/Three Fires Group
- October 5 – Aamjiwnaang First Nation
- October 7 – Chippewas of the Thames First Nation

DRAFT

Discussions with Indigenous communities will continue as Project planning progresses.

2.5 Input Received

The engagement and consultation program allowed input into the Project, which was evaluated and integrated as appropriate. The following sections summarize the input received.

A copy of the Project correspondence tracker is provided in **Appendix C.7**.

2.5.1 Public Input

One landowner contacted the Project Team to inquire whether the proposed pipeline would traverse their property. It was confirmed that the property would not be directly affected by the Project, and no further concerns were identified.

One questionnaire was received during the In-Person Information Session. The respondent questionnaire expressed support for the Project, citing potential employment opportunities, benefits to local businesses, and contributions to Ontario's energy reliability. The respondent also requested that construction-related traffic adhere to local speed limits and stop signs and emphasized the importance of protecting and restoring soil conditions, particularly in areas near tile drains and watercourses. The respondent indicated that the information provided was adequate, did not require additional information, and requested notification once the Project receives approval.

Verbal questions, comments, and feedback received during the In-Person Information Session were documented and reviewed to assist in understanding community interests and concerns. Table 2.1 summarizes the key themes and discussion topics identified through verbal stakeholder feedback received at the In-Person Information Session.

DRAFT

Table 2.1 Summary of Public Input Received at In-Person Information Session

Theme	Summary of Discussion
Project and Construction Details	• Attendees expressed interest in understanding the purpose of the Project and the need for replacement of the existing pipeline. • Questions were raised regarding Project timing, anticipated construction schedules, and construction activities. • Community members sought additional information regarding Project implementation and anticipated timelines. • Attendees requested additional Project-specific information, including property mapping and Project plans. • Attendees sought clarification regarding construction methods, including lift-and-lay activities and how increased pipeline size may affect workspace requirements. • Discussion focused on understanding the relationship between construction approaches, easement widths, and access requirements. • Questionnaire feedback identified anticipated community benefits associated with the Project, including employment opportunities for local skilled trades, support for local businesses, and contributions to Ontario's energy supply.
Land Rights	• Attendees requested information regarding easement agreements, land rights requirements, and Project-related agreements. • Questions were raised regarding potential impacts to properties, easement requirements, and fair compensation for Project-related effects. • Interest was expressed in understanding how additional land requirements would be determined through future surveys and Project design.

DRAFT

Theme	Summary of Discussion
Agriculture	• Attendees discussed existing drainage features, privately maintained ditches, and site-specific agricultural considerations. • Questions were raised regarding potential effects to soils and drainage systems during construction. • Project representatives noted that site-specific conditions would continue to be considered through Project planning and field investigations. • Questionnaire feedback emphasized the importance of protecting and restoring landowner soil conditions, with particular care near creeks and drains.
Environmental	• Landowners discussed potential tree removal and vegetation clearing requirements associated with the Project. • Questions were raised regarding impacts to woodlots and the management of vegetation within the Project area. • Some attendees expressed interest in restoration opportunities following construction. • Attendees identified site-specific environmental considerations that may require attention during Project planning. • Discussion included protection of existing natural features, vegetation management considerations, and awareness of existing site conditions in the Study Area.
Experience from Previous Enbridge Projects	• Community members shared experiences and lessons learned from previous pipeline projects in the area. • Discussion highlighted both historical concerns and positive outcomes from previous projects. • Attendees generally emphasized the value of communication, field representation, and ongoing engagement throughout Project implementation.

DRAFT

Theme	Summary of Discussion
Ongoing Consultation and Communication	• Several attendees emphasized the importance of clear communication and timely responses throughout Project planning and implementation. • Discussion focused on maintaining ongoing communication with affected landowners as the Project advances. • Questionnaire feedback indicated that the information presented provided an adequate understanding of the Project, Environmental Study, and Ontario Energy Board review and approval process, and that the Information Session content met the respondent's needs. • The respondent did not request additional Project or approval-process information but expressed interest in receiving an announcement following Project approval and being contacted if public support is required.

2.5.2 Agency and Elected Officials Input

Six (6) agencies (including OPCC members) and elected officials provided input at the time of writing this ER.

- The Ontario Ministry of Agriculture, Food and Agribusiness provided guidance materials regarding agricultural impact assessments for consideration during the Project.
- The Technical Standards and Safety Authority requested confirmation that Enbridge Gas will apply for Review of Pipeline Project to the OEB.
- SCRCA noted that portions of the Study Area are regulated and that certain activities may require a permit before development begins. SCRCA indicated that additional information could be provided once the Project plans are finalized.
- The Office of the Member of Provincial Parliament for Lambton-Kent-Middlesex acknowledged receipt of the Notice of Upcoming Environmental Study and indicated that the Project information was under review.
- The MCM provided guidance regarding the consideration of cultural heritage resources in pipeline projects. The Ministry recommended completing a combined Stage 1 and Stage 2 archaeological assessment for the entire Study

DRAFT

Area, or at minimum a Stage 1 archaeological assessment, and making every attempt to complete an Existing Conditions and Preliminary Impact Assessment.

- The MNR provided an information package for external proponents undertaking environmental assessments, including information regarding the Ministry's regulatory authority to issue authorizations, permits, licences, and approvals.

2.5.3 Municipal Input

One (1) formal comment was received from municipal representatives at the time of writing this ER:

- The County of Lambton confirmed that it is the road authority for County Road 21, Oil Heritage Road, within the Study Area. The County advised that a county right-of-way permit would be required and requested that it continue to receive Project updates.

The remaining municipal correspondence consisted of acknowledgements and administrative communications, including circulation of Project notices and a correction to the Virtual Information Session web address.

2.5.4 Interest Group Input

The following comments were received from stakeholders and interest groups at the time of writing this ER:

- Hydro One Networks Inc. advised that there are no existing Hydro One transmission lines in the Study Area. Hydro One further noted that if the Study Area is expanded in the future, additional consultation should be undertaken. Hydro One also indicated that any drainage works located in proximity to a Hydro One transmission corridor must be directed away from the corridor.
- Conservation Ontario acknowledged receipt of the Project notices and requested confirmation that the applicable conservation authority had been advised of the corrected Virtual Information Session web address. Stantec subsequently confirmed that the SCRCA had been notified.

DRAFT

- The Lambton Area Water Supply System acknowledged receipt of Project information and advised that it does not have infrastructure assets in the Study Area.

2.5.5 Indigenous Input

Several comments were received from Indigenous communities regarding participation in Project-related ecological surveys (see **Section 3.4.1**). Comments primarily relate to opportunities for Indigenous participation, scheduling and attendance coordination, survey logistics, and information requests.

- COTTFN expressed interest in participating in the ecological surveys. Subsequent correspondence focused on the participation agreement and attendance logistics. COTTFN representatives participated in the three days of ecological surveys. COTTFN also asked for a copy of the Environmental Report, to participate in the archaeological assessment, and asked about the change in pipe diameter.
- Three Fires Group expressed interest in participating in the ecological surveys. Subsequent correspondence focused on the participation agreement and attendance logistics. Three Fires Group representatives participated in the three days of ecological surveys.
- Aamjiwnaang First Nation expressed interest in participating in the ecological surveys. Subsequent correspondence focused on the participation agreement and attendance logistics. An Aamjiwnaang First Nation representative participated in one day of ecological surveys.
- Walpole Island First Nation expressed interest in participating in the ecological surveys. Subsequent correspondence focused on the participation agreement and attendance logistics. A Walpole Island First Nation representative participated in the three days of ecological surveys.

DRAFT

In addition, during meetings with Indigenous communities (see **Section 2.4.3**), discussions have included cumulative-effects considerations, access to and review of environmental information, fieldwork notification and participation for both archaeology and ecology, capacity support, and impacts and accommodations regarding traditional treaty lands.

To accurately document Indigenous engagement activities and ensure follow-up, applicable supporting documents are tracked. Indigenous consultation has been included in the comment-response summary table and corresponding comment records will be submitted to the OEB upon the filing of the Project application. Details of consultation completed up to October 23, 2026, are presented in the Enbridge Gas Indigenous Consultation Record located in **Appendix C.8**.

2.6 Issues Resolution

Through the engagement and consultation program, no input was received that remains unresolved. Should feedback occur that cannot immediately be resolved, Enbridge Gas will endeavor to reach a resolution through meetings and discussions as appropriate and will inform the OEB where there are issues that have not been resolved.

2.7 Refinements Based on Input

At each stage of the engagement and consultation program, input received was compiled, reviewed, and incorporated into the environmental study process. Responses were provided, as applicable, to questions and comments received. To-date no input has been received that has resulted in a change to the environmental study or Project.

Enbridge Gas has committed to on-going engagement and consultation with directly affected and interested parties through detailed design and construction and will continue to respond to concerns through the life of the Project.

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3 Existing Conditions

3.1 Study Area

A Study Area is the area in which existing conditions are reviewed to understand where direct Project interactions with the environment could occur. For the purposes of the environmental study, the boundary of the Study Area was selected by developing a rectangle to encompass the existing Dawn Hub to the south-west and the existing Enniskillen Station to the north-east (see **Appendix A**).

3.2 Data Sources

The existing conditions figures (**Appendix A**) have been generated from data identified on the respective maps. For the socio-economic elements of the assessment, the most recent economy and employment statistics are provided in the 2021 Census of Population (Statistics Canada 2023a). The selected census divisions included Ontario, Lambton County, and the Townships of Dawn-Euphemia and Enniskillen, which are in Lambton County (Statistics Canada 2023a).

3.3 Physical Features

3.3.1 Bedrock Geology and Drift Thickness

The bedrock geology of the Study Area is Upper Devonian-aged shale, predominantly of the Kettle Point Formation (Ontario Geological Survey [OGS] 2022). Hamilton Group shale and limestone is also found in the northcentral area of the Study Area (OGS 2022). A map of bedrock geology is provided in **Appendix A, Figure 1**.

DRAFT

To determine the general depth from the soil surface to the bedrock, drift thickness (also referred to as overburden) was reviewed and results indicate that, in the Study Area, the layer of overburden ranges from 10 to 60 m. As shown on **Figure 2 (Appendix A)**, drift thickness is fairly consistent along the preferred route, with higher drift mapped to the west of the Dawn Compressor Station.

A review of available Water Well Records (WWR) within 500 m of the pipeline reveals there are 58 WWR. These WWR indicate that the depth to shale bedrock is between about 16 to 22 m below ground surface (MECP 2026b).

3.3.2 Physiography and Surficial Geology

The Study Area is in the St. Clair Clay Plains physiographic region of southern Ontario, which is a region characterized as relatively flat, reworked till plains that were deposited and then over-ridden by subsequent glaciation; see **Figure 3, Appendix A** (Chapman and Putnam 1984). These beveled till plains were subsequently smoothed by shallow deposits of lacustrine clay laid down by glacial lakes Whittlesey and Warren (Chapman and Putnam 1984).

As shown in surficial geology mapping (**Figure 4, Appendix A**), the Study Area is predominately underlain by massive well laminated fine-textured glaciolacustrine deposits and glaciolacustrine-derived silty to clayey till (OGS 2010). Modern alluvial deposits are also encountered in association with several creeks and tributaries (OGS 2010) that generally flow into the North Sydenham River (MECP 2026a).

3.3.3 Groundwater

The Study Area contains no significant groundwater recharge areas or highly vulnerable aquifers (MECP 2026a).

DRAFT

There are a total of 58 MECP WWRs located within 500 m of the pipeline (MECP 2026b). Based on well completion depths, the wells are generally screened within the deep overburden gravel deposits just above the shale or within the shale, at depths between 16 m BGS and 22 m below ground surface. No shallow overburden supply wells were noted. For these overburden wells, water levels ranged from 1.5 m to 12.8 m below ground surface.

Regional groundwater flow near the Study Area in the overburden aquifer is generally to the southwest towards Lake St. Clair (WHI 2007), with local groundwater flow conditions impacted by surface water features.

There are no municipal groundwater supply wells in the SCRCA regulated limits (MECP 2026a).

Groundwater conditions are shown on **Figure 5, Appendix A**.

3.3.4 Aggregates and Petroleum Resources

A review of the County of Lambton Official Plan (2020), the Township of Dawn-Euphemia Official Plan (2014), the Township of Enniskillen Official Plan (2026), the Oil, Gas and Salt Resources Library (OGSR 2026), and the MNR Pits and Quarries Map (MNR 2023) determined that there are no aggregate resources located in the Study Area, though there are a number of active, suspended, and abandoned petroleum pools. The proposed pipeline route intersects three active natural gas storage areas and one abandoned oil pool.

Oil and gas pools are shown on **Figure 6, Appendix A**.

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3.3.5 Soil and Soil Capability

Along the proposed pipeline, two soil types are mapped in the Ontario Ministry of Natural Resources data base, Brookston clay and Bottom Land soils (Ontario GeoHub, 2019a) – see **Figure 7, Appendix A**. As described in the Lambton County Soil Survey, Brookston clay is the most found soil in the county. Historically, the agricultural uses considered viable on these heavy textured lands were pasture, hay, and some grains because Brookston clay is the poorly drained soil in the Huron catena. Modern farming practices, including installing agricultural tile drainage, greatly improve these lands to the extent of making them able to produce good yields of wheat, alfalfa, corn, soybeans and sugar beets (Mathews et al. 1957).

Soil adjacent to watercourses and subject to flooding during part or all the year are mapped as Bottom Land in the county level soil surveys. These recently deposited soils consist of layered sand, silts, and clays interspersed with layers of organic matter. Good yields of farm crops can be obtained if flooding does not occur during the normal growing season of the crop.

Soil capability for agriculture is mapped as the Canada Land Inventory for Agriculture (CLI) by Agriculture and Agri-Food Canada. Lands classified as Class 1 are the most agriculturally productive, while those classified as Class 7 have the lowest capability for agriculture. Class 1 to 5 agricultural lands are generally arable, while classes 1 through 3 are prime agricultural soils for common field crop production. The CLI system of classification assumes that all cost-effective improvements have been undertaken therefore it is assumed that Brookston clay lands have been tile drained. Most soil along the pipeline route is Class 2 prime agricultural soils, with soil adjacent to watercourses mapped as Class 5 (see **Figure 8, Appendix A**).

DRAFT

3.3.6 Soybean Cyst Nematode (SCN)

Soybean cyst nematode (SCN) (*Heterodera glycines*) is a soil borne parasite that can significantly impact soybean yields. SCN can be 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).

3.3.7 Agricultural Tile Drainage

Along the proposed pipeline route there are multiple properties mapped as containing systematic agricultural tile drains, and there are no properties mapped as containing random agricultural tile drains (Ontario GeoHub 2019b).

Agricultural tile drains are shown on **Figure 9, Appendix A**.

3.3.8 Natural Hazards and Regulated Areas

Natural hazards are elements of the physical environment that have the potential to affect a project in an adverse manner. Potential natural hazards in the Study Area are limited. Natural hazards that may occur in the Study Area are seismic activity, and extreme weather causing flooding and high winds.

The Study Area is in the Southern Great Lakes Seismic Zone (Natural Resources Canada 2026). This zone has a low to moderate level of seismicity when compared to the more active seismic zones to the east, along the Ottawa River and in Quebec. Over the past 30 years, on average, 2 to 3 magnitude 2.5 or larger earthquakes have been recorded in the southern Great Lakes region. By comparison, over the same time period, the smaller region of Western Quebec experienced 15 magnitude 2.5 or greater earthquakes per year.

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The proposed pipeline route crosses floodplain and regulation limits as mapped by the SCRCA. Floodplain and regulation limits of the SCRCA are shown on **Figure 10, Appendix A**.

3.4 Biophysical Features

3.4.1 Methods

3.4.1.1 Background Data Review

The purpose of the background review was to complete a desktop review of terrestrial and aquatic resources that may occur in the Study Area. This includes determining locations and characteristics (e.g., flow regime, thermal regime, drain classification) of potential surface water features, and identifying the presence of designated natural heritage areas and records of species at risk (SAR) and species of conservation concern (SOCC). A variety of background documents and sources of information were consulted during the preparation of the ER including:

- Natural Heritage Information Centre (NHIC) (MNR 2026a)
- Geospatial Ontario (GEO) Mapping (MNR 2026b)
- DFO Species at Risk Mapping (DFO 2026a)
- Atlas of Breeding Birds of Ontario (OBBA) (Cadman et al. 2007)
- Ontario Butterfly Atlas Online (Macnaughton et al. 2026)
- Ontario Moth Atlas (Kaposi et al. 2026)
- Ontario Reptile and Amphibian Atlas (Ontario Nature 2019)
- Atlas of the Mammals of Ontario (AMO) (Dobbyn 1994)
- iNaturalist (iNaturalist 2026)
- eBird Canada (eBird 2026)
- County of Lambton Official Plan (2020)
- Township of Dawn-Euphemia Official Plan (2014)
- Township of Enniskillen Official Plan (2026)

DRAFT

- Little Brown Myotis (*Myotis lucifugus*), the Northern Myotis (*Myotis septentrionalis*), and the Tri colored Bat (*Perimyotis subflavus*): recovery strategy 2018 (ECCC 2018)
- Committee on the Status of Endangered Wildlife in Canada (COSEWIC) Assessment and Status Report on Hoary Bat *Lasiurus cinereus* Eastern Red Bat *Lasiurus borealis* and Silver-haired Bat *Lasionycteris noctivagans* in Canada (COSEWIC 2023)
- High resolution satellite imagery of the Study Area (Google Earth Pro 2026)
- Tree Atlas (MNR 2026c)

A list of SAR and SOCC with recent records (i.e., within the past 20 years) in the Study Area was compiled based on the results of this background data review. Some of the desktop sources provide data at a scale of 10 x 10 km, and therefore a recent species record is not confirmation that the species may be present in the Study Area. Therefore, SAR and SOCC desktop results were screened and species were removed from consideration if there was no potential habitat identified in the Study Area on satellite imagery or during preliminary field investigations. SAR and SOCC that have the potential to occur in the Study Area are discussed in **Sections 3.4.3.3.3 and 3.4.3.3.4**.

3.4.1.2 Site Investigations

A site investigation was completed by Stantec in the Study Area from September 1-3, 2026. The site investigation was limited to documenting aquatic and terrestrial features in the Study Area from municipal lands (i.e., road allowance) and did not include accessing privately-owned lands.

The purpose of the site investigation was to supplement the results of the background data review and document existing biophysical conditions in the Study Area. Preliminary vegetation classification was completed using Ecological Land Classification (Lee et al. 1998, with 2008 updates) to identify habitat features that may have potential to support SAR, SOCC and significant wildlife habitat (SWH). Additionally, roadside searches for plant SAR documented in the background review were completed, and incidental

DRAFT

observations of wildlife were recorded. For aquatic resources, all roadside watercourses identified in the background data review were visited to determine hydrologic regimes and habitat characteristics. If fish were observed, they were also recorded.

3.4.2 Aquatic Features

3.4.2.1 Fish and Fish Habitat

The proposed pipeline crosses portions of the Black Creek subwatershed in the jurisdiction of the SCRCA. The proposed pipeline crosses 25 watercourses, many of which are municipal drains.

Where available, the thermal regime and DFO Drain Class of watercourses crossed by the proposed pipeline is provided below by subwatershed, along with the hydraulic regime, and summarized in Table 3.1. Fish species documented in each watershed are provided in Table 3.2. Watersheds and watercourses crossed by the proposed pipeline are shown on **Figures 11** and **Figure 12**, respectively, in **Appendix A**.

Black Creek Subwatershed

Watercourse crossings along the proposed pipeline are in the Black Creek Subwatershed, which drains an area of approximately 324 km^2 to the Sydenham River. According to the SCRCA, approximately 62% of the watercourses in this subwatershed consist of open municipal drains and 16% are classified as natural (SCRCA 2018).

Fifty-one fish species have been recorded in the subwatershed, including large gamefish species such as Northern Pike (*Esox lucius*), Largemouth Bass, and Yellow Perch (SCRCA 2018). Six SAR fish species have been documented in the subwatershed, including: Blackstripe Topminnow, Channel Darter, Eastern Sand Darter, Lake Sturgeon, Pugnose Minnow, and Pugnose Shiner (SCRCA 2018).

DRAFT

In the Black Creek Subwatershed, in the Study Area, three Special Concern SAR fish have been mapped by DFO (see **Figure 12**) as follows

- Blackstripe Topminnow – SC3, SC18, SC19, SC21, SC23, and SC25
- Northern Sucker – SC18, and SC19
- Spotted Sucker – SC3, SC18, and SC19

Ten freshwater mussel species have been identified in the subwatershed report card (SCRCA 2018) however they are not listed by name. In addition to these ten species, the following SAR mussels have also been documented: Eastern Pondmussel (*Ligumia nasuta*), Fawnsfoot, Kidneyshell, Mapleleaf Mussel, Northern Riffleshell, Rayed Bean, Round Hickorynut, Round Pigtoe, Salamander Mussel. Snuffbox, and Wavy-rayed Lampmussel. Mapleleaf mussels are mapped by DFO in Currie Creek Drains (SC8), A tributary of Black Creek (SC18), and McLister Drain (SC19) crossings however they are Special Concern species and not protected under SARA.

The proposed pipeline crosses a ditch (SC1) beside Cuthbert Road, just to the east of the existing Dawn Hub. This ditch flows north towards Booth Creek Drain, not south towards Bentpath Line as suggested in mapping available on GeoHub (MNR 2026) and DFO (DFO 2026).

Table 3.1 Watercourses Crossed by the Proposed Pipeline

Station ID	Watercourse Name	Drain Type[1]	Thermal Regime[2]	Hydraulic Regime[3]	Fish Habitat[4]	SAR
SC1	Unnamed Tributary of Booth Creek Drain	Not Ranked	Unknown	Intermittent	Seasonal	No
SC2	Unnamed Tributary of Booth Creek	Not Ranked	Unknown	Intermittent	Seasonal	No

DRAFT

Station ID	Watercourse Name	Drain Type[1]	Thermal Regime[2]	Hydraulic Regime[3]	Fish Habitat[4]	SAR
SC3	Booth Creek	E2	Warm	Permanent	Yes, fish observed	BT, SS
SC4	Unnamed Tributary of Booth Creek at Robinson	Not Ranked	Unknown	Permanent	Yes, fish observed in standing water	No
SC5	McKay Drain	E2	Unknown	Permanent	Yes, not surveyed	No
SC6	Unnamed Tributary of Booth Creek at Marthaville	Not Ranked	Unknown	Intermittent	Yes, fish observed in standing water	No
SC7	Stevenson Drain	F	Unknown	NS	NS	No
SC8	Unnamed Tributary of Currie Creek Drain	F	Unknown	Permanent	Yes, fish observed in standing water	BT, NS, SS, MM
SC9	Unnamed Tributary of Currie Creek Drain at Teamway	F	Unknown	Intermittent	Seasonal	No
SC10	Crooked Creek (Elsam Drain)	C	Warm	Permanent	Yes, fish observed	No
SC11	Crooked Creek at Esterville	NR	Warm	Permanent	Yes, fish not observed	No
SC12	Unnamed Tributary of Crooked Creek	NR	Unknown	NS	NS	No

DRAFT



Station ID	Watercourse Name	Drain Type[1]	Thermal Regime[2]	Hydraulic Regime[3]	Fish Habitat[4]	SAR
SC13	Unnamed Tributary	F	Unknown	Intermittent	Seasonal	No
SC14	Unnamed Tributary	F	Unknown	Intermittent	No, not connected to fish habitat.	No
SC15	Unnamed Tributary at Pantry School	F	Unknown	Intermittent	Seasonal	No
SC16	Unnamed Tributary at Aberfeldy	NR	Unknown	Intermittent	Seasonal	No
SC17	Tributary of Black Creek	NR	Unknown	Intermittent	No	No
SC18	Scott Drain	NR	Unknown	Permanent	Yes, fish observed	BT, NS, SS, MM
SC19	McLister Drain	F	Unknown	Intermittent	Seasonal	BT, NS, SS, MM
SC20	Black Creek	NR	Unknown	Permanent	Yes, fish observed	No
SC21	Unnamed Tributary of Black Creek	F	Unknown	Intermittent	Seasonal	BT
SC22	Dale Drain at Wanstead	F	Unknown	Intermittent	Seasonal	No

DRAFT

Station ID	Watercourse Name	Drain Type[1]	Thermal Regime[2]	Hydraulic Regime[3]	Fish Habitat[4]	SAR
SC23	Black Creek (Groves Drain)	NR	Unknown	Permanent	Yes, fish not observed	BT
SC24	Unnamed tributary of Black Creek at Oil Springs	NR	Unknown	Intermittent	Seasonal	No
SC25	Cameron Drain	F	Unknown	Intermittent	Yes, fish observed	BT

Notes:

[1]DFO Drain Classification:

C – Permanent flow, no sensitive fish species

E2 – Contains sensitive species that require gravel substrate, and riparian and in-stream vegetation.

F – Intermittent or ephemeral drain

NR – Not ranked.

[2]GEO (MNR 2026)

[3]Hydraulic Regime as determined from GEO and field visit in Sept 2026:

Intermittent – Observed to be dry or only pool of standing water during survey or recorded as intermittent on GEO

Permanent – Permanent flow regime as observed in field or recorded on GEO

NS – Not surveyed

[4]Fish Habitat Potential as determined in Sept 2026:

Seasonal – Likely provides fish habitat seasonally

Yes – Fish observed or assumed to be present based on suitable habitat t

NS – Not surveyed

[5]Aquatic Special Concern SAR (DFO 2026a):

BT – Blackstripe Topminnow

NS-Northern Sunfish

SS – Spotted Sucker

MM – Mapleleaf Mussel

DRAFT

Table 3.2 Fish Species Recorded in the Vicinity of the Proposed Pipeline

Fish Species		Watercourse		
Species Common Name	**Species Scientific Name**	**Booth Creek**	**Crooked Creek**	**Black Creek**
Blackside Darter	*Percina maculata*	X	X	
Blackstripe Topminnow	*Fundulus notatus*	X	X	
Bluntnose Minnow	*Pimephales notatus*	X	X	
Brown Bullhead	*Ameiurus nebulosus*	X		
Central Mudminnow	*Umbra limi*		X	X
Common Carp	*Cyprinus carpio*	X		
Common Shiner	*Luxilus cornutus*		X	X
Creek Chub	*Semotilus atromaculatus*		X	X
Emerald Shiner	*Notropis atherinoides*		X	
Fathead Minnow	*Pimephales promelas*		X	
Golden Shiner	*Notemigonus crysoleucas*		X	
Green Sunfish	*Lepomis cyanellus*	X	X	
Johnny Darter	*Etheostoma nigrum*	X	X	
Northern Pike	*Esox lucius*	X		
Pugnose Minnow	*Opsopoeodus emiliae*		X	
Redfin Shiner	*Lythrurus umbratilis*	X		
Spotfin Shiner	*Cyprinella spiloptera*	X	X	
Spotted Sucker	*Minytrema melanops*	X		
Sunfish Species	*Centrarchidae sp.*	X	X	
Tadpole Madtom	*Noturus gyrinus*	X		
White Crappie	*Pomoxis annularis*	X		

DRAFT

Fish Species		Watercourse		
Species Common Name	**Species Scientific Name**	**Booth Creek**	**Crooked Creek**	**Black Creek**
Yellow Bullhead	*Ameiurus natalis*	X		

Notes:
Data compiled from the following sources:
GEO Aquatic Resources Area Data (MNR, 2026a)
SCRCA Subwatershed Report Cards (SCRCA 2013a and 2013b)

3.4.2.2 Aquatic Species at Risk

According to DFOs aquatic SAR mapping (DFO 2026a), none of the watercourses at the proposed crossings support aquatic SAR that are regulated under Schedule 1 of the SARA (**Figure 12, Appendix A**). In-water work at locations that support a SARA Schedule 1 Threatened or Endangered species would require approval under the SARA. Based on DFO's aquatic SAR mapping (2026a) three fish and one mussel species listed as Special Concern under SARA may occur in the vicinity (1km) of the proposed pipeline (Table 3.3). These include Blackstriped Topminnow, Northern Sunfish, Spotted Sucker, and Mapleleaf.

According to GEO (MNR 2026b) fish community data, Pugnose Minnow has been documented in Crooked Creek and Elsam Drain downstream of the Study Area, but they are not mapped as occurring in the vicinity of the proposed crossings (SC10, SC11).

DRAFT

Table 3.3 Aquatic Species at Risk Recorded in the vicinity (1km) of the Proposed Pipeline

Common Name	Scientific Name	Provincial Status (SCA)	Federal Status (SARA)
Blackstripe Topminnow	*Fundulus notatus*		Schedule 1 – Special Concern
Northern Sunfish	*Lepomis peltastes*		Schedule 1 – Special Concern
Spotted Sucker	*Minytrema melanops*		Schedule 1 – Special Concern
Mapleleaf	*Quadrula quadrula*		Schedule 1 – Special Concern

Sources: DFO 2026a, MNRF 2026a, SCRCA and 2018

3.4.3 Terrestrial Features

3.4.3.1 Designated Natural Features

The following designated natural features occur in the Study Area:

- Watercourses (MNR 2026b; see **Section 3.4.2.1**)
- Wooded Areas (MNR 2026b; see **Section 3.4.2.2**)
- Significant Woodlands (Township of Dawn-Euphemia Official Plan 2014, Township of Enniskillen Official Plan 2026)
- Group C Features (County of Lambton Official Plan 2020)

A woodland is defined as a treed area, woodlot or forested area. According to Section 5.2.6.6 of the Township of Enniskillen Official Plan (2026) significant woodlands are "…*forested areas which are designated Environmental Protection in a Primary corridor or Significant Natural Area, or any contiguous forested area that is 2 hectares, or greater in size*." According to the Section 6.2.10 of the Township of Dawn-Euphemia Official Plan (2014), significant woodlands are "…*forested areas which are designated Environmental Protection, in a Primary corridor or Significant Natural Area, or any*

DRAFT

contiguous forested area that is 4 hectares, or greater in size.". Based on these definitions significant woodlands occur in the Study Area. Significant woodlands are mapped on Schedule A the Township of Dawn-Euphemia Official Plan (2014) and on Schedule A of the Township of Enniskillen Official Plan (2026). Wooded areas can be found on **Figure 13, Appendix A**.

According to Section 8 of the County of Lambton Official Plan (2020), Group C features include:

- *features primary corridors, including core areas*
- *linkage features*
- *highly vulnerable aquifers*
- *significant groundwater recharge areas*
- *other surface water features*
- *woodlots other than significant woodlands*
- *other significant natural areas including shrublands, meadows and prairies*

A review of MNR GEO mapping (MNR 2026b) and the NHIC (MNR 2016a) indicates there are no provincially significant wetlands or unevaluated wetlands near the pipeline route. One wetland community (FODM9 / SWDM3-3) was identified during the roadside site investigation in September 2026. Detailed botanical and Ecological Land Classification (ELC) surveys will be conducted in 2027 to confirm the presence and delineate the boundaries of wetlands along the proposed pipeline route. No Areas of Natural and Scientific Interest are located near the pipeline route (MNR 2026b, County of Lambton Official Plan 2020).

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3.4.3.2 Forest and Vegetation Cover

Ecodistrict

The Study Area falls in Ecoregion 7E in the St. Thomas Ecodistrict, Ecodistrict 7E-2 (Wester et al. 2018). This Ecodistrict is approximately 82% pasture/cropland, 15% deciduous forest (associated with the Eastern Temperate Deciduous Forest Vegetation Zone) and 2% of other natural communities. Common trees on fresh to moist sites include Sugar Maple (*Acer saccharum*), American Beech (*Fagus grandifolia*), White Ash (*Fraxinus americana*), Silver Maple (*Acer saccharinum*), Yellow Birch (*Betula alleghaniensis*), Black Ash (*Fraxinus nigra*), American Elm (*Ulmus americana*), Red Maple (*Acer rubrum*), Bur Oak (*Quercus macrocarpa*), American Basswood (*Tilia americana*), Eastern Hop-hornbeam (*Ostrya virginiana*), Green Ash (*Fraxinus pennsylvanica*), Black Cherry (*Prunus serotina*), Bitternut Hickory (*Carya cordiformis*), Trembling Aspen (*Populus tremuloides*), Large-toothed Aspen (*Populus grandidentata*), Balsam Poplar (*Populus balsamifera*), Butternut (*Juglans cinerea*), and Manitoba Maple (*Acer negundo*). Northern Red Oak (*Quercus rubra*) and White Oak (*Quercus alba*) occur more frequently on drier sites. Mixed and coniferous forests are limited, with Tamarack (*Larix laricina*) and Eastern White Cedar (*Thuja occidentalis*) more common on wetter sites, and Eastern White Pine (*Pinus strobus*) mixed with Red Pine (*Pinus resinosa*) occurring in drier areas.

Vegetation Communities

Natural vegetation communities in the Study Area include meadow, naturalized hedgerow, woodland, and forest communities. Table 3.4 summarizes the vegetation communities observed during the 2026 roadside site investigation. As many areas could only be assessed from publicly accessible roadside locations, detailed botanical surveys and ELC assessments will be completed in 2027 to confirm the boundaries and classification of vegetation communities along the proposed pipeline.

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Table 3.4 Preliminary Ecological Land Classification in the Study Area

Forest Communities

ELC Code	ELC Name
FOD	Deciduous Forest
FODM2-2	Dry – Fresh Oak – Hickory Deciduous Forest Type
FODM9 / SWDM3-3	Fresh – Moist Oak – Maple – Hickory Deciduous Forest Ecosite / Swamp Maple Mineral Deciduous Swamp Type
FODM9-4	Fresh – Moist Shagbark Hickory Deciduous Forest Type
FODM11	Naturalized Deciduous Hedge-row Ecosite
FOCM6-1	Dry - Fresh White Pine Naturalized Coniferous Plantation Type

Woodland Communities

ELC Code	ELC Name
WOD	Deciduous Woodland
WODM4	Dry - Fresh Deciduous Woodland Ecosite
WODM5	Fresh - Moist Deciduous Woodland Ecosite

Meadow Communities

ELC Code	ELC Name
ME	Meadow
MEMM3	Dry - Fresh Mixed Meadow Ecosite
MEM / OAGM4	Mixed Meadow / Open Pasture
MEGM4 / THDM3-2	Fresh - Moist Graminoid Meadow Ecosite / Native Shrub Deciduous Hedgerow Thicket Type
MAMM1-2 / MAMM1-12	Cattail Graminoid Mineral Meadow Marsh Type / Common Reed Graminoid Mineral Meadow Marsh Type

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Anthropogenic Communities

ELC Code	ELC Name
CV	Constructed
CVC_3	Heavy Industry
CVR_4	Rural Property
CVR_4 / IAGM1	Rural Property / Agricultural Buildings
IAGM1	Agricultural Buildings
OAG	Open Agriculture
OAG / ME	Open Agriculture / Meadow
OAGM1	Annual Row Crops
OAGM2	Perennial Cover Crops
OAGM3	Specialty Crops
OAGM4	Open Pasture
TAGM5	Fencerow

3.4.3.3 Significant Wildlife Habitat

The Significant Wildlife Habitat Technical Guide (SWHTG) (MNR 2000) and Ecoregion Criteria Schedules for 7E (MNR 2015) provide standard provincial guidance and were used to identify SWH and assess their significance and sensitivity in the Study Area.

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 that are important to migratory and non-migratory species (MNR 2010). Wildlife habitat is considered significant if it is ecologically important in terms of features, functions, representation, or amount, and contributing to the quality and diversity of an identifiable geographic area or Natural Heritage System (MNR 2010).

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Habitats in the Study Area were assessed for candidate SWH using the Ecoregion 7E Criteria Schedules (MNR 2015). The presence of SWH was determined through desktop review (NHIC database) and, if present in the Study Area, were characterized during field investigations.

Targeted surveys, and in some cases, multi-year targeted species-use surveys are generally required to determine if candidate features qualify as confirmed SWH. Because multi-year targeted species-use surveys have not been conducted, SWH features identified during field investigations are considered as candidate, unless they were confirmed through direct observations or background review.

The SWHTG defines four categories of SWH:

1. Habitats of Seasonal Concentrations of Animals
2. Rare Vegetation Communities or Specialized Habitats for Wildlife
3. Habitats of Species of Conservation Concern
4. Animal Movement Corridors

Detailed results of the SWH assessment are provided in **Appendix F**.

3.4.3.3.1 Seasonal Concentration Areas

Habitats of seasonal concentrations of animals are those sites where large numbers of a species gather at one time of the year, or where several species congregate. These areas include deer yards, turtle overwintering areas, snake and bat hibernacula, bat maternity colonies, waterfowl staging areas, raptor roosts, bird nesting colonies, shorebird staging areas, and passerine migration concentrations. Only the best examples of these concentration areas are usually designated as SWH. Areas that support a SAR, or areas where a large proportion of the population may be lost if the habitat is destroyed, are examples of habitats of seasonal concentrations of animals which should be designated as significant (MNR 2000).

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The following Seasonal Concentration Areas may potentially occur in the Study Area:

- Bat maternity colonies: The forest and woodland communities in the Study Area may provide candidate SWH habitat for bat maternity colonies.
- Turtle wintering areas: Watercourses in the candidate SWH for turtle wintering areas in the Study Area.
- Snake Hibernacula: Suitable features for snake hibernacula may occur in the Study Area.

3.4.3.3.2 Rare Vegetation Communities or Specialized Habitats

Rare vegetation communities and specialized habitats for wildlife are two separate components. Rare vegetation communities are those with vegetation communities that are considered rare in the province (e.g., S1-S3). The SWHTG (MNR 2000) identifies many habitats that could be considered specialized habitats, such as habitat for area sensitive species, forests providing a high diversity of habitats, amphibian woodland breeding ponds, turtle nesting habitat, highly diverse sites, as well as seeps and springs. High-quality habitat features generally occur in interior landscapes where habitat is not influenced by edge effects and wildlife mortality that are associated with major roadways.

No rare vegetation communities were identified in the Study Area.

The following Specialized Habitats may potentially occur in the Study Area:

- Amphibian Breeding Habitat (Woodland): Forest habitat in the Study Area may support amphibian breeding through the presence of unmapped wetlands and vernal pools.

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3.4.3.3.3 Habitat for Species of Conservation Concern

Habitat for SOCC includes four types of species: (a) those that are rare, (b) those whose populations are significantly declining, (c) those that have been identified as being at risk to certain common activities, and (d) those with relatively large populations in Ontario compared to the remainder of the globe.

Rare species are considered at five levels: globally rare, federally rare with designations by COSEWIC, provincially rare by the Committee on the Status of Species at Risk in Ontario, regionally rare (at the site region level), and locally rare (at the municipality or site district level). This is also the order of priority that should be assigned to the importance of maintaining species.

Some species have been identified as being susceptible to certain practices, and their presence may result in an area being designated SWH.

For this report, SOCC includes species that are listed as nationally endangered or threatened by COSEWIC; terrestrial species listed on Schedule 1 of the federal SARA but not the SCA; or provincially rare (with a Provincial S-rank of S1 to S3).

Provincial sub-national ranks (S-ranks) are used by the NHIC to set protection priorities for rare species and vegetation communities. They are based on the number of factors such as abundance, distribution, population trends and threats in Ontario and are not legal designations.

The Natural Heritage Reference Manual was developed to provide technical guidance for implementing the natural heritage policies of the Provincial Policy Statement (MNR 2010). SWH includes the habitat of SOCC. Although SOCC do not receive legal protection under the SCA or SARA, their habitat is protected under the PPS (e.g., if it qualifies as SWH), and they may also be afforded protection under the MBCA or the Ontario Fish and Wildlife Conservation Act, 1997.

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Based on the background data review, suitable habitat for a total of 22 SOCC was assessed as potentially present in the Study Area. The SOCC habitat suitability assessment is provided in Table 3.5.

Based on the detailed habitat assessment, the following 18 SOCC were assessed as having suitable habitat in the Study Area:

- Bird SOCC: Barn Swallow (*Hirundo rustica*), Bobolink (*Dolichonyx oryzivorus*), Common Nighthawk (*Chordeiles minor*), Eastern Meadowlark (*Sturnella magna*), Eastern Wood-Pewee (*Contopus virens*), Red-headed Woodpecker (*Melanerpes erythrocephalus*), Wood Thrush (*Hylocichla mustelina*)
- Insect SOCC: Blue-tipped Dancer (*Argia tibialis*), Monarch (*Danaus plexippus*), Tawny Emperor (*Asterocampa clyton*)
- Reptile SOCC: Midland Painted Turtle (*Chrysemys picta marginata*), Snapping Turtle (*Chelydra serpentina*)
- Plant SOCC: Carolina Vetch (*Vicia caroliniana*), Muskingum Sedge (*Carex muskingumensis),* Prairie Milkweed *(Asclepias hirtella),* Ravenfoot Sedge *(Carex crus-corvi),* Shumard Oak (*Quercus shumardii*), Two-flowered Dwarf-dandelion (*Krigia biflora*)

3.4.3.3.4 Animal Movement Corridors

Migration corridors are areas that are traditionally used by wildlife to move from one habitat to another, typically to access different seasonal habitat requirements. Amphibian Corridors require consideration in Ecoregion 7E once significant amphibian breeding habitat is confirmed.

Candidate SWH for wetland amphibian breeding habitat was absent from the Study Area; therefore, candidate SWH for amphibian movement corridors is also absent from the Study Area.

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Table 3.5 Terrestrial Species of Conservation Concern Recorded in the Vicinity of the Pipeline Route

Birds

Common Name	Scientific Name	S-RANK	COSEWIC	SARA	Source	Potential Habitat in the Study Are
Bank Swallow	*Riparia riparia*	S4B	Threatened	Threatened	OBBA	No – vertical eroding banks are absent from the Study Area.
Barn Swallow	*Hirundo rustica*	S4B	Special Concern	Special Concern	OBBA	Yes ─ anthropogenic features (bridges, barns) may provide suitable nesting habitat for Barn Swallow within the Study Area.
Bobolink	*Dolichonyx oryzivorus*	S4B	Special Concern	Special Concern	NHIC, OBBA	Yes – hay fields and pastures may provide suitable nesting habitat for Bobolink in the Study Area.
Chimney Swift	*Chaetura pelagica*	S3B	Threatened	Threatened	OBBA	No – suitable nesting structures (i.e. chimneys) are absent from the Study Area.
Common Nighthawk	*Chordeiles minor*	S4B	Special Concern	Threatened	OBBA	Yes – suitable nesting habitat for Common Nighthawk may occur in the meadows in the Study Area.

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Common Name	Scientific Name	S-RANK	COSEWIC	SARA	Source	Potential Habitat in the Study Are
Eastern Meadowlark	*Sturnella magna*	S4BS3N	Threatened	Threatened	NHIC, OBBA	Yes – hay fields and pastures may provide suitable nesting habitat for Eastern Meadowlark in the Study Area.
Eastern Wood-Pewee	*Contopus virens*	S4B	Special Concern	Special Concern	OBBA	Yes ─ suitable habitat for Eastern Wood-Pewee may occur in the forest communities within the Study Area.
Grasshopper Sparrow	*Ammodramus savannarum*	S4B	Special Concern	-	OBBA	No – suitable grassland habitat absent in the Study Area.
Red-headed Woodpecker	*Melanerpes erythrocephalus*	S3	Endangered	Endangered	NHIC, OBBA	Yes ─ suitable habitat for Red-headed Woodpecker may occur in the forest, hedgerow and woodland communities within the Study Area.
Wood Thrush	*Hylocichla mustelina*	S4B	Special Concern	Threatened	OBBA	Yes ─ suitable habitat for Wood Thrush may occur in the forest communities within the Study Area.

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Insects

Common Name	Scientific Name	S-RANK	COSEWIC	SARA	Source	Potential Habitat in the Study Are
Blue-tipped Dancer	*Argia tibialis*	S3	-	-	Odonata	Yes - suitable habitat for Blue-tipped Dancer may occur in the lowland forest communities within the Study Area.
Monarch	*Danaus plexippus*	S4BS2N	Endangered	Endangered	OBA	Yes – meadows and flowering plants in the Study Area may provide suitable habitat for Monarch.
Tawny Emperor	*Asterocampa clyton*	S3	-	-	OBA	Yes - suitable habitat for Tawny Emperor may occur in the woodland communities within the Study Area.

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Reptiles

Common Name	Scientific Name	S-RANK	COSEWIC	SARA	Source	Potential Habitat in the Study Are
Midland Painted Turtle	*Chrysemys picta marginata*	S4	Special Concern	Special Concern	ORRA	Yes – Watercourses in the Study Area may provide suitable habitat for Midland Painted Turtle.
Snapping Turtle	*Chelydra serpentina*	S3	Special Concern	Special Concern	NHIC	Yes – Watercourses in the Study Area may provide suitable habitat for Snapping Turtle.

Plants

Common Name	Scientific Name	S-RANK	COSEWIC	SARA	Source	Potential Habitat in the Study Are
Carolina Vetch	*Vicia caroliniana*	S2	-	-	NHIC	Yes – forest communities in the Study Area may provide habitat for Carolina Vetch.
Crowned Beggarticks	*Bidens trichosperma*	S2	-	-	NHIC	No – suitable wetland habitat for Crowned Beggartick is absent from the Study Area.
Muskingum Sedge	Carex muskingumensis	S3	-	-	NHIC	Yes –moist meadows in the Study Area may provide habitat for Muskingum Sedge .

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Common Name	Scientific Name	S-RANK	COSEWIC	SARA	Source	Potential Habitat in the Study Are
Prairie Milkweed	*Asclepias hirtella*	S3	-	-	NHIC	Yes – meadow communities in the Study Area may provide suitable habitat for Prairie Milkweed.
Ravenfoot Sedge	*Carex crus-corvi*	S1	-	-		Yes – moist meadows or roadside ditches in the Study Area may provide habitat for Ravenfoot Sedge.
Shumard Oak	*Quercus shumardii*	S3	Special Concern	Special Concern	NHIC	Yes – forest communities in the Study Area may provide habitat for Shumard Oak.
Two-flowered Dwarf-dandelion	*Krigia biflora*	S2	-	-	NHIC	Yes – meadow communities in the Study Area may provide suitable habitat for Two-flowered Dwarf-dandelion.

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

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

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

S4: Apparently Secure—Uncommon but not rare

S? – Rank Uncertain

S#B- Breeding status rank

S#N- Non-Breeding status rank

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3.4.3.4 Species at Risk

For this report, SAR are defined as terrestrial and aquatic species listed as threatened, endangered, and/or extirpated on the PSOL (O.Reg. 60/26) as well as aquatic species listed on Schedule 1 of the federal SARA.

Species listed as threatened, endangered and/or extirpated on the PSOL receive both individual and habitat protection under the SCA. Migratory birds not listed (or protected) on the PSOL are still protected under other regulations, such as the MBCA as well as SARA for species that have federal status (threatened, endangered, and/or extirpated).

Based on the background data review, suitable habitat for a total of 11 SAR was assessed as potentially present in the Study Area. The SAR habitat suitability assessment used background data review, satellite imagery, and field investigation results to assess the habitat suitability for a SAR that had the potential to occur in the Study Area. The SAR habitat suitability assessment is provided in Table 3.6.

The following SAR were assessed as having suitable habitat in the Study Area:

- Mammal SAR: Eastern Small-footed Myotis (*Myotis leibii),* Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*), Tri-colored Bat (*Perimyotis subflavus*), Eastern Red Bat (*Lasiurus borealis*), Hoary Bat (*Lasiurus cinereus*), Silver-haired Bat (*Lasionycteris noctivagans*)
- Insects: Gypsy Cuckoo Bumble Bee (*Bombus bohemicus*)
- Plant SAR: Butternut (*Juglans cinerea*), False Hop Sedge (*Carex lupuliformis*), American Chestnut (*Castanea dentata*)

No SAR were observed during the site investigation completed by Stantec from September 1-3, 2026 (see **Section 3.4.1.2**).

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Table 3.6 Terrestrial Species at Risk Recorded in the Vicinity of the Pipeline Route

Mammals

Common Name	Scientific Name	SRANK	PSOL	SARA	Source	Potential Habitat in the Study Area
Eastern Red Bat	*Lasiurus borealis*	S3	Endangered	Endangered	COSEWIC 2023	Yes - suitable roosting habitat for SAR bats may occur in the forest and woodland communities in the Study Area.
Eastern Small-footed Myotis	*Myotis leibii*	S2S3	Endangered	-	AMO	Yes - suitable roosting habitat for SAR bats may occur in the forest and woodland communities in the Study Area.
Little Brown Myotis	*Myotis lucifugus*	S3	Endangered	Endangered	AMO, ECCC 2018	Yes - suitable roosting habitat for SAR bats may occur in the forest and woodland communities in the Study Area.
Hoary Bat	*Lasiurus cinereus*	S3	Endangered	-	COSEWIC 2023	Yes - suitable roosting habitat for SAR bats may occur in the forest and woodland communities in the Study Area.

DRAFT

Common Name	Scientific Name	SRANK	PSOL	SARA	Source	Potential Habitat in the Study Area
Northern Myotis	*Myotis septentrionalis*	S3	Endangered	Endangered	ECCC 2018	Yes - suitable roosting habitat for SAR bats may occur in the forest and woodland communities in the Study Area.
Silver-haired Bat	*Lasionycteris noctivagans*	S3	Endangered	-	COSEWIC 2023	Yes - suitable roosting habitat for SAR bats may occur in the forest and woodland communities in the Study Area.
Tricolored Bat	*Perimyotis subflavus*	S3?	Endangered	Endangered	ECCC 2018	Yes - suitable roosting habitat for SAR bats may occur in the forest and woodland communities in the Study Area.

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Insects

Common Name	Scientific Name	SRANK	PSOL	SARA	Source	Potential Habitat in the Study Area
Gypsy Cuckoo Bumble Bee	*Bombus bohemicus*	S1S2	Endangered	Endangered	NHIC	Yes – suitable habitat for Gypsy Cuckoo Bumble Bee may occur in meadow, forest or open communities in the Study Area.

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Plants

Common Name	Scientific Name	SRANK	PSOL	SARA	Source	Potential Habitat in the Study Area
American Chestnut	*Castanea dentata*	S2	Endangered	Endangered	NHIC, Tree Atlas	Yes - suitable habitat for American Chestnut occurs in treed areas in the Study Area.
Butternut	*Juglans cinerea*	S3?	Endangered	Endangered	NHIC, Tree Atlas	Yes - suitable habitat for Butternut occurs in treed areas in the Study Area.
False Hop Sedge	*Carex lupuliformis*	S1	Endangered	Endangered	NHIC	Yes - suitable habitat for False Hop Sedge occurs in wet areas in the Study Area.

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

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

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

S4: Apparently Secure—Uncommon but not rare

S? – Rank Uncertain

S#B- Breeding status rank

S#N- Non-Breeding status rank

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The proposed pipeline route is comprised primarily of agricultural lands. Isolated woodlots are present.

Maternity roost habitat for SAR bats, including Little Brown Myotis, Eastern Small-footed Myotis, Eastern Red Bat, Hoary Myotis, Northern Myotis, Silver-haired Bat, and Tricolored Bat, may be present in mature trees located in the woodlands along the pipeline route. During the active season (March 15 – November 30), SAR bats roost during the day in a variety of structures, including behind flaking bark, in leaf clusters, and within tree cavities. During a portion of the active period, some female bat species establish maternity colonies in buildings or large-diameter trees where they give birth and rear their young (COSEWIC 2023).

Suitable habitat for Gypsy Cuckoo Bumble Bee may also be present in agricultural field margins, meadows, hedgerows, cultural communities, and woodland edges along the pipeline route. Gypsy Cuckoo Bumble Bee is a social parasite of other bumble bee species and occurs in a variety of habitats, including meadows, agricultural lands, urban areas, woodlands, and forest edges where suitable host bumble bee colonies and flowering resources are present. The species depends on host bumble bees for reproduction and utilizes a variety of flowering plants as nectar sources.

There is a probability of encountering American Chestnut, Butternut, and False Hop-sedge in the vicinity of the pipeline route.

Butternut is a medium-sized tree commonly found in a variety of habitats throughout Southern Ontario, including woodlands and hedgerows (Farrar 1995). Habitat exists for this species along the pipeline route in the deciduous and mixed forests, cultural woodlands, and hedgerows.

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False Hop-sedge is restricted to the Carolinian Zone in Ontario, and occurs in wet forests, in openings around forest ponds, riverine wetlands, marshes and wet thickets (Oldham 2010). Preferred habitat includes open wetlands that are subject to periodic flooding and vernal pools (COSEWIC 2011a). A record of False Hop-sedge near the Dawn Hub suggests there is potential for this sedge to occur in the woodlots along the pipeline route.

American Chestnut (*Castanea dentata*) historically occurred throughout southern Ontario and is typically associated with dry to mesic deciduous forests, woodland edges, and well-drained sandy or gravelly soils (COSEWIC 2004). Habitat for this species exists along the pipeline route in the deciduous and mixed forests, along fencerows and forest edges.

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3.5 Socio-Economic Environment

3.5.1 Demographics

The population breakdown of the Project area in 2021 is presented in Table 3.7 below.

Table 3.7 Population, 2021

Location	Total Population	Land Area (km^2)	Population Density per km^2	Percent Change from 2016
Ontario	14,223,942	892,411	15.9	5.8
Lambton (County)	128,154	2,999	42.7	1.2
Dawn-Euphemia (Township)	1,968	445	4.4	0.1
Enniskillen (Township)	2,825	338	8.4	1.0

Source: Statistics Canada 2023a, 2023b, 2023c, 2023d

Lambton County has a small population relative to the province of Ontario. The populations of the Townships of Dawn-Euphemia and Enniskillen account for 1.5% and 2.2% of the population of Lambton County respectively. Over half (56.2%) the population of Lambton County resides in the City of Sarnia, which was 72,047 people in 2021 (Statistics Canada 2023e). The Project area is not densely populated and reflects a rural environment.

There was an increase in population in Dawn-Euphemia, Enniskillen, and Lambton County between 2016 and 2021. The percent change in population in Dawn-Euphemia, Enniskillen and Lambton County overall was lower than that of the province of Ontario.

Information regarding the demographics of the population is presented in Table 3.8.

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Table 3.8 Gender, Age and Indigenous Peoples, 2021

Location	Male[1]	Female[1]	Median Age	Population Identifying as Aboriginal[2,3]
Ontario	6,970,855	7,253,085	41.6	406,585
Lambton (County)	63,170	64,980	46.4	6,030
Dawn-Euphemia (Township)	1,055	915	43.6	50
Enniskillen (Township)	1,435	1,390	47.2	70

Notes:

1. Numbers are rounded by Statistics Canada and are reported herein exactly as they are reported by Statistics Canada. Totals may not necessarily add up because of rounding.
2. Estimates associated with this variable are more affected than most by the incomplete enumeration of certain Indian reserves and Indian settlements in the 2021 Census of Population.
3. Aboriginal identity' includes persons who are First Nations (North American Indian), Métis or Inuk (Inuit) and/or those who are Registered or Treaty Indians (that is, registered under the Indian Act of Canada) and/or those who have membership in a First Nation or Indian band. Aboriginal peoples of Canada are defined in the Constitution Act, 1982, section 35 (2) as including the Indian, Inuit and Métis peoples of Canada.

Source: Statistics Canada 2023a, 2023b, 2023c, 2023d

There were more individuals identifying as female than male in Lambton County overall, which is consistent with the province of Ontario. In Dawn-Euphemia and Enniskillen, there were fewer individuals identifying as female than male. The median age is younger in Dawn-Euphemia than Enniskillen township, and Lambton County overall. Additionally, the median age in Enniskillen Township is older than Lambton County. The median age in all 3 municipalities is older than the wider province of Ontario. There were few individuals identifying as Indigenous in either Dawn-Euphemia or Enniskillen. The number of Indigenous people in Lambton County comprise 1.5% of the Indigenous people in Ontario.

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3.5.2 Employment and Business

The most recent economy and employment statistics are provided in the 2021 Census of Population. Table 3.9 summarizes labour characteristics at the time of census in Ontario, County of Lambton, and the Townships of Dawn-Euphemia and Enniskillen.

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Table 3.9 Labour Characteristics for Persons > 15 years, 2021

Location	Total Population 15 years and Over	Labour Force	Employed	Participation Rate (%)	Employment Rate (%)	Unemployment Rate (%)
Ontario	11,782,845	7,399,200	6,492,895	62.8	55.1	12.2
Lambton (County)	106,375	59,655	53,000	56.1	49.8	11.2
Dawn-Euphemia (Township)	1,570	1,025	945	65.3	60.2	7.8
Enniskillen (Township)	2,260	1,455	1,380	64.4	61.1	5.2

Source: Statistics Canada 2023a, 2023b, 2023c, 2023d

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As shown in Table 3.9**Error! Reference source not found.**, in 2021, Lambton County overall had lower participation and employment rates than the wider province of Ontario, whereas Dawn-Euphemia and Enniskillen had overall higher participation and employment rates than the wider province of Ontario.

Median income for households and individuals is presented in Table 3.10.

Table 3.10 Median Income, 2020

Location	Median Total Income of Households ($)	Median Total Income of Individuals ($)
Ontario	$ 79,500	$ 41,200
Lambton (County)	$ 83,000	$ 42,400
Dawn-Euphemia (Township)	$ 83,000	$ 39,200
Enniskillen (Township)	$ 90,000	$ 47,200

Source: Statistics Canada 2023a, 2023b, 2023c, 2023d

Median income of households in Lambton County overall was greater than the provincial median by $3,500. Median income of individuals in Lambton County was greater than the provincial median by $1,200. In Lambton County, the median income of households and individuals was higher in Enniskillen than in Dawn-Euphemia.

The top three occupation classifications in Lambton County included sales and service occupations (24.2%), trades, transport and equipment operators and related occupations included (21.3%), and business, finance and administration occupations (12.1%). These are the same top three occupation classifications in Ontario overall (Statistics Canada 2022). The top three occupation classifications in Dawn-Euphemia included natural resources, agriculture and related production occupations (25.9%), trades, transport and equipment operators and related occupations (25.4%), and sales and service occupations (12.7%). The top three occupation classifications in Enniskillen

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included trades, transport and equipment operators and related occupations (22.7%), natural resources agricultural and related production occupations (19.9%), and sales and service occupations (13.4%).

3.5.3 Community Services & Infrastructure

Permanent and Temporary Accommodations

In 2021, there were 765 occupied private dwellings in the Township of Dawn-Euphemia. Most homes were single-detached houses (745) and the average household size was 2.6 persons. Most occupants were owners and not renters (83%) (Statistics Canada 2023c). In 2021 in Enniskillen Township there were 1,040 occupied private dwellings, the majority of which were also single-detached houses (985), and the average household size was 2.6 persons. Most occupants were owners and not renters (83.3%) (Statics Canada 2023d). In Lambton County overall, in 2021 there were 55,205 occupied private dwellings, the majority of which were single-detached houses (41,905) and the average household size was 2.3 persons. Most occupants were owners and not renters (74.4%) (Statistics Canada 2023b).

The Townships of Dawn-Euphemia and Enniskillen are in Provincial Tourism Region 1 (Southwest Ontario) (MCM 2022). In 2022, the hotel occupancy rate (temporary accommodations) in the Region 1 was 60.6%, an increase from 47.8% in 2021 (MCM 2022) – most likely influenced by COVID-19 restrictions. In 2022 there was a total of 478 temporary accommodations establishments within the Provincial Tourism Region 1. Most of the establishments were hotels (including motor hotels and motels) which numbered 198 (41.4%). There were also 99 RV parks (including campgrounds) (20.7%), 63 camps (including hunting and fishing and recreational vacation camps) (13.2%) and 40 bed and breakfasts (8.4%). The remaining accommodation types included housekeeping cottages/cabins, resorts, and all other types of traveller accommodations (MCM 2022).

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Temporary accommodations within and adjacent to the Study Area are limited to small bed-and-breakfasts.

Water Services

The Lambton Area Water Supply System supplies water to over 100,000 customers located across the County of Lambton, but excluding Dawn-Euphemia (AECOM 2021). The Lambton Area Water Supply System includes a direct filtration water treatment plant and 250km of water main; the system is operated by the Ontario Clean Water Agency (Lambton Area Water Supply System n.d.).

The Township of Enniskillen maintains municipal water infrastructure that supplies potable water to residents and neighbouring municipalities. The Township's water system includes a water reservoir, pumping station, and distribution network that receives treated water from the Town of Petrolia's water treatment plant for delivery throughout the service area (Township of Enniskillen n.d.).

The Township of Dawn-Euphemia Public Works Department is responsible for the operation and maintenance of these systems, including over 143 km of municipal watermains that distribute water to rural areas and the communities of Florence and Rutherford. Water supplied through the Township's distribution system is purchased from the Township of Enniskillen (Township of Dawn-Euphemia n.d.a; Township of Dawn-Euphemia n.d.b).

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Health and Education Services

All of Lambton County is served by the Lambton Public Health. Bluewater Health operations two hospitals in Lambton County; Charlotte Englehart Hospital in Petrolia, Ontario and Bluewater Health in Sarnia, Ontario (County of Lambton 2019a).

There is one elementary public school, Dawn-Euphemia School, in the Study Area which is part of the Lambton Kent District School Board (Lambton Kent District School Board 2017). The Conseil scolaire Viamonde, the Conseil scolaire catholique



Providence and the St. Clair Catholic District School Board also operate schools in Lambton County, but there are no schools in the Study Area (Conseil scolaire Viamonde 2021; Conseil scolaire catholique Providence n.d.; St. Clair Catholic District School Board n.d.). Secondary school students attend high school in nearby Petrolia, Dresden, and Chatham (Ministry of Education, 2022).

Roads, Highways and Culverts

The Public Works department of the County of Lambton is responsible for managing the County of Lambton Road system, which includes almost 650 km of roadway and over 190 bridges and major culverts in both Enniskillen and Dawn-Euphemia Township (County of Lambton n.d.). The Study Area is served by a network of County roads, local municipal roads, and rural concession roads. Key County roads in or adjacent to the Study Area include County Road 26 (Oil Heritage Road), County Road 80 (St. Clair Parkway), County Road 31 (Gravel/Plowing Match Road corridor), and County Road 79 (Nauvoo Road), which provide north-south and east-west. Numerous local roads and concession roads are also present and provide access to agricultural properties and rural residences. The nearest provincial highway is Highway 402, located north of the Study Area in the Township of Enniskillen. No Ministry of Transportation (MTO) highways are in the Study Area.

Policing, Fire and Emergency Response Services

The Township of Dawn-Euphemia and the Enniskillen Township have contracted their Police Services with the Ontario Provincial Police. There are no detachments in the Study Area; the nearest detachments are in Petrolia and Corunna (OPP 2019).

Fire protection services in the Township of Dawn-Euphemia are provided through agreements with the Chatham-Kent Fire and Rescue Service and the Brooke Fire Department. The Chatham-Kent Fire Department (Bothwell Fire Station) provides fire protection services to the western portion of the municipality, while the Brooke Fire

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Department provides service to the eastern portion of the municipality (Township of Dawn-Euphemia n.d.c).

Fire protection services in the Township of Enniskillen are provided through agreements with the Oil Springs Fire Department and the Petrolia and North Enniskillen Fire Department. The Oil Springs Fire Department serves the southern portion of the municipality, while the Petrolia and North Enniskillen Fire Department serves the northern portion of the municipality (Township of Enniskillen n.d.).

Land ambulance services are provided by Lambton County's Emergency Medical Services (Lambton EMS) Department to all the residents of Lambton County.

3.5.4 Culture, Tourism and Recreational Facilities

Residents and visitors to the Township of Dawn-Euphemia have access to a number of cultural, recreational, and community facilities. The Township Official Plan identifies the Florence Fairgrounds and Community Centre and the Shetland Conservation Area as major recreational assets in the municipality. The Florence Fairgrounds and Community Centre support community events and recreational programming, while the Shetland Conservation Area provides opportunities for outdoor recreation and nature appreciation. The Township also supports the development of community trails and linkages between recreational areas and natural features (Township of Dawn-Euphemia 2015). No identified facilities are in the Study Area.

Township of Enniskillen residents, as well as visitors, have access to several cultural, tourism, community, and recreational facilities located in the Study Area, particularly in and around the Village of Oil Springs. The Village contains the Oil Museum of Canada National Historic Site, a significant tourism destination that commemorates the early history of Ontario's petroleum industry. Community and recreational facilities in Oil Springs include the Oil Springs Youth Centre, the Oil Springs Library, and an adjacent baseball diamond used for local recreational activities and community events. Several churches, the Black Creek Golf & Country Club, and other community gathering places

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are also in the Study Area. Additional recreational opportunities are available through local parks and open spaces in Oil Springs and the surrounding rural area (Township of Enniskillen 2015).

3.5.5 Air Quality and Noise

3.5.5.1 Air Quality

The nearest provincial ambient air quality monitoring station to the Project is the Sarnia Air Quality Monitoring Station, located at 700 Christina Street North, Sarnia, Ontario. The station continuously monitors key criteria air contaminants. Based on Air Quality Health Index data recorded at the Sarnia Air Quality Monitoring Station, air quality conditions during 2026 Year-to-Date have been predominately categorized as low risk, with occasional moderate-risk days. No high-risk or very high-risk Air Quality Health Index conditions were identified during the reviewed period. These results indicate that ambient air quality in the vicinity of the Project is generally good and consistent with typical background conditions in the area (Air Quality Ontario 2026).

The landscape in the Study Area comprises agricultural land and natural heritage features. Agricultural operations have the potential to expel air emissions. Although the Study Area does not have a high population density, air emissions will be released through vehicle use.

3.5.5.2 Noise

According to the NPC-300 Environmental Noise Guideline (MECP 2013), the landscape in the Study Area is expected to be categorized as a Class 3 area. This means “a rural area with an acoustical environment that is dominated by natural sounds having little or no road traffic, such as a small community; agricultural area; a rural recreational area such as a cottage or a resort area; or a wilderness area.” Portions of the landscape in the Study Area in proximity to town centers and sub-urban areas would be categorized as a Class 2 area. This means “an area with an acoustical environment that has qualities representative of both Class 1 and Class 3 areas” with an acoustical

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environmental dominated by the activities of people, usually road traffic during the day, and evening and night background sound defined by natural environment and infrequent human activity.

The area is expected to experience a low traffic volume that represents a minimal source of noise. Other minor noise sources in the Study Area include occasional sounds due to agricultural activities and occasional sounds due to domestic activities such as property maintenance and recreation.

3.5.6 Land Use

The Study Area includes portions of the Township of Dawn-Euphemia and the Township of Enniskillen, in the County of Lambton. The pipeline route intersects various land uses designated by these municipalities. Land use in the Study Area is predominantly agriculture.

County of Lambton

The County of Lambton is the upper-tier municipality. The County of Lambton Official Plan was adopted in 2017 and was declared to be in full force and effect on September 18, 2020 (County of Lambton 2020). The pipeline route crosses lands designated Agricultural Area and Natural Heritage System features and corridors associated with watercourses and natural heritage features (County of Lambton 2020).

According to Section 7.8 (Utility Corridors: Electricity/Pipelines/Communications) of the County of Lambton Official Plan, it is the goal of the County to facilitate the provision of utility services important to the County economy while ensuring agricultural lands, natural heritage features, and settlement areas are protected (County of Lambton 2020).

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Township of Dawn-Euphemia

The Township of Dawn-Euphemia is a lower-tier municipality in Lambton County. The Township of Dawn-Euphemia Official Plan has been in effect since 2015. Based on Schedule A of the Official Plan, the Study Area is located primarily in lands designated Agricultural Area, with portions of the Study Area also associated with Hazard and Environmental Protection Areas and Significant Woodlands (Township of Dawn-Euphemia 2014).

According to Section 12.1.1(f) of the Township of Dawn-Euphemia Official Plan, pipelines for the transmission of oil, gas, brine or other liquid products of the oil and gas industry, including associated appurtenances, are permitted in all land use designations, subject to the development policies of the Official Plan (Township of Dawn-Euphemia 2014).

The Township of Dawn-Euphemia Zoning By-law 53 of 2014 has been in effect since November 24, 2014. The Study Area lands are predominantly zoned Agricultural (A1). Environmental Protection zones may also occur in association with natural heritage features, woodlands, wetlands, and hazard lands identified by the Township. According to Section 3.1.5 of Zoning By-law 53 of 2014, nothing in the by-law shall prevent the use of any land for gas, oil, brine or other liquid or gaseous product transmission or distribution pipelines and appurtenances thereto that have been approved by the National Energy Board or the OEB (Township of Dawn-Euphemia 2014).

Township of Enniskillen

The Township of Enniskillen is a lower-tier municipality in Lambton County. The Township of Enniskillen Official Plan has been in effect since 2015. The proposed pipeline crosses lands designated Agricultural Area and Hazard and Environmental Protection Areas. According to the Official Plan, natural gas pipelines and related utility infrastructure are permitted subject to the applicable development policies of the Plan.

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The Township of Enniskillen Zoning By-law 58 of 2015 (Consolidated February 2026) applies to the Study Area. The proposed pipeline is located on lands zoned Agricultural 1 (A1) and may intersect Environmental Protection zones, including Environmental Protection - Hazard (EP-H), Environmental Protection - Woodlot (EP-WD), and/or Environmental Protection - Significant Natural Area (EP-SNA), where applicable. According to Section 3.1.5, nothing in the Zoning By-law prevents the use of land for gas, oil, brine or other liquid or gaseous product transmission or distribution pipelines and associated appurtenances approved by the National Energy Board or Ontario Energy Board.

3.5.7 Landfills and Contaminated Sites

Landfills

In accordance with the MECP's Guideline D-4 Land Use on or Near Landfills and Dumps (1994), active and closed landfills within 500 m of the Study Area were reviewed. The potential location of these sites in the Study Area was determined by cross-referencing Official Plan mapping for the Township of Enniskillen (2026) and the County of Lambton Official Plan mapping (2020) and the MECP's Small and Large Landfill Sites listed on the MECP website (2021).

A review of the MECP Ontario Landfill Sites Map and available municipal planning documents was completed to identify active and closed landfill sites within and adjacent to the Study Area. No active or closed landfill sites were identified within the Study Area or within 500 m of the preferred route. The nearest municipally operated landfill is the Dawn Landfill (4084 Langbank Line), located in the Township of Dawn-Euphemia outside the Study Area (MECP 2026c; County of Lambton 2019).

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Contaminated Sites

Potential contaminated sites within and adjacent to the Study Area were identified through a review of available federal, provincial, and municipal sources, including municipal planning documents, the MECP Brownfields Environmental Site Registry, and the Federal Contaminated Sites Inventory (FCSI).

A review of municipal and County of Lambton planning documents did not identify any designated brownfield areas or known contaminated sites within the Study Area. A review of the Federal Contaminated Sites Inventory (FCSI) did not identify any federal contaminated sites within the Study Area or within 500 m of the preferred route.

3.5.8 Archaeological Resources

A Stage 1 Archaeological Assessment (**Appendix D**) was completed in 2017 for the Study Area. Stage 1 Archaeological Assessments are conducted in compliance with the provincial standards and guidelines set out by the MCM in the 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). A Stage 1 Archaeological Assessment provides information about a study area's geography, history, previous archaeological assessments, and includes a property inspection by a licensed archaeologist to assist in the evaluation of a study area's archaeological potential. Its purpose is to identify areas of archaeological potential and recommend further Archaeological Assessments as necessary (i.e., Stage 2). A property inspection was completed by a licensed Stantec archaeologist on March 30, 2016.

Stantec applied archaeological potential criteria commonly used by the MCM to determine areas of archaeological potential in the Study Area. These variables include proximity to previously identified archaeological sites, historical transportation routes or structures, distance to various types of water sources, soil texture and drainage, glacial geomorphology, elevated topography, and the general topographic variability of the area. Extensive land disturbance can eradicate archaeological potential.

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Overall, the Stage 1 Archaeological Assessment determined that the majority of the Study Area retains potential for the identification of Indigenous and Euro-Canadian archaeological resources.

The Stage 1 Archeological Assessment was reviewed and entered into the Ontario Public Register of Archaeological Reports on July 05, 2017 (see **Appendix D**).

3.5.9 Built Heritage Resources and Cultural Heritage Landscapes

A Cultural Heritage Assessment Report was completed in 2017 for the proposed pipeline route. The report included agency consultation and review of historic mapping available to determine the presence of potential heritage resources and protected properties. In addition, the Cultural Heritage Assessment Report included a site visit, inventory of potential heritage properties, evaluation of cultural heritage value and interest, impact assessment, and development of mitigation recommendations. The assessment determined that one heritage resource was potentially within 50m of the Project footprint. A copy of the Cultural Heritage Assessment Report is provided in **Appendix E**.

In 2026, Stantec completed a Cultural Heritage Memo to re-assess the Study Area, confirm whether the cultural heritage resources identified in the 2017 Cultural Heritage Assessment Report remained present, and identify any additional built heritage resources or cultural heritage landscapes. The assessment identified two additional potential built heritage resources and expanded the potential for indirect impacts from construction-related vibration to three properties.

A copy of the draft 2026 Cultural Heritage Memo can be found in **Appendix E**.

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4 Route Evaluation and Selection

4.1 The Process

The route evaluation and selection process was undertaken in accordance with the OEB *Environmental Guidelines* (2023), which identify the environmental and socio-economic features, and the routing principles, to be considered. As the new NPS 48 will parallel the existing Dawn Parkway Transmission System and will be adjacent to the NPS 26 on the north side of the existing easement, no alternative routes were proposed.

4.2 Input on the Pipeline Route

The pipeline route was presented during the engagement and consultation program (see **Section 3**).

4.3 Confirmation of the Pipeline Route

Through the engagement and consultation program, and the review of potential Project impacts, no concerns were identified that would warrant a change to the pipeline route.

Detailed design will determine the precise location of the pipeline running line and any temporary workspace requirements. Detailed design will be influenced by supplemental studies (including environmental studies) and site-specific requests; this information will be used to locate the pipeline to further reduce environmental and socio-economic impacts. Additional information on the detailed design will be provided in the Leave to Construct application to the OEB.

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5 Potential Impacts, Mitigation and Protective Measures and Net Impacts

5.1 Methods

The potential effects and impacts of the Project on physical, biophysical, and socio-economic features have been assessed in the Study Area upon review of the existing conditions outlined in **Section 3**. With an understanding of pipeline construction and operation activities (see **Sections** Error! Reference source not found. and Error! Reference source not found., respectively) the assessment:

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

The determination of effects, impacts, and mitigation and protective measures considered:

- Comments expressed during the consultation program
- Information available from published and unpublished literature
- Maps and digital data
- Mitigation guidance documents
- The pipeline development experience of Enbridge Gas and Stantec

By necessity, the analysis, integration, and synthesis of the data is an iterative process since information becomes available at various stages of the environmental study and

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at different mapping scales. The level of detail of data and mapping increases as the environmental study moves from analysis of the Study Area to a site-specific survey of features in the Project footprint. The data available at the current stage of the environmental study is appropriate for predicting effects and potential impacts and recommending mitigation and protective measures.

The information collected assisted in identifying environmental and socio-economic features and constraints located on and adjacent to the Project footprint, predicting effects and potential impacts, and developing mitigation and protective measures. Where agencies requested that information be kept confidential, such information has been withheld from the report or mapped in such a way that specific site locations cannot be determined.

The existing conditions maps in **Appendix A** have been generated from data obtained from Ontario GeoHub and other sources as indicated on the maps and in the references. Scales have been adjusted from the original source to better represent the features mapped.

There are instances where field investigations will occur after completion of the ER and before construction. Given the location of the Project components and experience of Stantec in providing environmental services for natural gas pipelines, these supplemental studies are not expected to change the conclusions regarding potential adverse residual impacts.

The environmental and socio-economic information presented in the ER is based on sources cited throughout.

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5.1.1 Construction

The pipeline construction process includes various activities as described below:

- **Site Preparation and Clearing**: The first activity is typically the survey and staking, which delineates the boundaries of the Project footprint. Next, the temporary work areas are cleared of brush and trees, as necessary. Safety barriers are then installed at the limits of the temporary work areas where public safety considerations are required, and aspects of the Traffic Management Plan are implemented (i.e., signs, vehicle access). Erosion and sediment control (ESC) measures are installed at required locations, and pre-tiling work is completed to accommodate agricultural drainage. Soil separation is then completed.
- **Pipeline Removal:** Following site preparation and clearing, pipeline removal includes exposure of the existing pipe, removing the pipe, and backfilling the trench. During backfilling, excavated subsoil is placed in the trench. Once the pipe is removed from the trench, it is cut and removed for salvage. Select sections of pipe may be abandoned in place in accordance with Canadian Standards Association requirements, such as at watercourse and road crossings.
- **Pipeline Installation:** Following site preparation and clearing, pipeline installation includes excavation of a trench, pipe welding, lowering the pipe into place, and backfilling the trench. During backfilling the originally excavated subsoil is placed on the pipe in the trench, followed by the topsoil. In stony areas, the pipe may be sand padded to protect the coating. In shallow water table areas, the pipe may be weighted to provide negative buoyancy. Landowners with tile drainage are given the opportunity to inspect tile repairs.
- **Pressure Testing**: The pipeline will be pressure tested by filling the pipe with water. The water will be pressurized above the operating pressure and held for a set period of time, per the requirements of CSA Z662-19 Clause 8 and applicable Enbridge Gas specifications for pressure testing.

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- **Clean-Up and Restoration:** This final phase will include the restoration of all work areas disturbed during construction. On agricultural land, this may require decompaction of the subsoil, and in natural areas regrading and reseeding. ESC installed during construction will be removed. Clean-up will also restore landscaping, roads, laneways, and driveways.

5.1.2 Operation and Maintenance

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

Once the Project is operational, the following maintenance activities will be undertaken as required:

- Completing a ‘line walk’ of the entire pipeline by Enbridge Gas personnel per the maintenance program to check for evidence of damage to aboveground equipment and piping, evidence of damage to underground piping and gas leaks, and identify any unassociated construction activity near the pipeline.
- Conducting aircraft patrols weekly to detect the presence of soil erosion and third-party structures or activities that could damage the pipeline.
- Checking cathodic corrosion protection.
- Completing regular checks and maintenance at pipeline facilities such as valve sites.
- Completing visual check of subsidence, so that the amount of ground cover over the pipeline is maintained.

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- Performing periodic inspection by running electronic tools through the interior of the pipeline to assess for the presence of corrosion or dents and the need for repairs.
- Completing class location surveys.
- Vegetation management.

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5.2 Summary Table

Table 5.1 Potential Impacts and Recommended Mitigation and Protective Measures

Physical Features

Environmental Feature(s)	Potential Impact(s)	Mitigation and Protective Measures	Net Impacts
Bedrock Geology and Drift Thickness *Section 3.3.1*	The planned excavation depth for the Project is approximately 2 m below grade with the potential to exceed this depth for watercourse and road crossings. Based on the depth of the excavation and the significant depth to bedrock shown in the published information, bedrock is not likely to be encountered.	As no potential impacts are anticipated, no mitigation or protective measures are required.	As no impacts to bedrock are anticipated, no net impacts will be present.
Physiography and Surficial Geology *Section 3.3.2*	Disturbance to the overburden may cause surface soil erosion and trench slumping during construction.	• Surface soil erosion can occur in the absence of vegetative cover. 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. Measures should be maintained until soils have stabilized. • When land is exposed, the exposure should be kept to the shortest practical period. Natural features should be preserved to the extent practical. Temporary vegetation and mulching should be used to protect areas as appropriate. Where required, natural vegetation should be re-established as soon as practical. • The contractor must obtain adequate quantities of materials to control erosion. Additional supplies should be maintained in a readily accessible location for maintenance and contingency purposes. ESC structures should be monitored to maintain their effectiveness through the life of construction and post-construction rehabilitation. • 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.	With the implementation of the mitigation and protective measures, no significant adverse residual impacts to or from the overburden material are anticipated.

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Environmental Feature(s)	Potential Impact(s)	Mitigation and Protective Measures	Net Impacts
		• To avoid the trench from slumping, trench walls should be sloped and should be monitored during wet conditions for the potential to slump. • Slope stability should be reviewed at watercourse crossing locations. Watercourse banks should be seeded and stabilized immediately following crossing. ESC and stabilization measures should be maintained during construction, restoration, and rehabilitation until vegetative cover is established. Where evidence of erosion exists, corrective control measures should be implemented as soon as conditions permit. Permits obtained from the SCRCA may contain conditions pertaining to ESC.	
Groundwater *Section 3.3.3*	<u>Hydrostatic Testing and Dewatering</u> The pipeline will be hydrostatically tested before commissioning. Select sections of pipe may also be pre-tested, such as at road crossings. Water required for the testing may be obtained from a municipal or natural source. Before the withdrawal of water from a municipal source, the municipality will be contacted to confirm the maximum rate of withdrawal. Where trenches encounter shallow groundwater conditions or following a large precipitation event, removing water from the trench (known as dewatering) may be necessary. During trench dewatering, discharge water will be released to the environment. An uncontrolled discharge of water could cause downstream flooding, erosion, sedimentation, or contamination. Other potential effects of uncontrolled discharge may include the introduction of hazardous materials or pollutants to soils or bodies of water. <u>Private Water Wells</u> Depending on the proximity to wells, the depth of the well installation and the groundwater levels encountered during excavation, trench dewatering	<u>Hydrostatic Testing and Dewatering</u> • Under O. Reg. 63/16, all construction dewatering projects regardless of dewatering volume can be completed under an EASR. Should dewatering be required a dewatering and discharge report would be required to support the registration of an EASR for the Project. If surface water is used as the source water for the hydrostatic test, the report will also assess the capacity of the source to provide the required water volume without impacting the ecosystem, and will outline mitigation measures such as screened water intakes. • Before discharge, hydrostatic test water should be sampled for a risk assessment against applicable human health and ecological guidelines. Should the assessment determine on-site discharge is unacceptable, disposal will be required at a facility registered to accept the waste. • To reduce the potential for erosion and scouring at discharge locations during construction dewatering and/or hydrostatic testing, energy dissipation techniques should be used. Discharge piping should be free of leaks and should be properly anchored to prevent bouncing or snaking during surging. Protective measures may include dewatering at low velocities, dissipating water energy by discharging into a filter bag or diffuser and utilizing protective riprap or equivalent. If energy dissipation measures are found to be inadequate, the rate of dewatering should be reduced or dewatering discontinued until satisfactory mitigation measures are	With the implementation of the mitigation and protective measures, no significant adverse residual impacts on groundwater are anticipated.

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Environmental Feature(s)	Potential Impact(s)	Mitigation and Protective Measures	Net Impacts
	may impact water well quality or quantity at some of the overburden supply wells. <u>Source Water Protection</u> No designated source water protection areas are located in the Study Area.	in place. Discharge should be monitored to make sure that no erosion or flooding occurs. <u>Private Water Wells</u> • A private well survey should be conducted to assess domestic groundwater use near the Project and a private well monitoring program may be recommended for residents who rely on overburden groundwater supply for domestic use. This monitoring program may include pre—construction water quality monitoring as well as water level monitoring, if available. Further details are provided in **Section 7.1.2**. Should a private water well be affected by project construction, a potable water supply should be provided, and the water well should be repaired or restored as required. Further details are provided in **Section 7.2.2**. <u>Source Water Protection</u> During construction, the primary concern to groundwater is the potential for a contaminant spill. To address this concern, the following mitigation measures are proposed: • Special refueling procedures for sensitive areas should be undertaken that include, at a minimum, using a two-person refueling system with one worker at each end of the hose. Spill containment devices and absorbent material should be on hand and readily available. • To reduce the impact of potential contaminant spills, the contractor should implement spill management protocols such as secondary containment of any temporary fuel storage and preparation of a spill response plan. • Work should be limited or stopped during and immediately following significant precipitation events (i.e., 100-year storm event), at the discretion of on-site environmental personnel. • Bulk fuel trucks, service vehicles, and pick-up trucks equipped with box mounted fuel tanks should carry spill prevention, containment, and clean up materials that are suitable for the volume of fuels or oils carried. Spill contingency material carried on bulk fuel and service vehicles should be suitable for use on land and water. • Inspect hydraulic, fuel, and lubrication systems of equipment so that systems are in good working condition and free of leaks.	

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Environmental Feature(s)	Potential Impact(s)	Mitigation and Protective Measures	Net Impacts
		• An impervious tarp should be in place underneath equipment/vehicles when servicing equipment/vehicles with the potential for accidental spills (e.g., oil changes, servicing of hydraulic systems, etc.) in accordance with regulatory conditions. • The contractor should prepare a Spill Response Plan prior to construction.	
Aggregates and Petroleum Resources *Section 3.3.4*	The proposed pipeline route will not cross lands currently used for resource extraction, or land on which future resource extraction is likely. The proposed pipeline route will cross both active and abandoned petroleum pools, resulting in potential interaction with their current or future operation.	• During the detailed design phase Enbridge Gas should review available mapping to determine locations of the suspected petroleum resources. • Enbridge Gas will avoid conflicts with existing natural gas storage wells and associated infrastructure during construction. No additional mitigation measures are anticipated, as natural gas storage pools in the area are located more than 500 m from the Project.	With the implementation of the mitigation and protective measures, no significant adverse residual impacts on aggregate or petroleum resources are anticipated.
Soil and Soil Capability *Section 3.3.5*	Trenching and construction activities across agricultural land have the potential to affect soil quality and agricultural capability. The movement of heavy machinery on wet soil may cause rutting, compaction, and mixing of topsoil with subsoil. When exposed, soils are more prone to erosion due to the loss of vegetative cover. Improperly salvaged topsoil can result in topsoil and subsoil mixing, compaction, rutting, and erosion, which can potentially decrease crop yields.	• To avoid loss of soil, topsoil from agricultural lands directly affected by construction of the pipeline should be stripped. Topsoil should be stripped during dry soil conditions and stockpiled for use during clean-up and rehabilitation. Identification of the topsoil and subsoil interface should be carefully monitored to check that all topsoil with limited subsoil is stripped from the ROW. • Topsoil stripping should be sufficiently wide to allow for topsoil to be stockpiled on topsoil and subsoil to be stockpiled on subsoil. Inspection staff should check separation between topsoil storage piles and subsoil storage piles is maintained to reduce potential for soil mixing. If topsoil is required to be imported, it should be from an approved source to check that it is not contaminated. • As an initial stage of construction, standard ESC measures should be implemented on all active areas. ESC features should be regularly inspected and maintained. Additionally, ESC features should be improved or added to in areas requiring more protection. • In locations prone to erosion, soil stockpiles should be protected with silt fencing. Soil piles should be separated by at least 1 m, unless separated by a barrier, to avoid mixing topsoil with subsoil. On agricultural lands, subsoil should be stored on lands stripped of topsoil (subsoil on subsoil).	With the implementation of the mitigation and protective measures, no significant adverse residual impacts on soil or soil capability are anticipated.

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Environmental Feature(s)	Potential Impact(s)	Mitigation and Protective Measures	Net Impacts
		• Following periods of excessive rainfall or saturated soil conditions, construction activities on agricultural lands should be suspended. During wet soil conditions heavy tracked and rubber-tired vehicles should be restricted from movement on agricultural soils. Usually, construction may continue from gravel or existing roadside work surfaces during wet soil conditions. • To the extent feasible, construction activities should occur during drier times of the year. Lands affected by heavy rainfall events and wet soil conditions should be monitored, to avoid the potential for topsoil and subsoil mixing. Construction activities should be temporarily halted on lands where excessively wet soil conditions are encountered. Enbridge Gas's on-site inspection team should determine when construction activities may be resumed. • 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. • During construction activities, weather should be monitored to identify the potential onset of high wind conditions which can cause wind erosion. If high winds occur, protective measures such as the following will be implemented: ▪ Suspend earth moving operations. ▪ Apply dust suppressants. ▪ Protect soil stockpiles with a cover, barrier, or windscreen. • In conjunction with the above measures, all required materials, and equipment should be readily accessible and available for use as required. • On agricultural lands 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, bulldozer or similar, followed by discing, chisel ploughing and cultivating, to smooth the surface, should be considered on agricultural lands. In high traffic areas of the easement where deep	

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Environmental Feature(s)	Potential Impact(s)	Mitigation and Protective Measures	Net Impacts
		compaction persists, additional deep tillage or subsoiling may be required on a site-specific basis. Soil density and/or penetrometer measurements on and off the easement may be used as a means of assessing the relative degree of soil compaction caused by construction along the easement as well as determining that the easement has been sufficiently decompacted. • If clean-up is not practical during the construction year, it should be undertaken in the year following construction, starting in May or June once the soils have sufficiently dried. Interim soil protection measures should be undertaken in sensitive areas to stabilize the easement for over-wintering.	
Soybean Cyst Nematode (SCN) *Section 3.3.6*	The potential exists for SCN to be spread from an impacted field to a non-impacted field by means such as contaminate machinery, wind, contaminated boots, and water erosion.	Enbridge Gas should consult with landowners of agriculture fields to determine if they would like to proceed with soil sampling for SCN. If a field is identified as having SCN, in consultation with potentially impacted landowners, the following mitigation measures should be considered: • All properties impacted with SCN should be identified and communicated to the contractor. A best practice protocol should be developed to mitigate the spread of SCN. • If an adjacent farm field has SCN, advise the contractor to remove soil from equipment before moving to the area that has not been impacted by SCN. This may involve thorough washing of equipment before moving equipment from an impacted field to non-impacted field. • If topsoil is required to be imported, it should be from approved sources to avoid it being contaminated.	With adherence to the best construction practices discussed in this report, no significant adverse residual impacts from SCN are anticipated.
Agricultural Tile Drainage *Section 3.3.7*	Construction activities, including trenching and the movement of heavy machinery, have the potential to crush and/or sever agricultural tile drains.	Enbridge Gas should undertake consultation with landowners of agricultural fields to confirm where tile drainage is present. If tile drainage is present, Enbridge Gas should undertake standard mitigation during trenching, including: • Develop site specific tile plans with an independent tile contractor. • Conduct pre-tiling and install header tile to maintain tile system function.	With the implementation of the mitigation and protective measures, no significant adverse residual impacts on agricultural tile drains are anticipated.

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Environmental Feature(s)	Potential Impact(s)	Mitigation and Protective Measures	Net Impacts
		• Excavate the pipeline trench to a depth that allows clearance between the top of the proposed pipeline and the bottom of existing drainage systems. • Record and flag severed or crushed tile drains. • If a main drain, header drain, or large diameter drain is severed, maintain field drainage and prevent flooding of the work area and adjacent lands through temporary repairs. • Cap the downstream side of severed drains that cross the trench 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.	
Natural Hazards and Regulated Areas *Section 3.3.8*	The probability of significant seismic activity in the Study Area is low; therefore, no potential impacts are anticipated. The likelihood of a flooding event interfering with Project construction is reduced by construction occurring outside of the spring freshet. A flooding event during construction could result in construction delays, soil erosion, sedimentation of a watercourse, trench slumping, and damage or loss of construction equipment and contamination of a watercourse because of equipment entering a watercourse. The nature of these impacts would depend on the spatial extent, duration, and magnitude of the flooding event. The likelihood of a high wind event interfering with Project construction is possible and would result in dust impacts to nearby properties and residents.	• If flooding necessitates a change in the construction schedule, affected landowners and regulatory agencies should be notified and construction should continue at non-affected locations. • Temporary workspaces should be located above the floodplain to the extent practical, unless necessary for watercourse crossings. • All work in the floodplain will be subject to a permit under O. Reg. 41/24 from SCRCA. • Mitigation and protective measures for high winds are found in the Air Quality and Noise section below.	With the implementation of the mitigation and protective measures, no significant adverse residual impacts from natural hazards or to regulated areas are anticipated.

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Biophysical Features

Environmental Feature(s)	Potential Impact(s)	Mitigation and Protective Measures	Net Impacts
Aquatic Features *Section 3.4.2*	A field investigation was conducted to confirm the presence of the identified watercourses. There is the potential to affect fish or mussels directly through impacts on water quality (erosion, sedimentation, and accidental spills), disruption and harassment (vibration and noise), and loss of habitat. Indirect impacts include restrictions to habitat use and fish passage. Long-term impacts can include changes to habitat such as substrate, increased erosion potential, and loss of in-stream cover and riparian shading.	• None of the watercourses at the proposed crossings support aquatic SAR that are regulated under Schedule 1 of SARA. <u>General Mitigation Measures</u> • In-water work for warmwater habitats is typically permitted from July 1 to March 14 (no in-water work from March 15 to June 30 (MNRF 2013). Booth Creek and Crooked Creek have been identified as warmwater features. All other watercourses in the Study Area will be treated as warmwater features unless field surveys determine otherwise. • Prior to removal of terrestrial vegetation cover, effective ESC measures should be in place to protect water quality from the effects of soil erosion. Disturbance to the area during construction should be limited and grubbing activities should be delayed until immediately prior to grading operations. • Soil exposure should be reduced prior to commencing construction, and the period that soil remains exposed for grading should be limited to the extent possible. • Temporary ESC measures should be monitored, maintained, and kept in place until work within or near a watercourse has been completed and stabilized. • Additional supplies should be kept on-site, in a readily accessible location, for maintenance and contingency purposes. Prior to construction, adequate quantities of the materials listed below, or comparable substitutions, should be on site to control erosion and sediment deposition: ▪ Spill kit ▪ Sediment control fencing ▪ Sediment control logs (i.e., SiltSoxx™) ▪ Straw bales ▪ Wooden stakes ▪ Sandbags ▪ Water energy dissipater ▪ Filter cloth	With the implementation of the mitigation and protective measures, no significant adverse residual impacts to aquatic features are anticipated.

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Environmental Feature(s)	Potential Impact(s)	Mitigation and Protective Measures	Net Impacts
		▪ Water pumps with secondary containment (including stand-by pumps, sufficient lengths of hose and fish cages) • Construction material, excess material, construction debris, and empty containers should be stored a minimum of 30 m from watercourses, unless required during crossings. • Refueling of equipment should be undertaken 30 m from the watercourses to reduce potential impacts to surface water if an accidental spill occurs. If a 30 m refueling distance is not possible, and under approval from on-site environmental personnel and if approved by permit conditions, special refueling procedures for sensitive areas should be undertaken that include, at a minimum, using a two-person refueling system with one worker at each end of the hose and secondary containment, as needed. • Deleterious substances (fuel, oil, spoil) should be stored >30 m from the watercourse. Any such material that inadvertently enters a watercourse should be immediately removed in a manner satisfactory to the Environmental Inspector. If a 30 m distance is not possible, conditions noted under relevant permits should be followed so that a minimum required distance is implemented. • Contingency measures for accidental spills are outlined in **Section 7.2.4**. • Exposed soils surrounding watercourses should be seeded immediately following construction. Enhanced stabilization may be required. • Conditions of water crossings from the SCRCA, if applicable, are to be adhered to. <u>Dam and Pump Mitigation Measures</u> • All watercourse crossings will occur via the dam and pump method and will adhere to the DFO-Enbridge Gas Generic Watercourse Crossing Drawings (see **Appendix G**). • Downstream flows should be maintained using dam and pump techniques. • When dewatering the work area, dewatering operations should be managed to prevent erosion and/or release of sediment-laden or contaminated water to the waterbody (e.g. settling basin, filter bag, energy dispersion measures). An isolation/contamination plan	

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Environmental Feature(s)	Potential Impact(s)	Mitigation and Protective Measures	Net Impacts
		should be designed and implemented to isolate temporary in-water work zones and maintain flow around the work zone. • The intakes of pumping hoses should be equipped with an appropriate device to avoid entraining and impinging fish (DFO 2026c). • Fish rescue plans should be developed on a site-specific basis and implemented by qualified professionals with the appropriate licence in place (i.e., Licence to Collect Fish for Scientific Purposes). • Following construction, stream beds should be restored to maintain slopes and tie-in with existing grades. Bed material should be replaced to match pre-construction conditions.	
Terrestrial Features *3.4.3*	<u>Designated Natural Features and Vegetation</u> Natural vegetation in the Study Area is comprised of meadow, forest, woodland, naturalized hedgerow communities, and wetlands. One wetland community (FODM9 / SWDM3-3) was identified during the roadside site investigation in September 2026. Detailed botanical and ELC surveys will be conducted in 2027 to confirm the presence and delineate the boundaries of wetlands in the Project footprint. Vegetation removal may be required in or adjacent to these natural areas to accommodate Project construction. Without appropriate mitigation measures, construction activities can adversely impact trees and other vegetation through soil compaction, removal of topsoil, and equipment encroachment, causing irreversible damage to roots or trunks and destroying the structural integrity of vegetation or soils. Filling, excavation, grading or trenching in the root area of a tree has the potential to cause irreversible damage. The potential impacts on wetlands during construction include accidental contaminant release, sedimentation and turbidity from surface runoff, introduction of invasive species and temporary lowering of the water table during	<u>Designated Natural Features and Vegetation</u> • Construction material, excess material, construction debris and empty containers should be stored away from adjacent wetlands. • Temporary workspace width should be reduced when working within 30 m of wetlands, where practical. • Staging areas should be located at least 30 m away from the edge of wetlands to the extent possible. • Clearing should be reduced to the extent possible in sensitive areas such as significant woodlands, wetlands, and along watercourses. • Municipal requirements or permits for tree cutting will be determined prior to construction. • Limits of the workspace should be clearly marked to reduce encroachment into adjacent natural areas and avoid unnecessary encroachment and tree removal. • Clearing should be done during dry soil conditions to the extent practical to limit disturbance to vegetation and terrain. • Select trees or other vegetation to be retained within approved work areas should be surrounded by temporary protective fencing or other measures before clearing or grading occurs and maintained until all construction work is completed in that area and the site is restored. Barriers should be large enough to encompass the essential root zone of the vegetation to be protected.	With the implementation of the mitigation and protective measures, no significant adverse residual impacts to terrestrial features are anticipated.

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Environmental Feature(s)	Potential Impact(s)	Mitigation and Protective Measures	Net Impacts
	trench dewatering. Clean-up and restoration activities to contain or remove contaminant and sediment releases can cause more damage to sensitive wetland ecology than the initial impact of the release; therefore, it is important to institute appropriate mitigation measures to reduce interactions with adjacent wetlands. <u>Wildlife, Wildlife Habitat, and Species at Risk (SAR)</u> The presence of woodlands, forests, and open habitats potentially provide SAR habitat. A field program will be developed and completed during the 2026 season to document the presence of SWH and SAR habitat in the Study Area. Potential impacts on wildlife populations from construction include direct loss of habitat (e.g., removal or alteration of habitat), direct mortality from animal-vehicle collisions from increased construction traffic, vibration, noise, and dust from construction machinery, and temporary avoidance behavior due to the presence of humans and equipment.	• Vegetation clearing should not be conducted within 30 m of a wetland unless required for site construction activity. • If work will occur in or near features with phragmites, equipment will be cleaned to avoid reuse of soil containing phragmites at other sites. • Implement clean equipment protocol using guidance from the Clean Equipment Protocol for Industry (Halloran et al. 2013). • Native topsoil should be preserved through topsoil salvage and separation. • High-traffic or erosion-prone areas should be revegetated with suitable protective cover during and post-construction. • Reclamation should involve seeding disturbed areas, and tree replacement at a minimum 3:1 ratio by area. Replacement of ornamental trees and shrubs are determined on an individual basis in consultation with impacted landowners. • If there is no suitable local native seed mix available, but seeding is deemed desirable to promote rapid revegetation of an area, a non-invasive annual nurse crop such as annual ryegrass should be used instead. • Purchased seed should be certified free of weeds. • If vegetation regeneration is unlikely immediately following construction (i.e., outside the growing season), slopes adjacent to wetlands should be stabilized using geogrids or weed-free mulch for a minimum of 30 m from the wetland. <u>Wildlife, Wildlife Habitat, and Species at Risk (SAR)</u> • Prior to construction activities, a worker awareness program should be implemented that includes details on SOCC and SAR identification and their associated habitat or nesting characteristics. • Equipment and vehicles should yield the road allowance to wildlife. • Trench operations should be followed as closely as practical with backfill operations, to facilitate the movement of wildlife across the trench.	

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Environmental Feature(s)	Potential Impact(s)	Mitigation and Protective Measures	Net Impacts
		• Gaps in stockpiles should be created, in consultation with a biologist, to allow for the potential movement of wildlife. • Fencing should be installed around deep excavations, excluding standard trench depths, to prevent wildlife entrapment. • The contractor should inform their personnel not to threaten, harass or injure wildlife. • If wildlife is encountered during construction, personnel are required to move away from the animal and wait for the animal to move off the construction site. SAR cannot be handled unless authorized by MECP and MNR. • A Registration under O. Reg. 75/26 of the SCA may be required if the Project impacts SAR and/or SAR habitat. • Tree removal should be limited to the extent possible and should avoid the active season for bats (March 15 – November 30). • Include nectar producing plants in the restoration seed mix(es) to provide habitat for monarch. • Avoid pesticide use in the Study Area and reduce application as much as possible. • Where practical, avoid vegetation clearing in milkweed patches during the monarch breeding season, when eggs, caterpillars or chrysalids may be present (June 1 to September 30). • Vegetation clearing should be avoided during the breeding season which is generally from April 1- August 31 in southern Ontario (ECCC 2026). Some birds nest outside of this window and are protected while active. Should vegetation clearing activities be unavoidable during this window, a mitigation program should be developed, which includes measures to reduce and avoid impacts to migratory birds and their nests (ECCC 2026). This program should include preventative and mitigation measures but may also include avoidance of clearing during key sensitive periods and in key locations. • Vegetation clearing during the core migratory bird nesting period shall be avoided to the greatest extent possible. If clearing must occur during this period, qualified personnel shall conduct nest surveys no later than five (5) days prior to clearing, using transect based or acoustic methods suitable to the habitat type. If active	

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Environmental Feature(s)	Potential Impact(s)	Mitigation and Protective Measures	Net Impacts
		nests are found, a no-disturbance buffer appropriate to the species (typically 5 – 50 m) shall be established and maintained until fledging is confirmed. • Eastern Meadowlark may occur in meadows in the Study Area. Avoidance of work in these areas between May 1 and July 31 are recommended to avoid impacts to these species, which are protected under SARA. • Red-headed Woodpecker may occur in forested areas in the Study Area. Avoid tree cutting in these areas between May 1 and August 31 to avoid impacts to this species, which is protected under SARA. • Avoid impacts to nests for species with residence descriptions under SARA (e.g., Barn Swallow, Chimney Swift). If not possible, permitting under SARA may be required. • Exclusion fencing (e.g., silt fence) should be installed on both sides of the easement prior to activities occurring in areas identified as having turtles/amphibians/snakes or as being high potential, such as stream/river crossings, ponds, wetlands, and nesting areas in the gravel shoulders of road rights-of-way. • Consideration should be made for the use of fiber-based ESC materials in lieu of synthetic erosion control blankets/mats. • A daily survey of the active work area (i.e., prior to construction each day) should occur to check that no turtles have entered the area. Inspection of exclusion fencing at regular intervals throughout the active season (weekly, and after any rainfall events) is recommended. • In the unlikely event that a turtle enters the work area and is in immediate danger, a 30 m buffer should be placed on the work area, and construction activities should cease until the individual has vacated the work area on its own accord before recommencing construction activity. Alternately, the turtle should be relocated by a qualified biologist. • If a nesting turtle is observed or if a turtle nest is identified in the Study Area during construction, a 5 m buffer should be applied to the nest site, or 30 m to a nesting female, and maintained. Turtle nests should not be touched as it can damage eggs.	

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Environmental Feature(s)	Potential Impact(s)	Mitigation and Protective Measures	Net Impacts
		• In the event of an injured turtle, the turtle should be transported to the Salthaven Wildlife Rehabilitation & Education Centre Inc., or another appropriate accredited wildlife rehabilitator.	

Socio-Economic Environment

Environmental Feature(s)	Potential Impact(s)	Mitigation and Protective Measures	Net Impacts
Demographics *Section 3.5.1*	During construction residents and businesses in the Study Area may experience a general nuisance, and temporary disruption in the use and enjoyment of their property and in the use of local roads from associated vehicular traffic, dust, and equipment exhaust. Residents and business owners may experience temporary access disturbance. Construction activities also have the potential to disturb the perceived aesthetic value that residents place on their property and the area in general. Potential safety concerns for residents also exist at locations where properties, residents, and vehicles come in proximity to construction activities.	• Additional correspondence with residents and businesses adjacent to the Project should be held in advance of construction commencement. Contact information for a designated representative should be available prior to and during construction to address questions and concerns. • Mitigation and protective measures are noted in the Air Quality and Noise section below. • Construction should be conducted as expeditiously as possible, to reduce duration of activities. • Tree removal should be reduced to the extent possible. Where tree removal is necessary, re-vegetation should occur in consultation with the landowner. Vegetative buffers at watercourse and road crossings should be restored where feasible. • Access to driveways and roads should be maintained as practical during the construction period. • The Contractor should protect lawns against damage by spoil, using tarpaulins, and/or plywood sheets. Wherever necessary, the Constructor must provide crossings to permit the landowner or tenant to have access to their property. • Safety fence should be installed at the edge of the construction area where public safety considerations are required. • The contractor should implement a Traffic Management Plan for all roads affected by construction, which at a minimum outlines measures to: ▪ Control the movement of materials and personnel to and from the construction site. ▪ Post signs to warn oncoming motorists of construction activity. ▪ Control traffic at road crossings.	With the implementation of the mitigation and protective measures, no significant adverse residual impacts on residents or businesses are anticipated.

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Environmental Feature(s)	Potential Impact(s)	Mitigation and Protective Measures	Net Impacts
		▪ Reduce on-road disturbance and land closures. ▪ Store equipment as far from the edge of the road as practical. ▪ Install construction barricades at road crossings.	
Employment and Business *Section 3.5.2*	Project demands for labour and goods and services can result in both beneficial and adverse effects. Positive effects may not be evenly distributed among populations, with some residents in a better position to receive economic benefits than others. Similarly, adverse effects may affect some residents more than others. Residual effects on employment are related to the Project's labour demand compared to the labour supply. Three types of employment are considered: • Direct employment: labour that is hired directly for the Project. • Indirect employment: labour hired by companies to produce and provide goods and services needed for the Project. • Induced employment: labour hired by industries that produce and provide consumer items and services purchased by people who are directly or indirectly employed by the Project. Labour conditions will be affected by direct, indirect, and induced employment during all Project phases. The Project could affect business through purchases of labour, goods, and services from local businesses, including businesses owned by Indigenous peoples, and will result in increased local employment income and municipal government revenue. Local businesses will likely benefit from supplying the Project with goods and services.	• It is expected that the Project will generally result in positive effects on employment by employing local and Indigenous people, and by reducing the unemployment rate in the County. These positive effects do not require mitigation, but Enbridge Gas should identify and implement various mechanisms to enhance project benefits. • The potential effects of the Project because of purchasing labour, goods, and services is expected to be positive during construction and operation, so no mitigation will be required. However, Enbridge Gas has and will continue to work with local and Indigenous businesses to enhance their potential for successfully bidding on Project contracts regarding the supply of goods and services, particularly for the operation phase. One initiative to help encourage further local and Indigenous content on the Project is to post Project purchasing requirements in advance, so that businesses can position themselves to effectively bid to supply goods and services needed for construction and operation. Increased participation of local and Indigenous businesses will enhance positive local economic effects.	With the aforementioned initiatives to encourage local and Indigenous participation on the Project, it is anticipated that the effects from the Project on employment and business will be positive, including creating positive economic activity through new direct, indirect, and induced employment. Project expenditures on local businesses and suppliers also have the potential to positively affect the local economies. Consultation with residents and businesses will address any concerns to their operations. With the implementation of the mitigation and protective measures, no significant adverse residual impacts on employment and business are anticipated.

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Environmental Feature(s)	Potential Impact(s)	Mitigation and Protective Measures	Net Impacts
Community Services and Infrastructure *Section 3.5.3*	The presence of temporary workers in the local communities during the construction period has the potential to increase the demand for housing and local community services and infrastructure. Non-local Project workers are expected to stay in temporary accommodations, including hotels, motels, and campgrounds. Non-local Project workers may also choose to rent cottages or apartments. The vacancy rate for temporary rentals will likely be able to accommodate the temporary increase. The short duration of the Project, as well as the structure of the work shifts, will limit the need for workers to use the services and infrastructure in local communities. The transportation of Project goods, services, and workers has the potential to lead to increased use of existing transportation infrastructure. Also, increased traffic volumes along local road networks could increase travel times and reduce road safety, which might lead to increased use of local emergency services due to potential vehicle accidents and workplace accidents. In addition, the production of Project-related waste could place additional stress on the capacity of local landfills.	• Project employees might require medical attention while staying in the area. The contractor and Enbridge Gas should have emergency response equipment and trained personnel on-site during construction. In addition, an Emergency Response Plan will be developed and implemented, which will address field health services, emergency call-out procedures, and fire response plans. Safety fencing will be used where necessary to separate the work area. • Environmental mitigation will be in place to reduce the likelihood of emergency events and to prepare for the management of emergency events on site. If an emergency incident were to occur, it is anticipated that the comprehensive mitigation, contingency plans, and safety strategies will result in a localized and low-intensity response. • A Traffic Management Plan will be in place for all roads affected by construction, see row “Demographics Section 3.5.1”. • The capacity of waste disposal sites will be considered and if Project needs are not easily accommodated, alternative disposal locations will be considered. • Enbridge Gas should provide Project information to local communities and service providers so that they are prepared for any possible demand on community services and infrastructure related to a temporary population increase. Additional correspondence with residents and businesses adjacent to the Project footprint will be held in advance of construction commencement to discuss potential specific impacts to the property or business. Contact information for a designated Enbridge Gas representative should be available to address questions and concerns during construction. Consultation has been initiated and should continue with municipal personnel. • Approvals should be obtained from the municipalities for all road crossings.	Community services and infrastructure appear to have additional capacity to absorb potential increased temporary demands that may result from the Project, if not in the Study Area, then in adjacent communities. Adverse effects on traffic will be minimal because of the rural nature in the Study Area where roads currently have low levels of traffic and alternative routes are readily accessible. Given the available capacity of community services and infrastructure, along with the implementation of the mitigation and protective measures, no significant adverse residual impacts on community services and infrastructure are anticipated.
Culture, Tourism and Recreational Facilities *Section 3.5.4*	The Project will result in no impacts to culture, tourism, or recreational facilities.	• As no impacts to land use designations are anticipated, no mitigation or protective measures are recommended.	As no impacts to culture, tourism, or recreational are anticipated, no net impacts will be present.

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Environmental Feature(s)	Potential Impact(s)	Mitigation and Protective Measures	Net Impacts
Air Quality and Noise *Section 3.5.5*	Residential, agricultural, and business properties may experience noise, dust and equipment exhaust associated with construction activity. During operation, no substantial air or noise emissions are anticipated to occur.	• During construction, motorized construction equipment should be equipped with appropriate mufflers and silencers as available. Company and construction personnel should avoid excessive idling of vehicles; vehicles and equipment should be turned off when not in use unless required for operation. To the greatest extent practical, activities that could create noise should be restricted to daylight hours. Sources of continuous noise, such as portable generators, should be shielded or located to reduce disturbance to residents and businesses. • The contractor should implement site practices during construction that are in line with the Environment Canada document 'Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities' (Cheminfo Services Inc. 2005), which may include: ▪ Maintaining equipment in compliance with regulatory requirements ▪ Covering loads of friable materials during transport ▪ Dust suppression of source areas ▪ Watering for dust control must not result in the formation of puddles, rutting by equipment or vehicles, the tracking of mud onto roads or the siltation of watercourses	With the implementation of the mitigation and protective measures, no significant adverse residual impacts from air quality and noise are anticipated.
Land Use *Section 3.5.6*	Natural gas pipelines and their associated facilities/structures are permitted land uses, and there are no proposed changes to land use.	• As no impacts to land use designations are anticipated, no mitigation or protective measures are recommended.	As no impacts to land use designations are anticipated, no net impacts will be present.
Landfills and Contaminated Sites *Section 3.5.7*	Improper disposal of waste material generated during construction may result in contamination to soil, groundwater, and/or surface water resources on and off the construction site. Litter generated during construction may also become a nuisance to adjacent properties if not contained. No active landfills or contaminated sites are along the pipeline route or are in the Study Area. The pipeline route is not expected to cross or be in the vicinity of lands that may have contaminants of concern, however the application of road salt for de-	• All construction wastes should be disposed of in accordance with applicable regulations. Additionally, Enbridge Gas should undertake responsible management of excess fill. When details on excess fill volumes are known, disposal locations should be determined, and appropriate permitting obtained. • A site-specific waste collection and disposal management plan should be implemented, which may include: ▪ Waste materials, sanitary waste, and recycling transported off-site by private waste contractors licensed by the MECP. ▪ Contractors required to remove their excess materials from the site.	With the recommended mitigation measures in place to properly test, treat, and dispose of contaminated water/soils, no significant adverse residual impacts from contamination are anticipated.

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Environmental Feature(s)	Potential Impact(s)	Mitigation and Protective Measures	Net Impacts
	icing activities along the roadways in the Study Area represent a potential source of contamination.	▪ Labelling and storage of hazardous and liquid wastes in a secure area that would contain material in the event of a spill. ▪ Implementation of a waste management program consisting of reduction, reuse, and recycling of materials. ▪ Should contaminated soils be encountered during construction (e.g., if observed material contains anthropogenic substances, petroleum hydrocarbon/solvent odours/staining, sheen, and debris/waste), construction will cease, and the Enbridge Suspect Soil Program will be implemented. Representative soil samples should be collected for chemical analysis to determine appropriate handling or disposal requirements as well as to identify necessary health and safety requirements. • Should excess soil be generated on-site during construction activities that will require off-site management, soil will be managed in accordance with *O. Reg 406/19*. Should the project meet the Reuse Planning Requirements of *O. Reg 406/19,* the associated reporting, soil sampling, and chemical analysis and registry requirements will be completed. • The potential for leachate or landfill gas to interact with the hydrogeologic and geologic settings of the Project is outlined in the D-4 Guideline. Similar to the assumption made on contaminated soils, Enbridge Gas will assume and treat any water that is dewatered as suspect, either through testing or proper disposal.	
Archaeological Resources *Section 3.5.8*	The Stage 1 Archaeological Assessment has determined that the majority of the Study Area retains potential for the recovery of archaeological resources. Construction has the potential to impact areas that retain archaeological potential and unidentified cultural resources.	• A Stage 2 Archaeological Assessment (and further stages of assessment, if recommended) will be carried out as early as possible and prior to any ground disturbing activities. • The results of the Stage 2 Archaeological Assessment will provide recommendations for further assessment, protection, and mitigation of archaeological resources. Where feasible for the Project, archaeological sites that are determined to retain further cultural heritage value and interest should be mitigated in whole or in part by avoidance and preservation. If it should evolve that avoidance and preservation is not feasible, the site or sites should be mitigated by the implementation of Stage 3 and 4 salvage excavations in discussions with the appropriate Indigenous communities.	With the Stage 2 Archaeological Assessment and implementation of subsequent mitigation and protective measures, if necessary, no significant adverse residual impacts to archaeological resources are anticipated.

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Environmental Feature(s)	Potential Impact(s)	Mitigation and Protective Measures	Net Impacts
Built Heritage Resources and Cultural Heritage Landscapes *Section 3.5.9*	Depending upon the final Project footprint, construction may occur within 50m of built heritage resources that could be impacted from vibration.	Avoidance of construction activities within 50 m of built heritage resources is recommended. Where avoidance is not feasible, a pre-construction vibration assessment should be completed by a qualified building condition specialist or engineer to determine whether condition surveys, vibration monitoring, or site plan controls are required.	With the implementation of the mitigation and protective measures, no significant adverse residual impacts on built heritage resources or cultural heritage landscapes are anticipated.

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6 Cumulative Effects Assessment

The recognition of cumulative effects assessment as a best practice is reflected in many regulatory and guidance documents. Regarding the development of hydrocarbon pipelines in Ontario, the OEB *Environmental Guidelines* (2023) notes that cumulative effects should be identified and discussed in the ER.

Building upon the intent of the OEB *Environmental Guidelines* (2023), the OEB has specified that only those effects that are additive or interact with the effects that have already been identified as resulting from the Project are to be considered under cumulative effects. In such cases, it will be necessary to determine whether these effects warrant mitigation measures. The cumulative effects assessment has been prepared with consideration of this direction from the OEB.

6.1 Methods

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

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

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

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

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

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

6.2 Study Boundaries

Spatial

To make assumptions about the magnitude and probability of effects, an approximate 100 m boundary around the Project was used for the cumulative effects assessment. The 100 m boundary has been found, through previous experience with pipeline construction, to be appropriate for the most encountered net effects.

Temporal

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

1. ER and Technical Design – 2026/2027
2. Construction – 2028
3. Operation and Maintenance – 2029 to 2079*

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

Based upon these milestone activities, two time periods were selected for evaluation: 2028 and 2032. The year 2028 was selected to represent the construction period, and the year 2032 was selected to represent the operation and maintenance period. Forecasting beyond 2032 increases the uncertainty in predicting whether projects will proceed, and the effects associated with these projects.

6.3 Project Inclusion List

As part of the study of cumulative effects, projects that are either currently existing, and those that have been approved and are scheduled (or likely to be scheduled) during the construction period and early operation and maintenance of the Project, were reviewed. The Project inclusion list was developed by reviewing publicly available information on projects and activities whose effects could potentially interact with the identified effects of the proposed Project in the spatial and temporal study boundaries. The following resources were reviewed:

- Canadian Energy Regulator, Major Facilities Applications (Canadian Energy Regulator, 2026)
- County of Lambton, 2026-2030 Roads Construction Program (County of Lambton, 2026b)
- Government of Ontario, Environmental Assessment Projects by Category (Government of Ontario, 2026a)
- Government of Ontario, Ontario Builds (Government of Ontario, 2026b)
- Government of Ontario, Renewable Energy Projects Listing (Government of Ontario, 2026c)
- Impact Assessment Agency of Canada, Canadian Impact Assessment Registry (IAAC, 2025)
- MTO, Ontario’s Highways Program Interactive Map (2026-2027) (MTO, 2026)
- OEB Applications Currently Before the Board (facilities applications only) (OEB, 2021)

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Based on the review of publicly available resources, there were no projects for consideration of cumulative effects. It is assumed that on-going improvements, upgrades, and maintenance to municipal infrastructure such as bridges, culverts, drains, electrical utilities, municipal developments, or roads may occur in the spatial and temporal study boundaries outlined above.

6.4 Analysis of Cumulative Effects

The ER considers the potential impacts of the Project on specific features and conditions and proposes mitigation and protective measures to eliminate or reduce the potential impacts. The cumulative effects assessment evaluates the significance of residual impacts (after mitigation) of the Project along with the effects of other unrelated projects.

6.4.1 Construction – Year 2028

Residual Project impacts which may occur during Project construction are outlined in **Table 5.1**. To consider the additive and interactive effects at their maximum intensity, the cumulative effects assessment assumes that construction of other unrelated projects and the proposed Project construction will occur concurrently.

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

Soil

Soil erosion is a potential residual effect associated with construction of the Project. Provided that concurrent projects implement similar mitigation and protective measures as those outlined in this report, including monitoring as outlined in **Sections 7.1.2 and 7.1.3**, the probability of erosion control failure occurring concurrently is predicted to be of low probability and magnitude, and short duration. As such, adverse cumulative residual effects from erosion are not anticipated to be significant.

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Reduced crop yield is also a potential residual effect associated with construction of the Project. It is assumed that the previously disturbed soil along the NPS 26 experiences reduced crop yield compared to undisturbed soil; this impact is anticipated to remain following construction. The previously disturbed soil will be disturbed again where sections of the NPS 26 will be removed, resulting in a cumulative residual effect.

This cumulative residual effect will be mitigated through the soil handling techniques outlined in **Table 5.1**. A review of previous crop monitoring studies determined that construction and clean-up practices have improved over time and now result in improvements in crop yield performance compared to previous practices. In fact, the most recent crop monitoring study conducted by Enbridge Gas determined that five years following construction the majority of assessed fields had equal to or greater than crop counts and biomass weights compared to undisturbed soil, reflecting the positive benefit of current soil handling techniques. As such, while previously disturbed soil impacts are anticipated to remain, adverse cumulative residual effects on crop yield due to soil disturbance for the current Project will be of short duration, will be managed through agreement with Enbridge Gas, and are not anticipated to be significant.

Vegetation

Where there is natural vegetation in or adjacent to the Project footprint, potential impacts include the removal of native vegetation, and indirect effects such as dust, erosion, and accidental spills. However, with the implementation of the mitigation and protective measures outlined in this report, such as 3:1 vegetation replanting, and provided that concurrent projects implement similar mitigation and protective measures as those outlined in this report, cumulative effects on vegetation are predicted to be of low magnitude and adverse residual cumulative effects are not anticipated to be significant.

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Wildlife and Wildlife Habitat

Potential residual effects on wildlife and wildlife habitat associated with construction of the Project are accidental direct mortality, habitat removal and degradation, and sensory disturbance. Provided that concurrent projects implement similar mitigation and protective measures as those outlined in this report, including monitoring as outlined in **Section 7.1.5**, and vegetation replanting as discussed above, cumulative effects on wildlife and wildlife habitat are predicted to be of low magnitude and probability, and therefore adverse residual cumulative effects are not anticipated to be significant.

Air Quality and Acoustic Environment

Project construction will lead to an increase in noise and air pollutants from operation of vehicles and equipment, and an increase in dust from construction activities. Provided that the concurrent projects implement similar mitigation and protective measures as those outlined in this report, cumulative effects are predicted to be of low magnitude and reversible. Therefore, adverse residual cumulative effects on air quality and the acoustic environment are not anticipated to be significant.

6.4.2 Operation and Maintenance – Year 2032

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

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

Operation and maintenance of the Project will have relatively little impact on the environment. On a day-to-day basis there is no operational noise that is anticipated to occur following Project construction. Should an integrity dig be necessary, this will be the only anticipated instance when the Project would have potential temporary impacts during its operation.

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Consultation will continue with municipal staff and other utilities that intersect with the Project to identify new projects that may occur concurrently with the proposed Project operation. New projects could include municipal road and infrastructure upgrades and maintenance programs. There is the potential that cumulative effects may occur for residual impacts as outlined in the ER related to accidental spills, ESC, and residents.

Operation and maintenance activities undertaken by Enbridge Gas will be completed in co-ordination with the Lands, Permitting and Environment Team and will consider potential impacts on the environmental and socio-economic environment. Appropriate mitigation measures will be developed and implemented based on the proposed maintenance work and all necessary agency permits and approvals will be secured, as required. Given the limited scale of impact of any potential operation and maintenance activities, it is anticipated that residual impacts will be minimal and that should any interaction occur with other projects, adverse residual effects are not anticipated to be significant.

6.5 Summary of Cumulative Effects

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

The cumulative effects assessment determined that, provided the mitigation and protective measures outlined in this report are implemented and that concurrent projects implement similar mitigation and protective measures, potential cumulative effects are not anticipated to occur, or if they do occur are not anticipated to be significant.

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7 Monitoring and Contingency Plans

7.1 Monitoring

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

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

- Trained personnel should be on-site to monitor construction and should be responsible for checking that the mitigation and protective measures and monitoring requirements in the ER are executed. Enbridge Gas should implement an orientation program for inspectors and contractor personnel to provide information regarding Enbridge Gas' environmental program and commitments, as well as safety measures.
- Construction techniques, procedures, and contract provisions that will be applied by the contractor during construction. Agency notification requirements, permits required during the construction phase, and monitoring program descriptions - including sampling - will be shared with the contractor and adhered to.
- A walking inspection of the Project footprint should be completed three (3) months and fifteen (15) months after the in-service date to determine whether areas require further rehabilitation or as required by OEB conditions of approval.

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

7.1.1 Exposed Soils

Where soils are exposed for construction activities, potential effects may include surface soil erosion and sedimentation of watercourses. Improper water discharge can lead to erosion and sedimentation. Monitoring of potential effects on exposed soils should occur by Enbridge Gas' on-site inspection team and the Environmental Inspector.

7.1.2 Water Wells

A Water Well Monitoring Program should be implemented prior to construction to determine preconstruction quality and quantity conditions.

The proposed monitoring program should include delivery of notification letters to all potential groundwater users within a certain distance of the pipeline route. Due to well access limitations and resident's willingness to participate in the Water Well Monitoring Program, it will not be possible to monitor every well within the selected distance; typically, response rates for this type of request ranges between 10 and 20 percent. The notification letter will detail the proposed Project construction and the potential risk of well interference, as well as include appropriate contact information for Enbridge Gas.

Landowner complaints regarding well interference received during or after the construction period, whether the landowner is a participant in the Water Well Monitoring Program or not, should be investigated individually as described in **Section 7.2.1**.

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7.1.3 Watercourse Crossings

An Environmental Inspector should be on-site during the watercourse crossings to monitor adherence to requirements, that pre-construction preparation is complete prior to commencement of any work, and that conditions are restored to as close to preconstruction conditions as possible.

Follow-up inspections, summarized in monitoring reports, will be completed to assess the state of restoration. Appropriate remediation measures will be completed as necessary, and additional follow-up monitoring will be conducted.

7.1.4 Vegetation

Where required, re-establishment of vegetative cover should be monitored. Sediment control fencing and other protective measures should be retained in place until cover is fully established. Should any new trees be planted as part of compensation plans, a year following construction, any planted trees should be inspected for survival. In areas of severe dieback, dead and diseased trees should be replaced.

7.1.5 Species at Risk

Should the presence of SAR be identified in the Study Area, construction monitoring will need to be undertaken. The exact nature of monitoring will be determined in consultation with applicable agencies and as per regulatory requirements.

7.1.6 Residents and Businesses

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

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Enbridge Gas's on-site inspection team should also monitor the contractors' implementation of the Traffic Management Plan to see that site access to residences and businesses has been maintained and that traffic is not being unnecessarily interrupted.

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

Following completion of construction, Enbridge Gas should contact residents and businesses along the easement to continue ongoing communications where necessary. During the first 15 months particular attention should be paid to monitoring and documenting impacts associated with construction and restoration of the Project.

7.1.7 Municipal Roads

Roads affected by Project construction should be restored to their pre-construction conditions to the satisfaction of the appropriate authorities' engineers. Road Superintendents should be given an opportunity to inspect any repairs or modifications. Once re-established, the crossing location of roads should be monitored to ensure no road subsidence or major rutting has occurred and that the drainage system is functioning properly.

7.1.8 Cultural Heritage Resources

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

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7.2 Contingency

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

The following unexpected events require contingency planning during construction: contaminated sites, private water well complaint, watercourse sedimentation, accidental spills, and unexpected finds.

Although unexpected problems are not anticipated to occur during construction, Enbridge Gas and the pipeline contractor should be prepared to act when unexpected events occur. Construction personnel should be made aware of and know how to implement contingency measures prior to starting any activities in the field.

7.2.1 Contaminated Sites (Suspect Soils Program)

Efforts have been made to identify potentially contaminated sites in the vicinity of Study Area through a review of readily available information. Through circulation of the ER, the MECP will have an opportunity to review if other unknown areas of potential contamination may exist.

Regardless, the potential exists for unknown material to be encountered during construction. If evidence of potential contamination is found, such as buried tanks, drums, oil residue or gaseous odour, construction should cease, and Enbridge Gas's Suspect Soil Program should be implemented.

If potentially contaminated sites are encountered, the on-site contractor supervisor and owner representative should be notified immediately, as well as the following:

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- Enbridge's Environment Department
- Enbridge's designated Environmental Inspector

7.2.2 Private Water Well Complaint

Enbridge Gas' Private Water Well Complaint contingency plan should be implemented in the unlikely event that residential well complaints arise during or after construction. The depth and existing condition of a given well is a significant factor in whether the well may be adversely impacted by nearby construction activities. The objective of any investigation related to interference of private water supply is to respond to the resident expediently and courteously and ultimately arrive at a resolution that is agreeable to both Enbridge Gas and the well owner.

In the event a resident registers a complaint with Enbridge Gas regarding a reduction of well water quality and/or quantity, Enbridge Gas will offer to arrange immediate provision of temporary potable or non-potable water, depending on the resident's needs, until the matter is resolved.

Enbridge Gas will also offer to have a qualified hydrogeologist complete a well inspection, subject to the well owner granting permission. The hydrogeologist will visit the site to discuss the complaint with the resident and inspect the well and related complaint to the extent possible. The hydrogeologist will then provide advice to Enbridge Gas on further assessment if required, or advice on possible remedial options should they determine that the complaint may be related to the Project's construction works.

7.2.3 Watercourse Sedimentation

Properly installed ESC measures are designed to reduce the risk of sediment laden runoff being transported towards watercourses and other natural heritage features. Extreme runoff events could result in collapse of silt fencing, overflow or bypass of

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barriers, slope or trench failures, and other problems which could lead to sedimentation of watercourses.

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

7.2.4 Accidental Spills

During construction, there is the potential for an accidental spill to occur. The impact of the spill will depend upon the magnitude and extent of the spill, and the environmental and socio-economic conditions in which it takes place.

Upon release of a hydrocarbon-based construction fluid, Enbridge Gas should immediately determine the magnitude and extent of the spill and rapidly take measures to contain it. Release of sediment should also be treated as a potential spill depending on the magnitude and extent.

Spills should be immediately reported to Enbridge Gas' on-site inspection team and Environment Department. The MECP Spills Action Center should be notified at 1-800-268-6060. If requested through consultation, other stakeholders identified on the Project contact list should be notified of reportable spills.

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

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7.2.5 Unexpected Finds: Archaeological or Heritage Resources

Should previously undocumented archaeological resources be discovered, they may constitute 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. A site-specific response plan should then be employed following further investigation of the specific find. The response plan would indicate under which conditions the ground disturbance activity in the find location may resume.

The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (Government of Ontario 2002) requires that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Government and Consumer Services (1-800-889-9768). If the coroner does not suspect foul play in the disposition of the remains, in accordance with O. Reg. 30/11, the coroner shall notify the Registrar, Ontario Ministry of Public and Business Service Delivery, which administers provisions of that Act related to burial sites. In situations where human remains are associated with archaeological resources, the MCM 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*.

Enbridge Gas is committed to notifying and keeping interested Indigenous communities engaged on any unearthed artifacts and/or human remains discovered in relation to all their Projects.

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8 Conclusion

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

With the implementation of the recommendations in this Report, continued engagement and consultation, and compliance with applicable permit, regulatory, and legislative requirements, potential adverse residual environmental and socio-economic impacts of the Project are not anticipated to be significant.

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Appendices

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Appendix A Existing Conditions Figures

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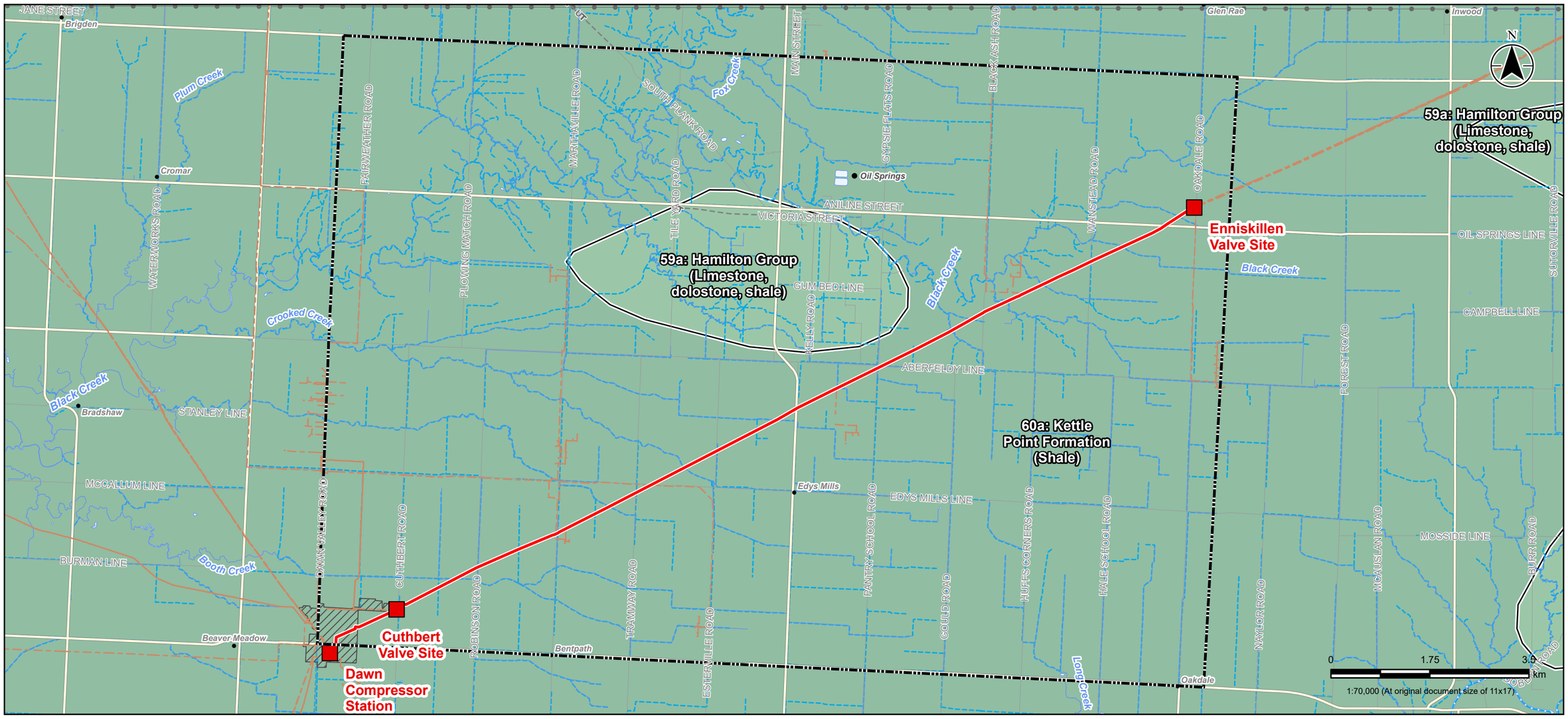

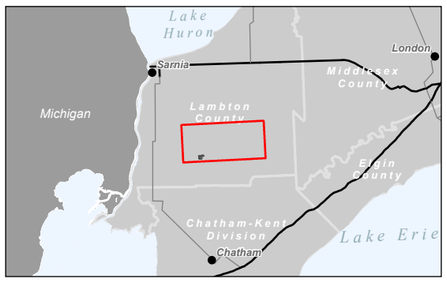

Legend

Bedrock Geology
- 59a: Hamilton Gp.
- 60a: Kettle Point Fm.
- Contact

Project Components
- Enbridge Station/Valve
- Proposed Pipeline
- Existing Pipeline
- Compressor Station Area
- Study Area

Base Data
- Major Road
- Minor Road
- Hydro Line
- Unknown Transmission Line
- Constructed Drain
- Watercourse (Intermittent)
- Watercourse (Permanent)
- Waterbody

Notes
1. Coordinate System: NAD 1983 UTM Zone 17N
2. Contains information licensed under the Open Government Licence – Ontario, and the Open Government Licence - Canada, accessed 2026.
3. Bedrock geology data source: Ontario Geological Survey 2011. 1:250 000 scale bedrock geology of Ontario; Ontario Geological Survey, Miscellaneous Release-Data 126-Revision 1. ISBN 978-1-4435-5704-7 (CD) ISBN 978-1-4435-5705-4

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Project Location
Township of Dawn-Euphemia

REVA
Prepared by AWhite on 2026-11-04
Technical Review By MKnight on 2026-10-05

Client/Project
ENBRIDGE GAS INC.
DAWN PARKWAY RENEWAL PROJECT
DAWN TO ENNISKILLEN

Figure No.
1

Title
Bedrock Geology

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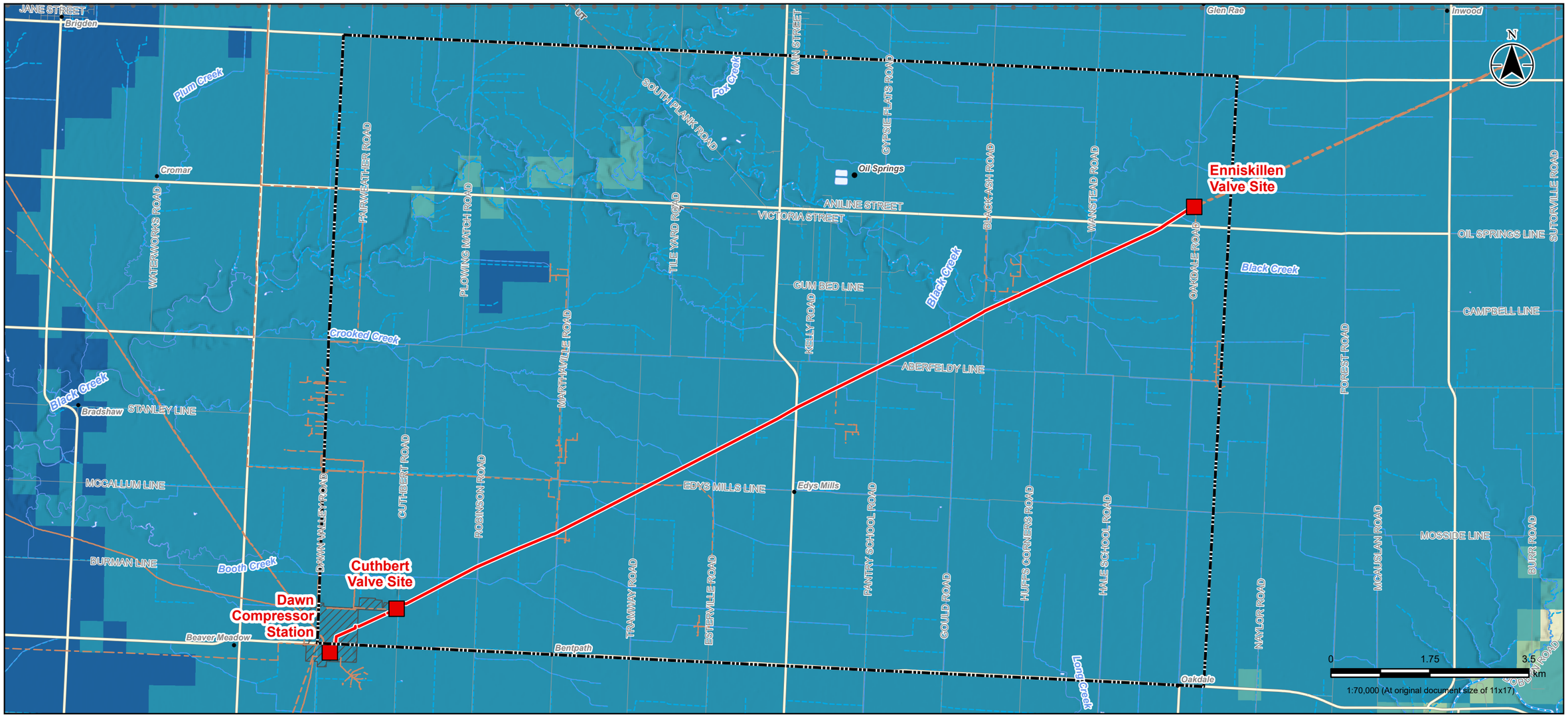

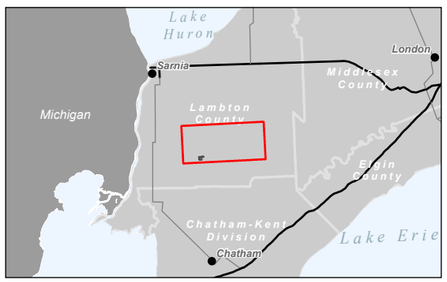

Legend

Drift Thickness (m)
- 0
- 1.001 - 5
- 5.001 - 10
- 10.001 - 30
- 30.001 - 60

Project Components
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- Watercourse (Permanent)
- Waterbody

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1. Coordinate System: NAD 1983 UTM Zone 17N
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3. Drift thickness data source: Gao, C., Shirota, J., Kelly, R.I., Brunton, F.R. and van Haaften, S. 2006. Bedrock topography and overburden thickness mapping, Southern Ontario; Ontario Geological Survey, Miscellaneous Release—Data 207.

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Project Location
Township of Dawn-Euphemia

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Prepared by AWhite on 2026-11-04
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Client/Project
ENBRIDGE GAS INC.
DAWN PARKWAY RENEWAL PROJECT
DAWN TO ENNISKILLEN

Figure No.
2

Title
Drift Thickness

U:\160901\60901400\03_data\gis_cad\gis\ArcPro\Disciplines\APENB_ER_ExistingConditions.aprx\ENB_ER_Fig02_DriftThickness Revised on 11/4/2026 12:22 AM by AWhite

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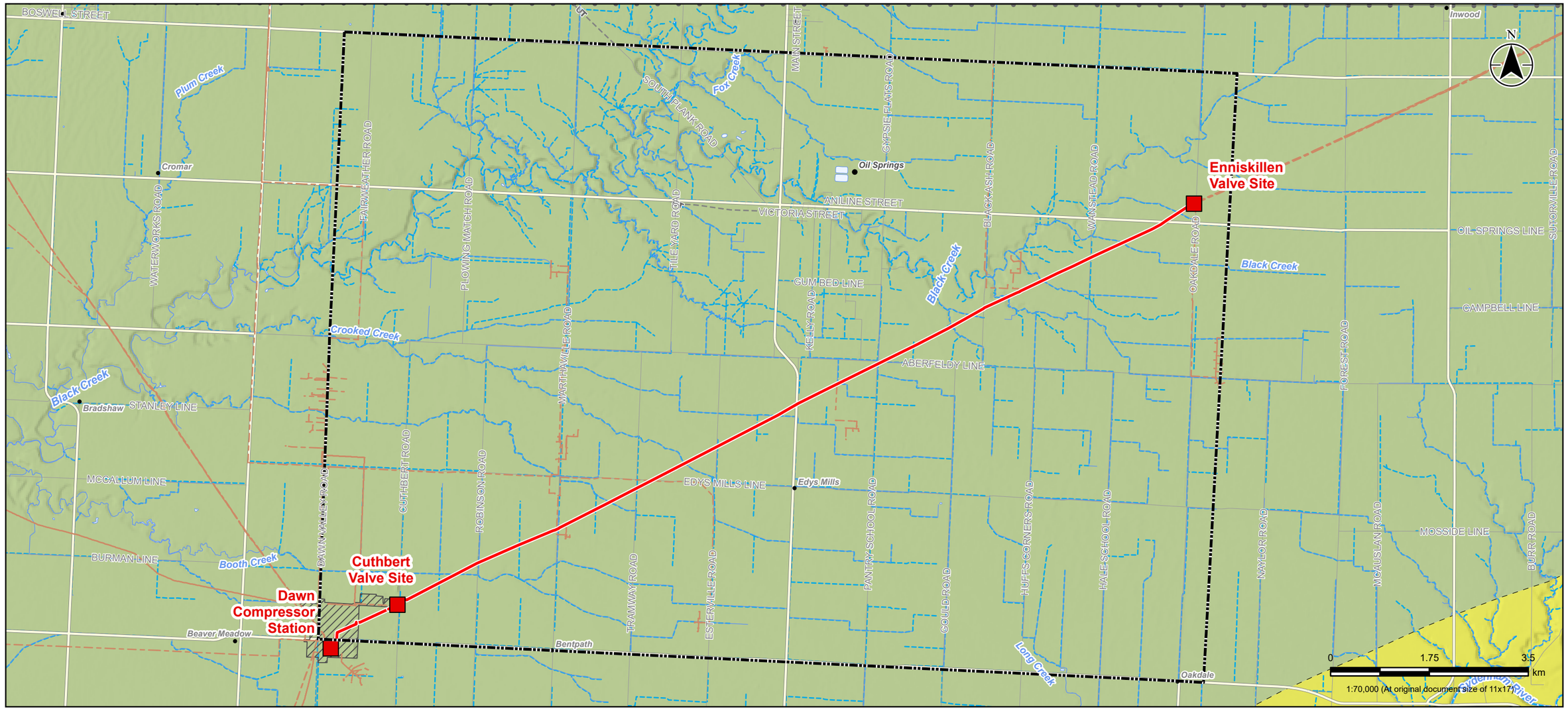

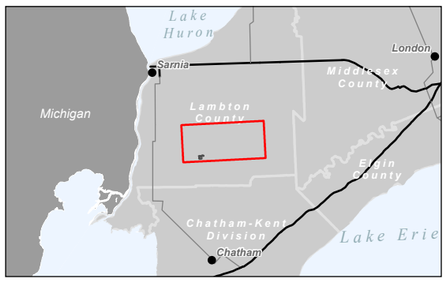

Legend

Physiography
- Contact
- 8: Bevelled Till Plains
- 11: Sand Plains

Project Components
- Enbridge Station/Valve
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Base Data
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- Constructed Drain
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- Watercourse (Permanent)
- Waterbody

Notes
1. Coordinate System: NAD 1983 UTM Zone 17N
2. Contains information licensed under the Open Government Licence – Ontario, and the Open Government Licence - Canada, accessed 2026.
3. Physiography data source: Chapman, L.J. and Putnam, D.F. 2007. Physiography of southern Ontario; Ontario Geological Survey, Miscellaneous Release—Data 228.

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Project Location
Township of Dawn-Euphemia

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Prepared by AWhite on 2026-11-04
Technical Review By MKnight on 2026-10-05

Client/Project
ENBRIDGE GAS INC.
DAWN PARKWAY RENEWAL PROJECT
DAWN TO ENNISKILLEN

Figure No.
3

Title
Physiography

U:\160901609\01400\03_data\gis_cad\gis\ArcPro\Disciplines\APIENB_ER_ExistingConditions.aprx\ENB_ER_Fig03_Physiography Revised on 11/4/2026 12:22 AM by AWhite

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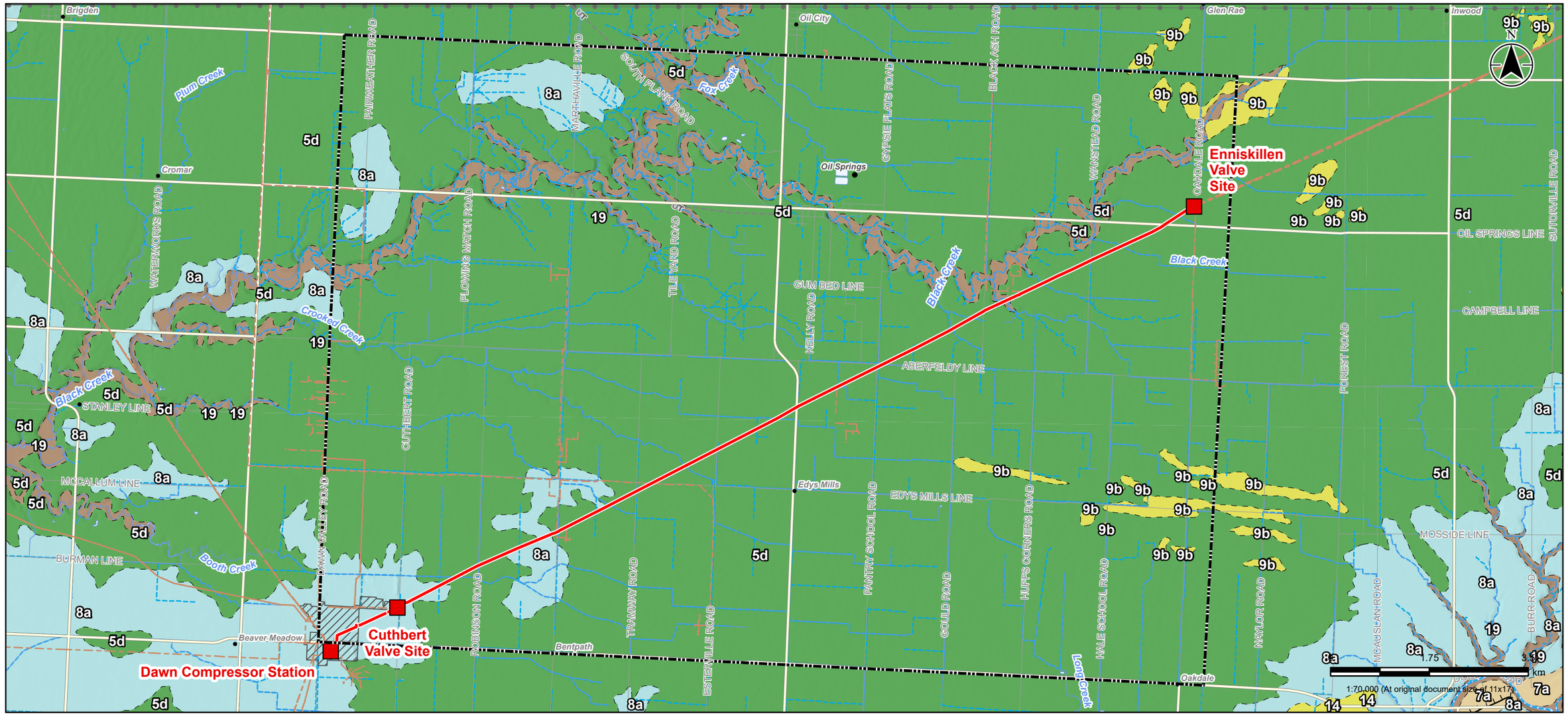

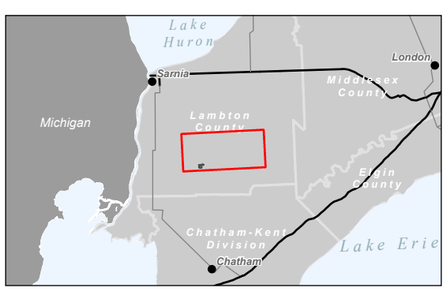

Legend

Surficial Geology

- Terrace
- Contact
- 5d: Glaciolacustrine-derived silty to clayey till
- 7a: Sandy deposits
- 8a: Massive-well laminated
- 9b: Littoral-foreshore deposits
- 14: Coarse-textured lacustrine deposits
- 19: Modern alluvial deposits

Project Components

- Enbridge Station/Valve
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- Study Area

Base Data

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- Minor Road
- Hydro Line
- Unknown Transmission Line
- Constructed Drain
- Watercourse (Intermittent)
- Watercourse (Permanent)
- Waterbody

Notes

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3. Surficial geology data source: Ontario Geological Survey 2010. Surficial geology of Southern Ontario; Ontario Geological Survey, Miscellaneous Release--Data 128-REV ISBN 978-1-4435-2483-4.

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Project Location
Township of Dawn-Euphemia

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Prepared by AWhite on 2026-11-04
Technical Review By MKnight on 2026-10-05

Client/Project
ENBRIDGE GAS INC.
DAWN PARKWAY RENEWAL PROJECT
DAWN TO ENNISKILLEN

Figure No.
4

Title
Surficial Geology

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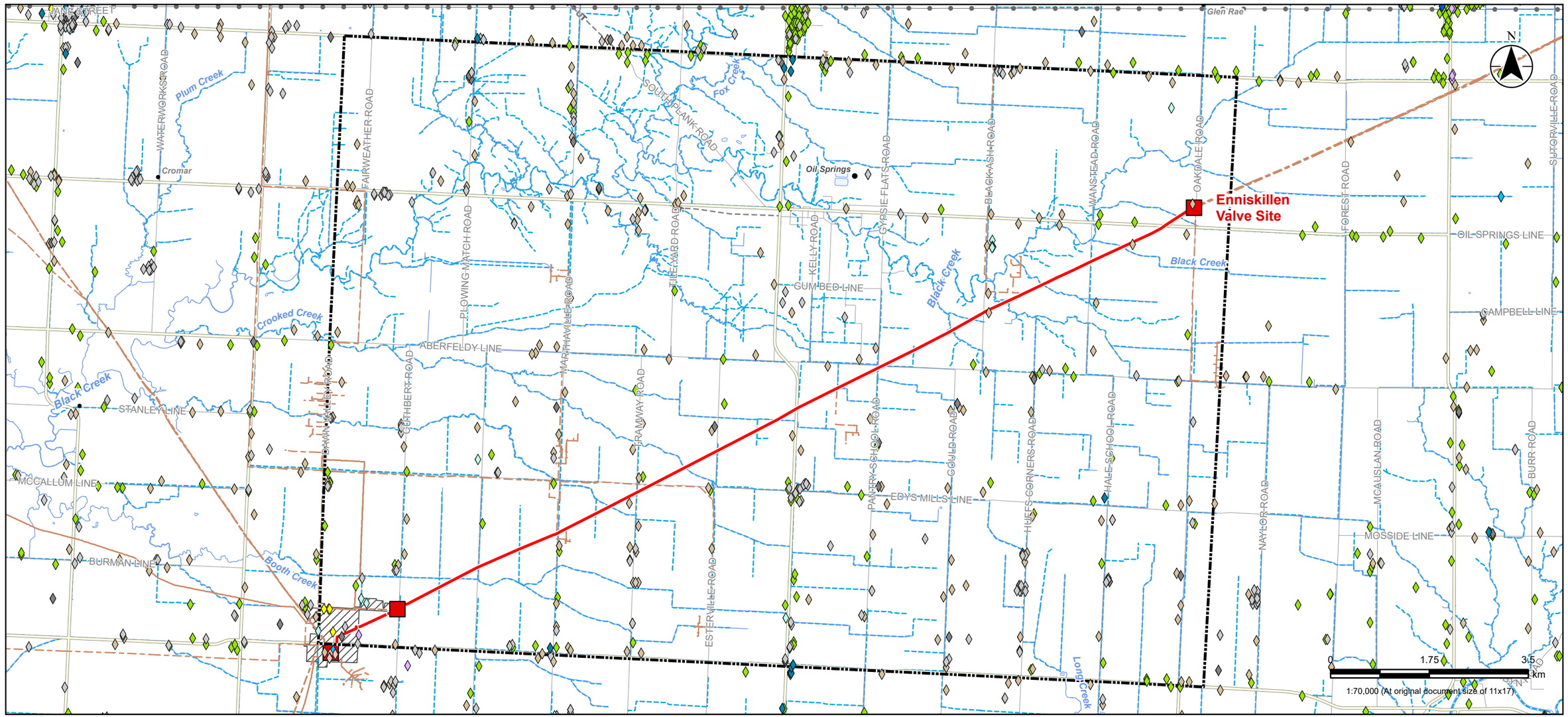

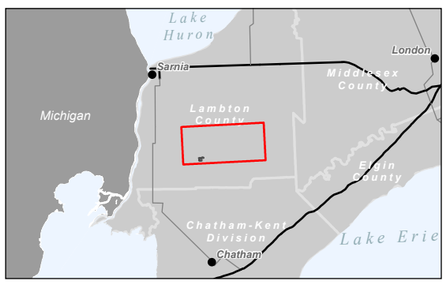

Notes

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Legend

Well Use

- Commerical
- Domestic
- Industrial
- Irrigation
- Livestock
- Monitoring
- Monitoring and Test Hole
- Municipal
- Not Used
- Other
- Public
- Test Hole

Project Components

- Enbridge Station/Valve
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- Existing Pipeline
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- Study Area

Base Data

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- Constructed Drain
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- Watercourse (Permanent)
- Waterbody

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Project Location
Township of Dawn-Euphemia

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Technical Review By MKnight on 2026-10-05

Client/Project
ENBRIDGE GAS INC.
DAWN PARKWAY RENEWAL PROJECT
DAWN TO ENNISKILLEN

Figure No.
5

Title
Groundwater Conditions

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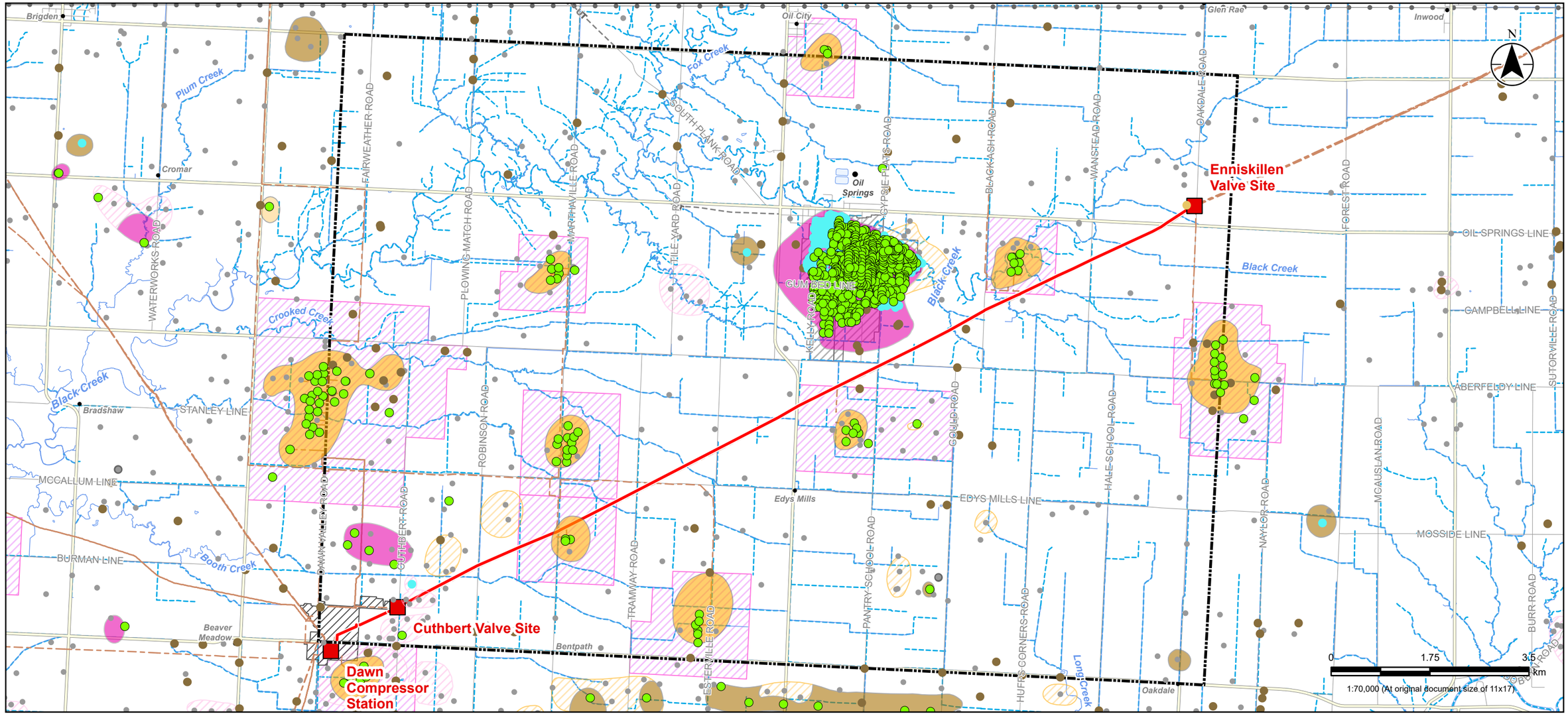

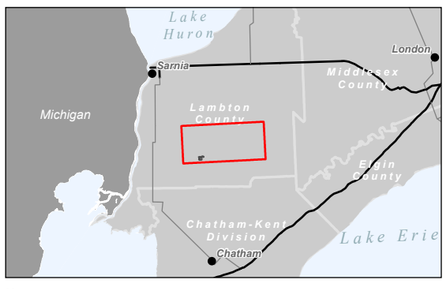

Legend

Petroleum Well
- Active Well
- Potential
- Suspended Well
- Abandoned Well
- Abandoned and Junked (Lost)
- No Well Found
- Unknown

Petroleum Pool (status)
- Active, Natural Gas
- Active, Natural Gas Storage
- Suspended, Natural Gas
- Abandoned, Natural Gas
- Active, Oil
- Abandoned, Oil
- Historical Oil Field
- Designated Gas Storage Area

Project Components
- Enbridge Station/Valve
- Proposed Pipeline
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- Study Area

Base Data
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- Watercourse (Permanent)
- Waterbody

Notes
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Project Location
Township of Dawn-Euphemia

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Technical Review By MKnight on 2026-10-05

Client/Project
ENBRIDGE GAS INC.
DAWN PARKWAY RENEWAL PROJECT
DAWN TO ENNISKILLEN

Figure No.
6

Title
Aggregate and Petroleum Resources

U:\160916090140003_data\gis_cad\gis\ArcPro\Disciplines\APENB_ER_ExistingConditions.aprx\ENB_ER_Fig06_AggregatesAndPetroleumResources Revised on 11/4/2026 12:22 AM by AWhite

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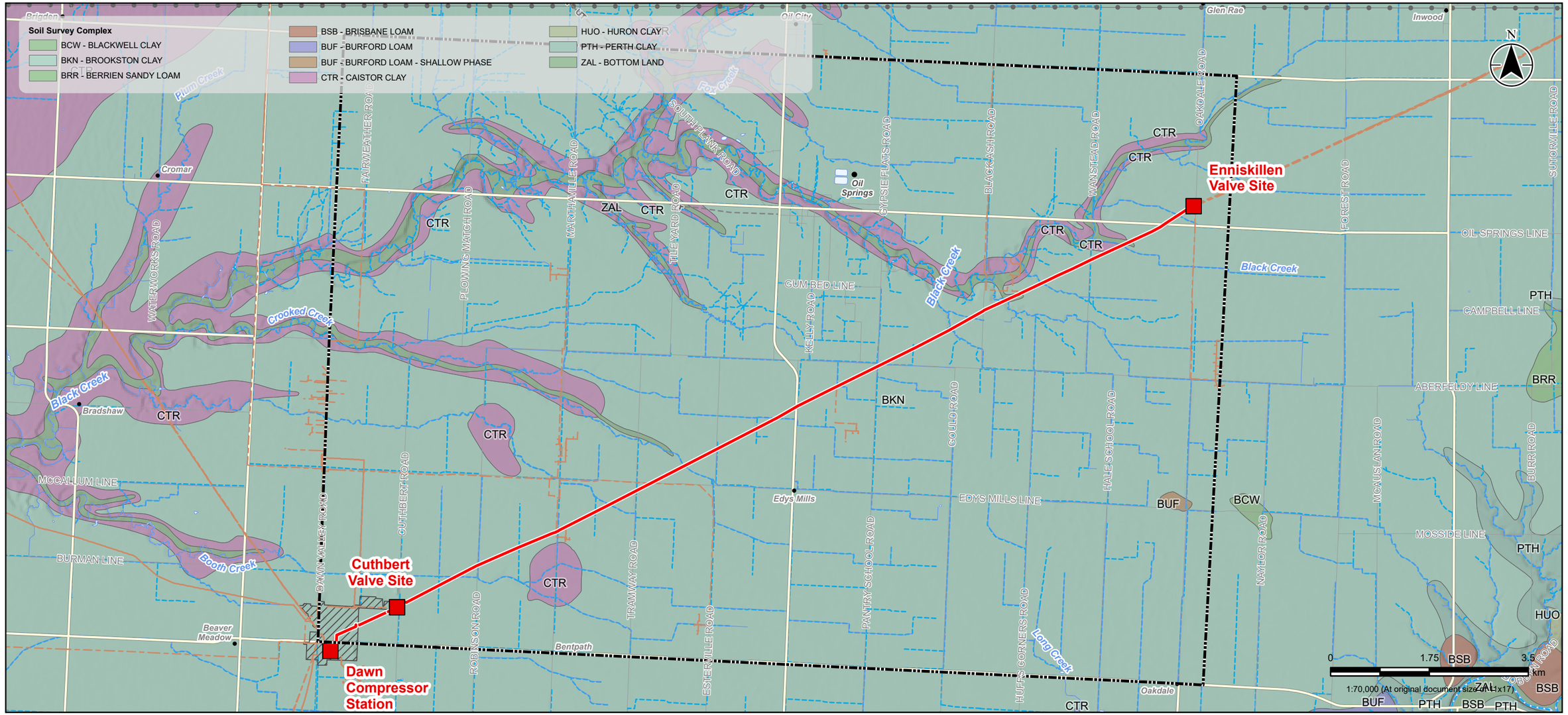

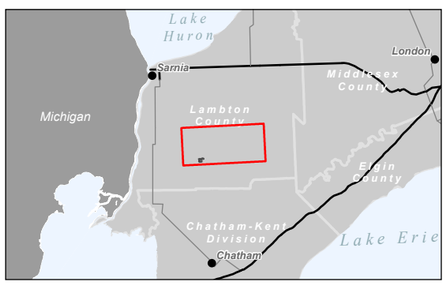

Legend

Project Components
- Enbridge Station/Valve
- Proposed Pipeline
- Existing Pipeline
- Compressor Station Area
- Study Area

Base Data
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- Waterbody

Notes
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Project Location
Township of Dawn-Euphemia

REVA
Prepared by AWhite on 2026-11-04
Technical Review By MKnight on 2026-10-05

Client/Project
ENBRIDGE GAS INC.
DAWN PARKWAY RENEWAL PROJECT
DAWN TO ENNISKILLEN

Figure No.
7

Title
Soil Type

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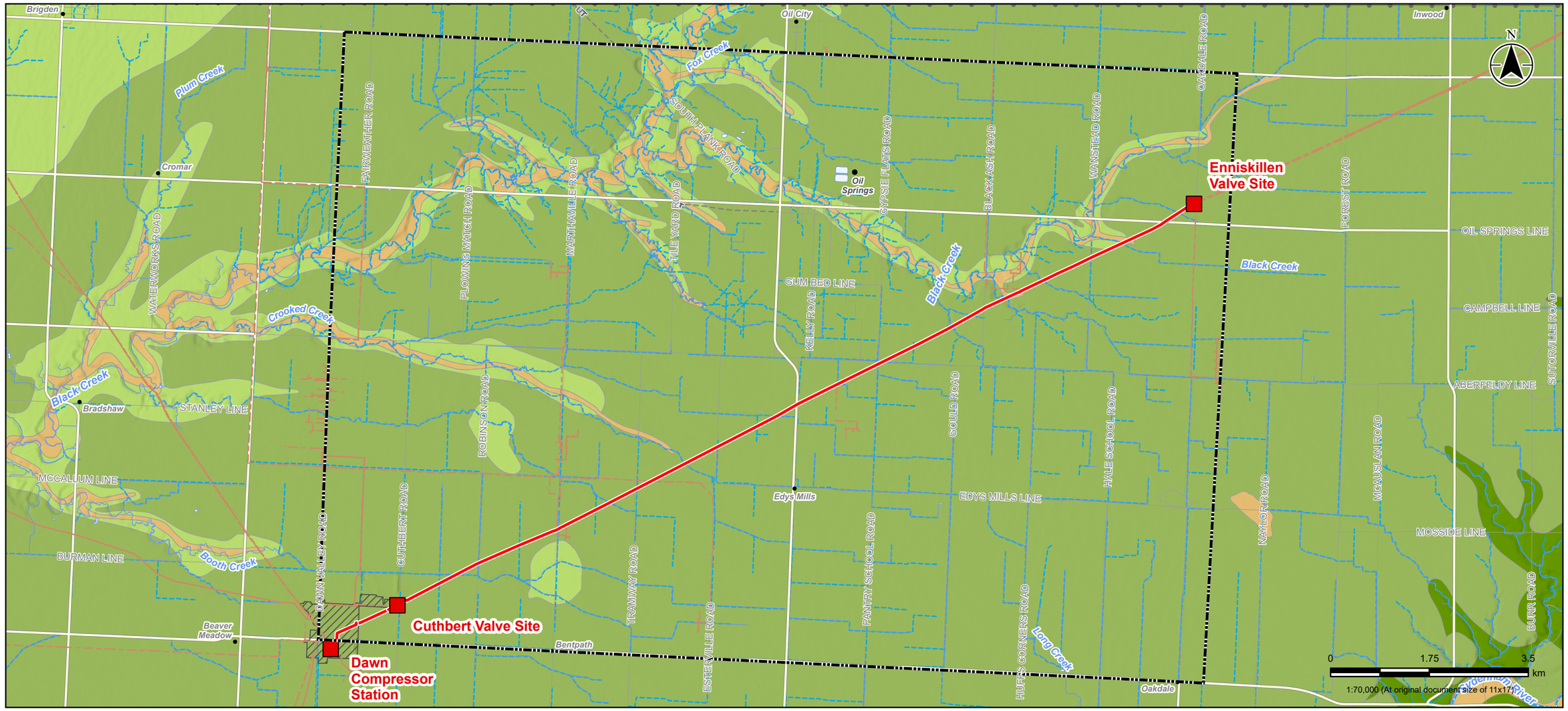

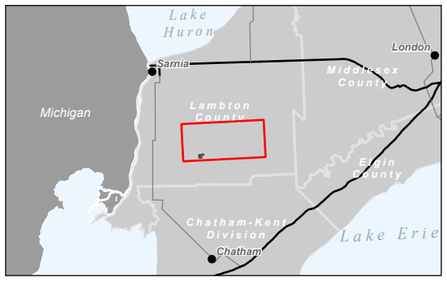

Legend

Canada Land Inventory (CLI)

- 1 - No significant limitations in use for crops
- 2 - Moderate limitations that restrict the range of crops or require moderate conservation practices
- 3 - Moderately severe limitations that restrict the range of crops or require special conservation practices
- 5 - Very severe limitations that restrict their capability in producing perennial forage crops, and improvement practices are feasible

Project Components

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Base Data

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Notes

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Project Location
Township of Dawn-Euphemia

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Technical Review By MKnight on 2026-10-05

Client/Project
ENBRIDGE GAS INC.
DAWN PARKWAY RENEWAL PROJECT
DAWN TO ENNISKILLEN

Figure No.
8

Title
Soil Capabilities

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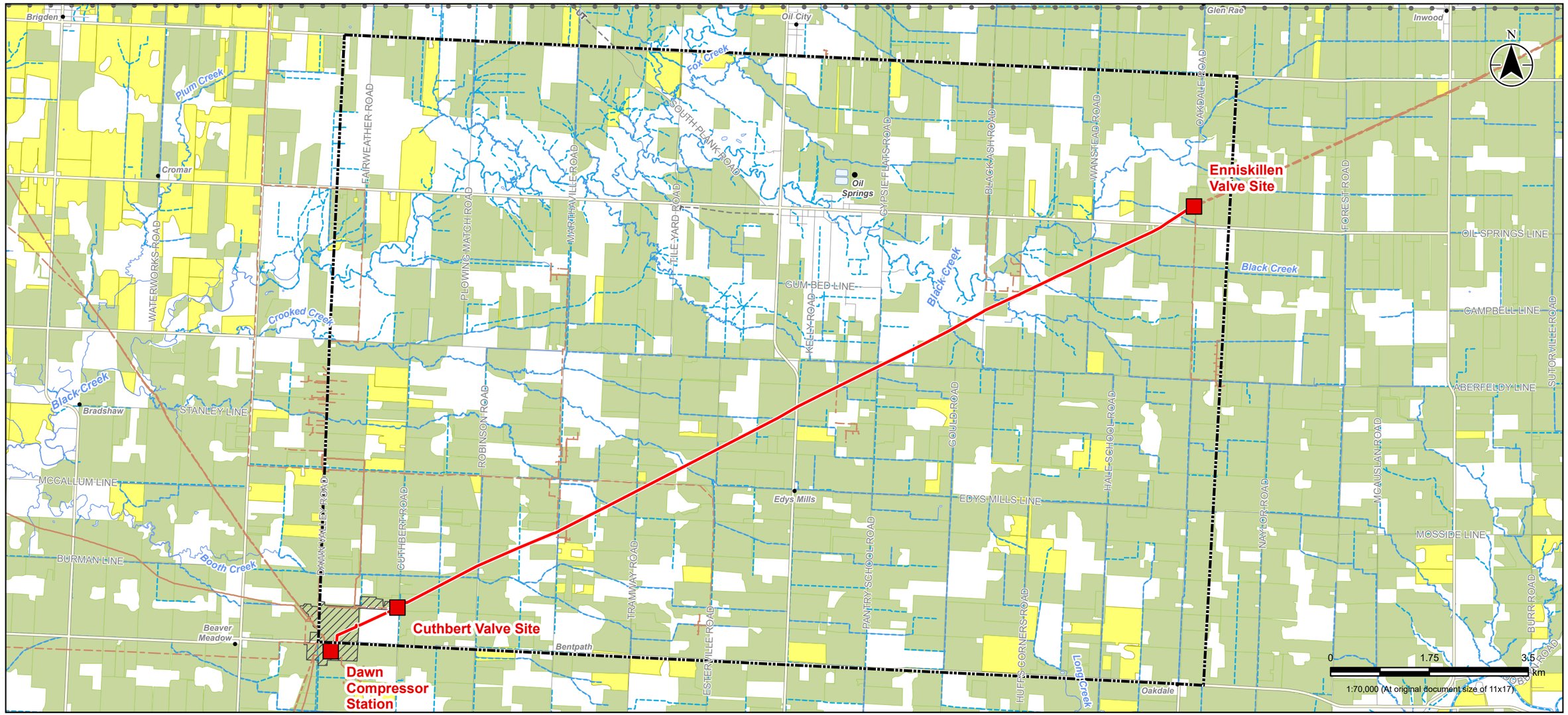

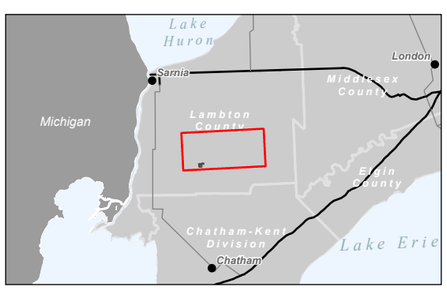

Legend

Tile Drainage Area
- Random
- Systematic

Project Components
- Enbridge Station/Valve
- Proposed Pipeline
- Existing Pipeline
- Compressor Station Area
- Study Area

Base Data
- Major Road
- Minor Road
- Hydro Line
- Unknown Transmission Line
- Constructed Drain
- Watercourse (Intermittent)
- Watercourse (Permanent)
- Waterbody

Notes
1. Coordinate System: NAD 1983 UTM Zone 17N
2. Contains information licensed under the Open Government Licence – Ontario, and the Open Government Licence - Canada, accessed 2026.

Stantec

Project Location
Township of Dawn-Euphemia

REVA
Prepared by AWhite on 2026-11-04
Technical Review By MKnight on 2026-10-05

Client/Project
ENBRIDGE GAS INC.
DAWN PARKWAY RENEWAL PROJECT
DAWN TO ENNISKILLEN

Figure No.
9

Title
Known Agricultural Tile Drainage

U:\160901\60901400\03_data\gis_cad\gis\ArcPro\Disciplines\APENB_ER_ExistingConditions.aprx\ENB_ER_Fig09_AgriculturalTileDrainage Revised on 11/4/2026 12:22 AM by AWhite

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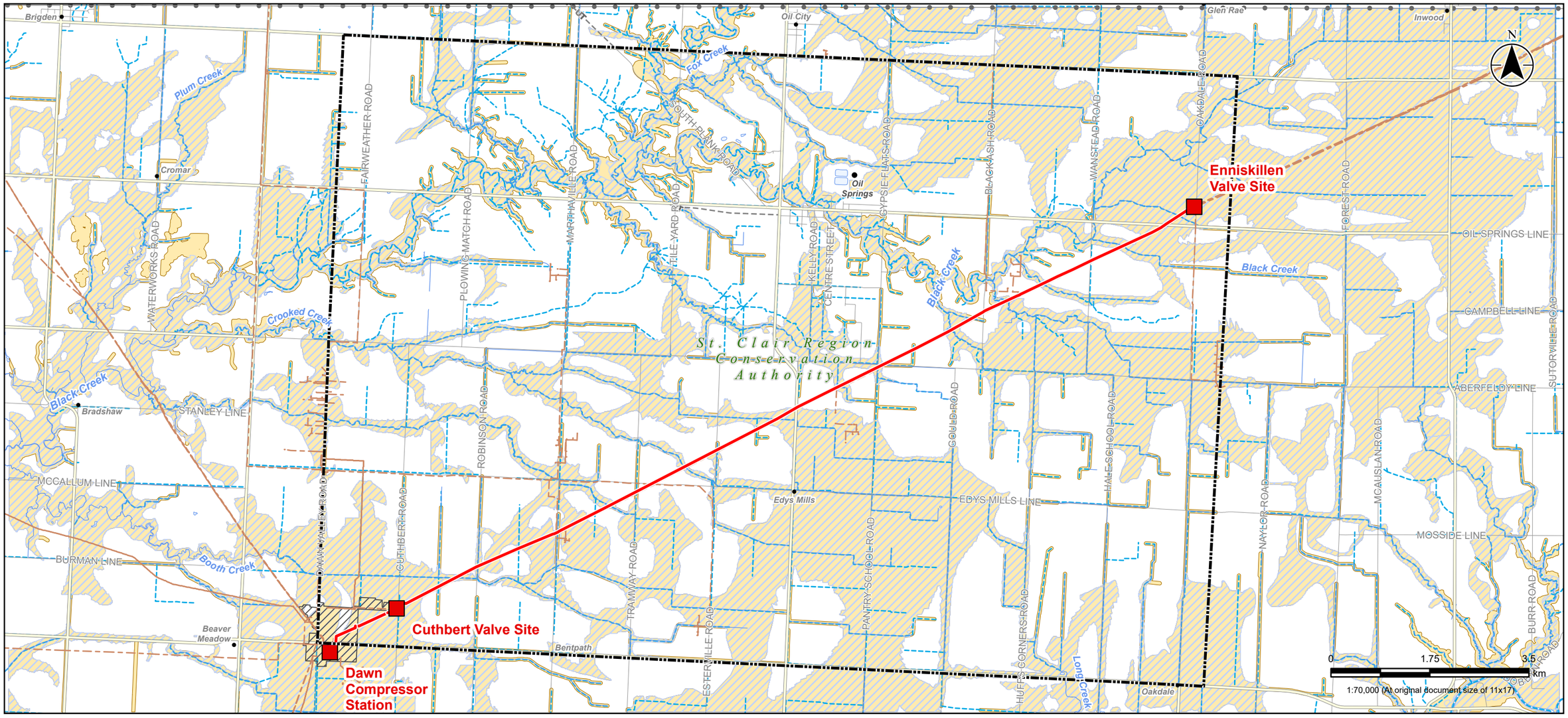

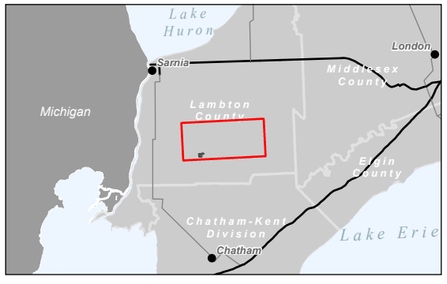

Legend

- Conservation Authority Administrative Boundary
- Areas Affected by Conservation Authority Regulations - Subject to Change
- Regulated Flood Plain - Subject to Change

Project Components

- Enbridge Station/Valve
- Proposed Pipeline
- Existing Pipeline
- Compressor Station Area
- Study Area

Base Data

- Major Road
- Minor Road
- Hydro Line
- Unknown Transmission Line
- Constructed Drain
- Watercourse (Intermittent)
- Watercourse (Permanent)
- Waterbody

Notes

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Stantec

Project Location
Township of Dawn-Euphemia

REVA
Prepared by AWhite on 2026-11-04
Technical Review By MKnight on 2026-10-05

Client/Project
ENBRIDGE GAS INC.
DAWN PARKWAY RENEWAL PROJECT
DAWN TO ENNISKILLEN

Figure No.
10

Title
Floodplain and Regulation Limit

U:\160916090140003_data\gis_cad\gis\ArcPro\Disciplines\AP\ENB_ER_ExistingConditions_aprx\ENB_ER_Fig10_RegulatedArea Revised on 11/4/2026 12:22 AM by AWhite

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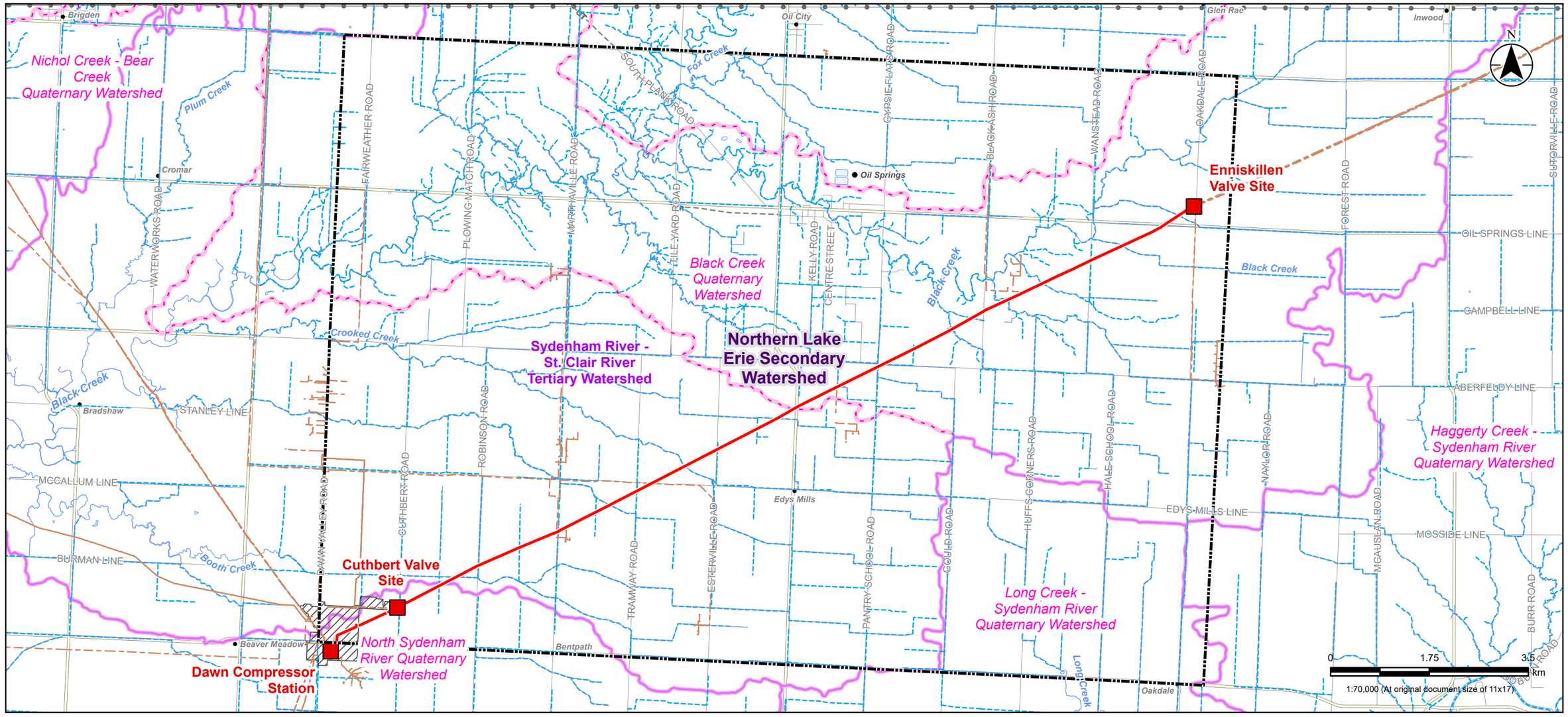

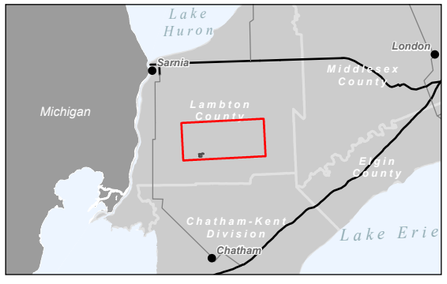

Legend

Watersheds
- Constructed Drain
- Watercourse (Intermittent)
- Watercourse (Permanent)
- Waterbody
- Secondary Watershed
- Tertiary Watershed
- Quaternary Watershed
- Local Watershed

Project Components
- Enbridge Station/Valve
- Proposed Pipeline
- Existing Pipeline
- Compressor Station Area
- Study Area

Base Data
- Major Road
- Minor Road
- Hydro Line
- Unknown Transmission Line

Notes
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2. Contains information licensed under the Open Government Licence – Ontario, and the Open Government Licence - Canada, accessed 2026.

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Project Location
Township of Dawn-Euphemia

REVA
Prepared by AWhite on 2026-11-04
Technical Review By MKnight on 2026-10-05

Client/Project
ENBRIDGE GAS INC.
DAWN PARKWAY RENEWAL PROJECT
DAWN TO ENNISKILLEN

Figure No.
11

Title
Watersheds

U:\160916090\400\03_data\gis_cad\gis\ArcPro\Disciplines\AP\ENB_ER_ExistingConditions.aprx\ENB_ER_Fig11_Watersheds Revised on 11/4/2026 12:22 AM by AWhite

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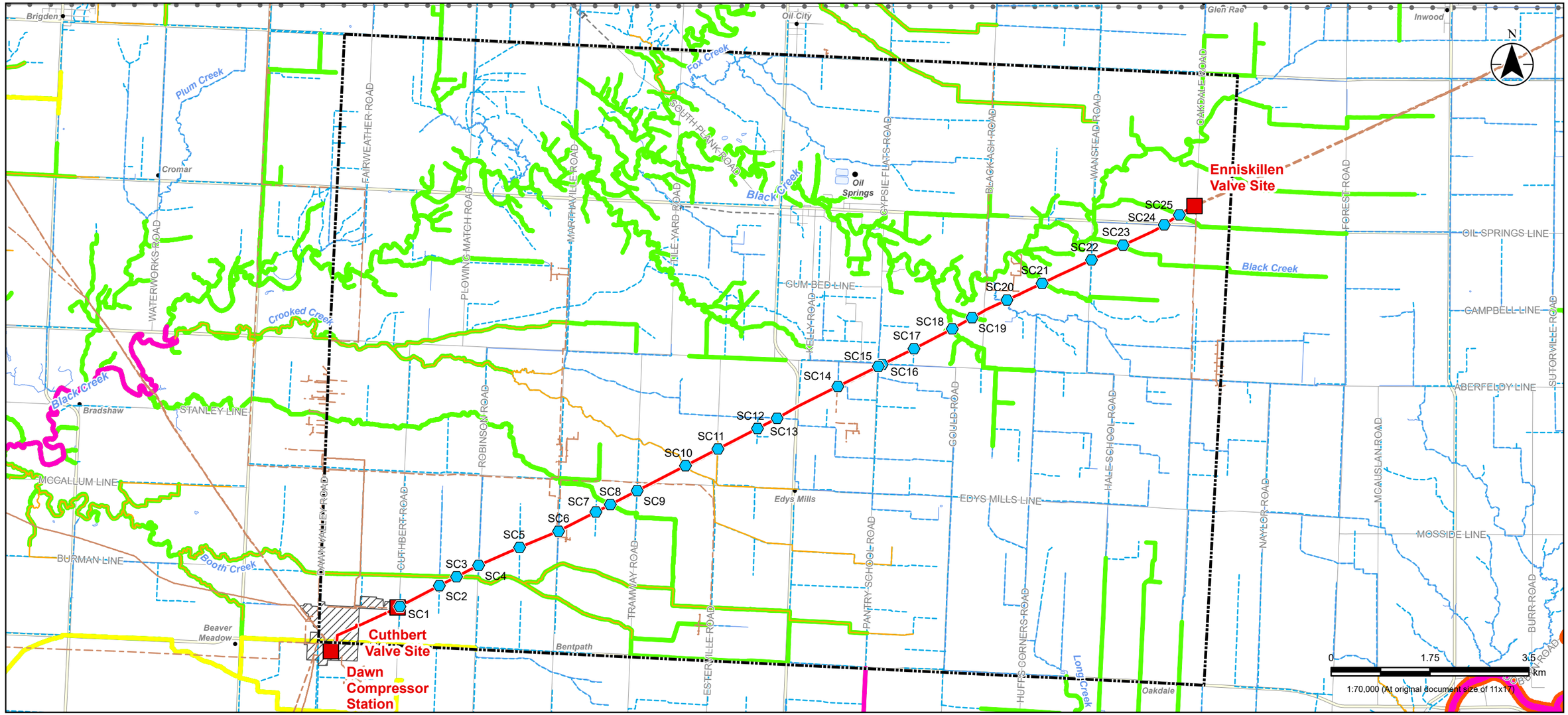

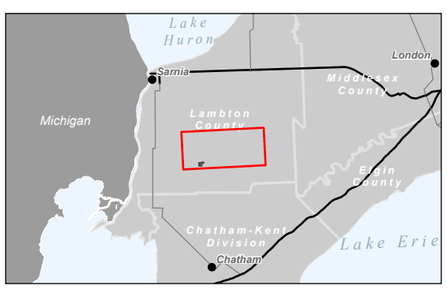

Legend

- Watercourse Crossing
- Constructed Drain
- Watercourse Thermal Regime, Warm
- Watercourse (Intermittent)
- Watercourse (Permanent)
- Aquatic Species at Risk - Endangered
- Aquatic Species at Risk - Threatened
- Aquatic Species at Risk - Special Concern
- Aquatic Species at Risk Critical Habitat
- WaterbodyThermal Regime, Warm
- Waterbody

Project Components

- Enbridge Station/Valve
- Proposed Pipeline
- Existing Pipeline
- Compressor Station Area
- Study Area

Base Data

- Major Road
- Minor Road
- Hydro Line
- UT Unknown Transmission Line

Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Contains information licensed under the Open Government Licence – Ontario, and the Open Government Licence - Canada, accessed 2026.
3. Additional unmarked water crossings will require field verification.

Stantec

Project Location
Township of Dawn-Euphemia

REVA
Prepared by AWhite on 2026-11-04
Technical Review By MKnight on 2026-10-05

Client/Project
ENBRIDGE GAS INC.
DAWN PARKWAY RENEWAL PROJECT
DAWN TO ENNISKILLEN

Figure No.
12

Title
Potential Watercourse Crossings

U:\160911609014000\3_data\gis_cad\gis\ArcPro\Disciplines\AP\ENB_ER_ExistingConditions.aprx\ENB_ER_Fig12_PotentialWatercourseCrossings Revised on 11/4/2026 12:22 AM by AWhite

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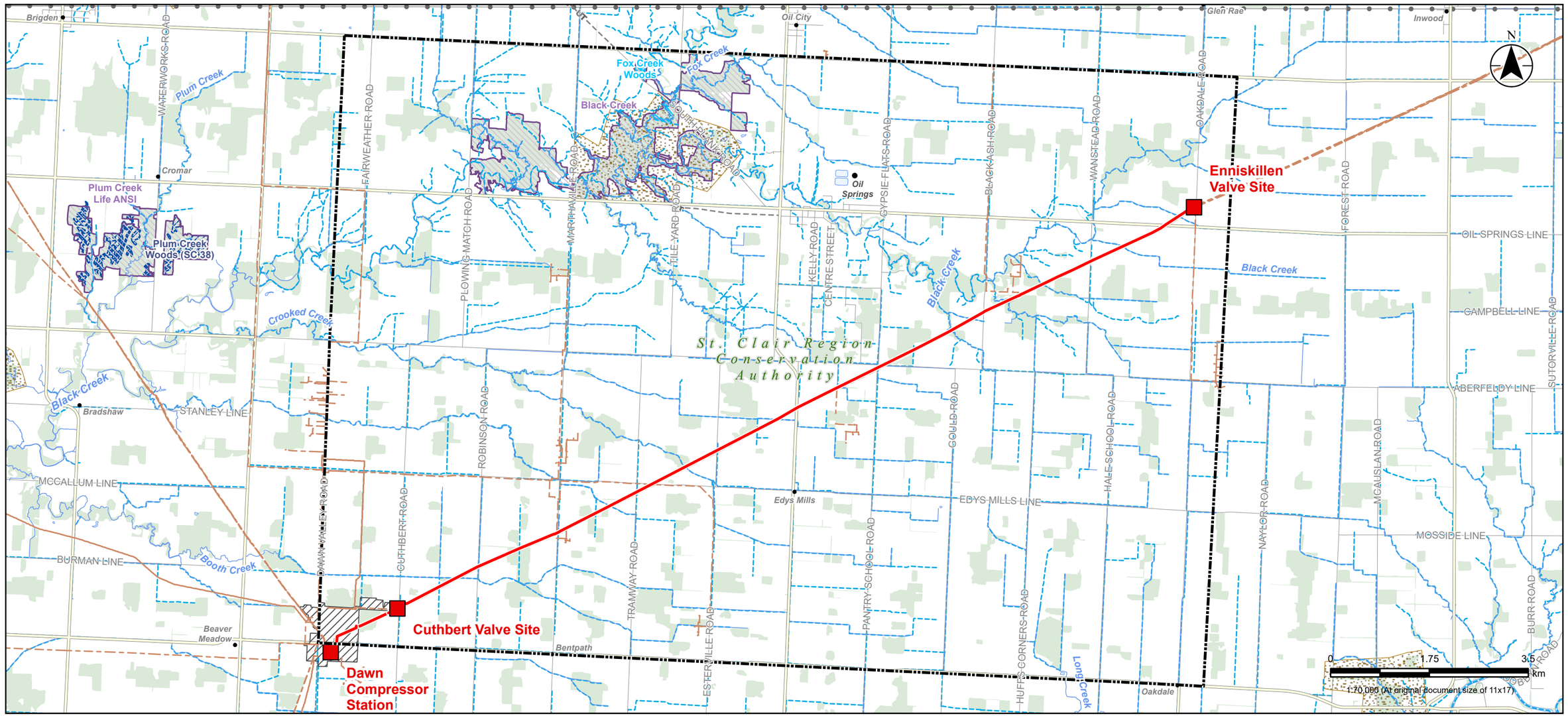

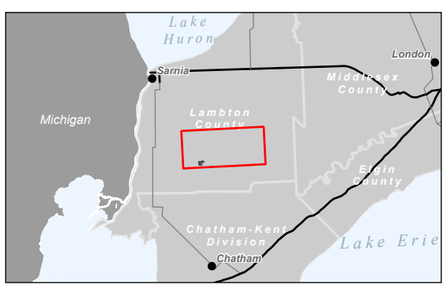

Legend

- ANSI, Life Science
- Conservation Authority Administrative Boundary
- Overwintering Area
- Wetland, Provincially Significant
- Wetland, Other Evaluated

Project Components

- Enbridge Station/Valve
- Proposed Pipeline
- Existing Pipeline
- Compressor Station Area
- Study Area

Base Data

- Major Road
- Minor Road
- Hydro Line
- Unknown Transmission Line
- Constructed Drain
- Watercourse (Intermittent)
- Watercourse (Permanent)
- Waterbody
- Wooded Area

Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Contains information licensed under the Open Government Licence – Ontario, and the Open Government Licence - Canada, accessed 2026.

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Project Location
Township of Dawn-Euphemia

REVA
Prepared by AWhite on 2026-11-04
Technical Review By MKnight on 2026-10-05

Client/Project
ENBRIDGE GAS INC.
DAWN PARKWAY RENEWAL PROJECT
DAWN TO ENNISKILLEN

Figure No.
13

Title
Designated Natural Heritage Features

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Appendix B Environmental Alignment Sheets

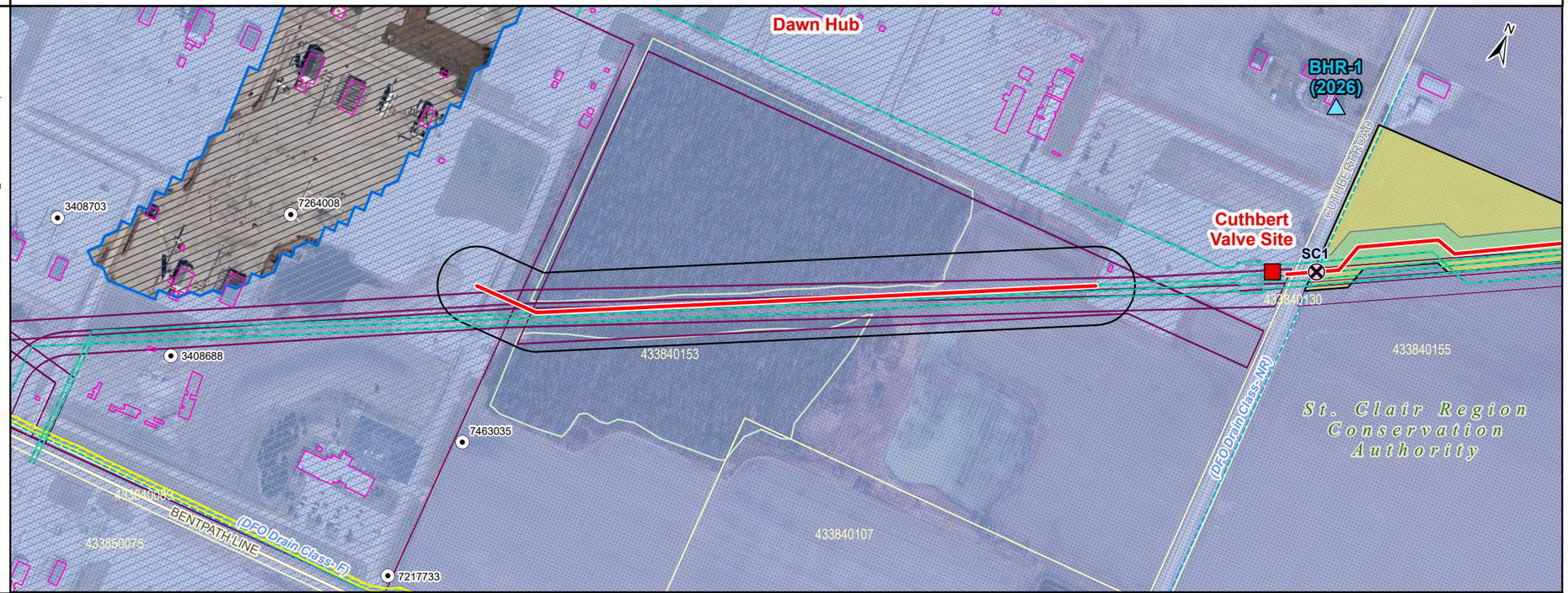
DRAFT

Resources

CONSERVATION AUTHORITY REGULATED AREA / ANSI	Regulated Area
WETLAND WATERCOURSE	
VEGETATION	Woodland
WATER WELL / CULTURAL HERITAGE WITHIN 50 m	
LINEAR FEATURES	
ENVIRONMENTALLY SENSITIVE AREA	
SPECIES AT RISK (SAR) HABITAT	

Construction Mitigation Notes:
Note 1: Without preconstruction nesting surveys, no clearing activities should take place during the migratory breeding bird restricted activity period (April 1 – August 31). Refer to row ' Clearing of vegetation in accordance with the Migratory Birds Convention Act, 1994 (MBCA) and Migratory Birds Regulation 2022 (MBR) ' in Table 1.1, and row 'Terrestrial Features' in Table 5.1.
Note 2: Tree removal to avoid the active season for bats (March 15 – November 30). Refer to Section 3.4.3.4, and row 'Terrestrial Features' in Table 5.1 in the ER.
Note 3: Groundwater wells present – Refer to Section 3.3.3, and 7.1.2 and 7.2.2 and row 'Groundwater' in Table 5.1 in the ER.
Note 4: Permit from SCRCA required. Refer to Section 3.3.8, and row 'Natural Hazards and Regulated Areas' in Table 5.1 in the ER.
Note 5: Road crossing – Refer to Section 3.5.3 and 7.1.7, and rows 'Demographics', and 'Community Services and Infrastructure' in Table 5.1 in the ER.
Note 6: Implement Suspect Soils Program. Refer to Section 7.2.1 of the ER.
Note 7: Warmwater watercourse crossing – In-water work permitted from July 1 to March 14. See Section 3.4.2 and 7.1.3, and row 'Aquatic Features' of Table 5.1 in the ER.
Note 8: Avoidance of construction activities within 50 m distance from CH features. Refer to Section 3.5.9, and row 'Built Heritage Resources and Cultural Heritage Landscapes' of Table 5.1 in the ER.
Note 9: Potential Residential Dwelling – Refer to Section 3.5.3 and 7.1.7, and rows 'Demographics', and 'Community Services and Infrastructure' in Table 5.1 in the ER.
Note 10: Agriculture Land – Refer to Section 3.3.5 and row 'Soil and Soil Capability' in Table 5.1 in the ER.

Acronyms List:
ER: Environmental Report (Stantec 2026)
SCRCA: St. Clair Region Conservation Authority



Construction Mitigation

CONSTRUCTION REQUIREMENTS	
FISHERIES TIMING RESTRICTIONS	
PIPELINE CROSSING METHODS	
VEGETATION RESTRICTIONS	Note 1, 2
AGRICULTURAL LAND	Note 6, 10
PERMITTING REQUIREMENTS	Note 4
MONITORING	
BUILT STRUCTURE WITHIN 100 m	Note 9; Note 9; Note 9
SPECIES AT RISK (SAR) HABITAT	

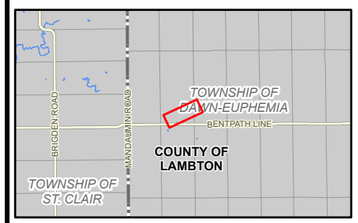
Stantec

ENBRIDGE

Legend

- Existing Station/ Valve
- Proposed Pipeline
- Existing Pipeline
- Existing Easement
- Project Footprint
- Proposed Permanent Easement
- Proposed Temporary Land Use (TLU)
- Compressor Station Area
- Water Well
- Watercourse Crossing - Unsurveyed Crossing
- Built Heritage Resource
- Constructed Drain
- Watercourse (Intermittent)
- Watercourse (Permanent)
- Aquatic Species at Risk - Threatened
- Aquatic Species at Risk - Special Concern
- Areas Affected by Conservation Authority Regulations - Subject to Change
- Floodplain
- Property Boundary
- Structure
- Wooded Area

KEY MAP



Notes

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3. Orthoimagery © Google.
4. MOECC Water well locations are approximate and have been positioned based on WWIS.
5. Regulated Area data provided under license agreement with the relevant Conservation Authority(ies). Subject to Change
6. Structures from Government of Canada Open Database of Buildings. Residential classification requires field verification.

0 100 200 m

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Project Location
County of Lambton

160901400 Rev A
Prepared by AWhite on 11/5/2026
Technical Review by Test on 10/16/2026

Client/Project
ENBRIDGE GAS INC
DAWN-PARKWAY RENEWAL PROJECT
DAWN TO CUTHBERT

Figure No.
A.1

Title
Environmental Alignment Sheets

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Resources

CONSERVATION AUTHORITY REGULATED AREA / ANSI	Regulated Area
WETLAND WATERCOURSE	Water; Water; Water
VEGETATION	Woodland
WATER WELL / CULTURAL HERITAGE WITHIN 50 m	Cultural Heritage Resource
LINEAR FEATURES	
ENVIRONMENTALLY SENSITIVE AREA	
SPECIES AT RISK (SAR) HABITAT	

Construction Mitigation Notes:

Note 1: Without preconstruction nesting surveys, no clearing activities should take place during the migratory breeding bird restricted activity period (April 1 – August 31). Refer to row ' Clearing of vegetation in accordance with the Migratory Birds Convention Act, 1994 (MBCA) and Migratory Birds Regulation 2022 (MBR) ' in Table 1.1, and row 'Terrestrial Features' in Table 5.1.

Note 2: Tree removal to avoid the active season for bats (March 15 – November 30). Refer to Section 3.4.3.4, and row 'Terrestrial Features' in Table 5.1 in the ER.

Note 3: Groundwater wells present – Refer to Section 3.3.3, and 7.1.2 and 7.2.2 and row 'Groundwater' in Table 5.1 in the ER.

Note 4: Permit from SCRCA required. Refer to Section 3.3.8, and row 'Natural Hazards and Regulated Areas' in Table 5.1 in the ER.

Note 5: Road crossing – Refer to Section 3.5.3 and 7.1.7, and rows 'Demographics', and 'Community Services and Infrastructure' in Table 5.1 in the ER.

Note 6: Implement Suspect Soils Program. Refer to Section 7.2.1 of the ER.

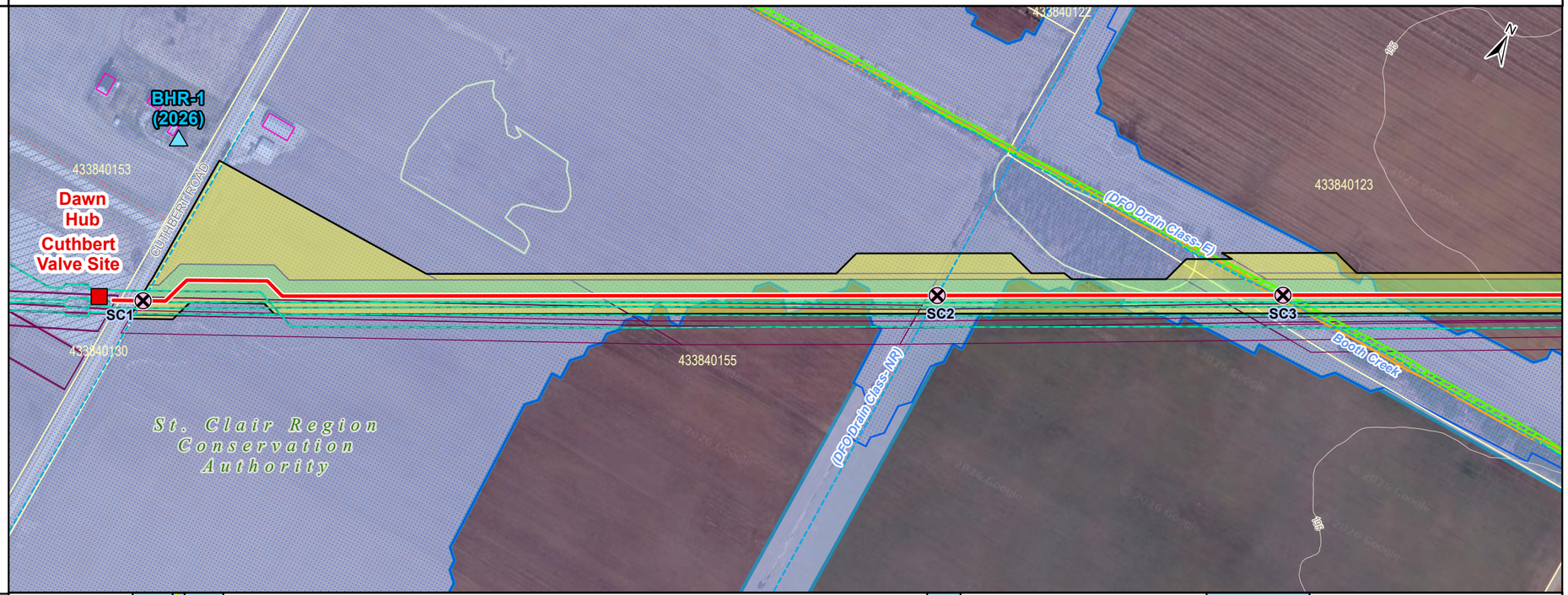
Note 7: Warmwater watercourse crossing – In-water work permitted from July 1 to March 14. See Section 3.4.2 and 7.1.3, and row 'Aquatic Features' of Table 5.1 in the ER.

Note 8: Avoidance of construction activities within 50 m distance from CH features. Refer to Section 3.5.9, and row 'Built Heritage Resources and Cultural Heritage Landscapes' of Table 5.1 in the ER.

Note 9: Potential Residential Dwelling – Refer to Section 3.5.3 and 7.1.7, and rows 'Demographics', and 'Community Services and Infrastructure' in Table 5.1 in the ER.

Note 10: Agriculture Land – Refer to Section 3.3.5 and row 'Soil and Soil Capability' in Table 5.1 in the ER.

Acronyms List:
ER: Environmental Report (Stantec 2026)
SCRCA: St. Clair Region Conservation Authority



Construction Mitigation

CONSTRUCTION REQUIREMENTS	Note 7; Note 8; Note 7; Note 7
FISHERIES TIMING RESTRICTIONS	Note 7; Note 7; Note 7
PIPELINE CROSSING METHODS	Open Cut; Open Cut; Open Cut
VEGETATION RESTRICTIONS	Note 1, 2
AGRICULTURAL LAND	Note 6, 10
PERMITTING REQUIREMENTS	Note 4
MONITORING	
BUILT STRUCTURE WITHIN 100 m	Note 9; Note 9
SPECIES AT RISK (SAR) HABITAT	

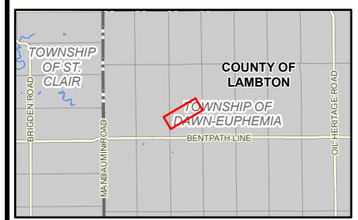
Stantec

ENBRIDGE

Legend

- Existing Station/ Valve
- Proposed Pipeline
- Existing Pipeline
- Existing Easement
- Project Footprint
- Proposed Permanent Easement
- Proposed Temporary Land Use (TLU)
- Compressor Station Area
- Watercourse Crossing - Unsurveyed Crossing
- Built Heritage Resource
- Constructed Drain
- Thermal Regime, Warm
- Watercourse (Intermittent)
- Watercourse (Permanent)
- Aquatic Species at Risk - Special Concern
- Areas Affected by Conservation Authority Regulations - Subject to Change
- Floodplain
- Property Boundary
- Structure
- Wooded Area

KEY MAP



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0 100 200 m

1:5,000 (At Original document size of 11x17)

Project Location
County of Lambton

160901400 Rev A
Prepared by AWhite on 11/5/2026
Technical Review by on

Client/Project
ENBRIDGE GAS INC
DAWN-PARKWAY RENEWAL PROJECT
CUTHBERT TO ENNISKILLEN

Figure No.
A.1

Title
Environmental Alignment Sheets

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Resources

CONSERVATION AUTHORITY REGULATED AREA / ANSI		Regulated Area				Regulated Area
WETLAND WATERCOURSE		Water				Water
VEGETATION				Woodland		
WATER WELL / CULTURAL HERITAGE WITHIN 50 m						
LINEAR FEATURES		Road				
ENVIRONMENTALLY SENSITIVE AREA						
SPECIES AT RISK (SAR) HABITAT						

Construction Mitigation Notes:
Note 1: Without preconstruction nesting surveys, no clearing activities should take place during the migratory breeding bird restricted activity period (April 1 – August 31). Refer to row ' Clearing of vegetation in accordance with the Migratory Birds Convention Act, 1994 (MBCA) and Migratory Birds Regulation 2022 (MBR) ' in Table 1.1, and row 'Terrestrial Features' in Table 5.1.
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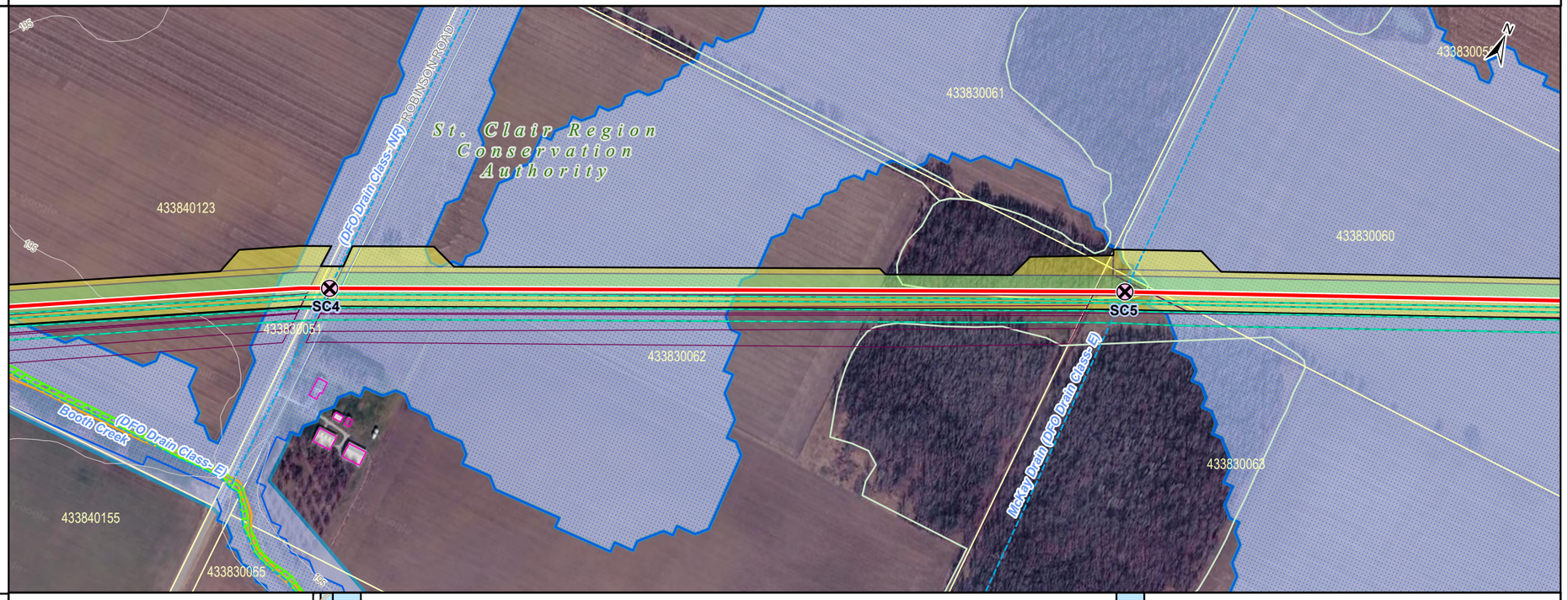
Note 3: Groundwater wells present – Refer to Section 3.3.3, and 7.1.2 and 7.2.2 and row 'Groundwater' in Table 5.1 in the ER.
Note 4: Permit from SCRCA required. Refer to Section 3.3.8, and row 'Natural Hazards and Regulated Areas' in Table 5.1 in the ER.
Note 5: Road crossing – Refer to Section 3.5.3 and 7.1.7, and rows 'Demographics', and 'Community Services and Infrastructure' in Table 5.1 in the ER.
Note 6: Implement Suspect Soils Program. Refer to Section 7.2.1 of the ER.
Note 7: Warmwater watercourse crossing – In-water work permitted from July 1 to March 14. See Section 3.4.2 and 7.1.3, and row 'Aquatic Features' of Table 5.1 in the ER.
Note 8: Avoidance of construction activities within 50 m distance from CH features. Refer to Section 3.5.9, and row 'Built Heritage Resources and Cultural Heritage Landscapes' of Table 5.1 in the ER.
Note 9: Potential Residential Dwelling – Refer to Section 3.5.3 and 7.1.7, and rows 'Demographics', and 'Community Services and Infrastructure' in Table 5.1 in the ER.
Note 10: Agriculture Land – Refer to Section 3.3.5 and row 'Soil and Soil Capability' in Table 5.1 in the ER.

Acronyms List:
ER: Environmental Report (Stantec 2026)
SCRCA: St. Clair Region Conservation Authority



Construction Mitigation

CONSTRUCTION REQUIREMENTS		Note 7 Note 5				Note 7
FISHERIES TIMING RESTRICTIONS		Note 7				Note 7
PIPELINE CROSSING METHODS		Open Cut				Open Cut
VEGETATION RESTRICTIONS				Note 1, 2		
AGRICULTURAL LAND		Note 6, 10			Note 6, 10	Note 6, 10
PERMITTING REQUIREMENTS	Note 4		Note 4			Note 4
MONITORING						
BUILT STRUCTURE WITHIN 100 m		Note 9				
SPECIES AT RISK (SAR) HABITAT						

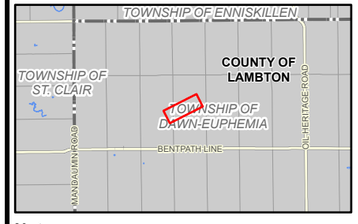
Stantec

ENBRIDGE

Legend

- Proposed Pipeline
- Existing Pipeline
- Existing Easement
- Project Footprint
- Proposed Permanent Easement
- Proposed Temporary Land Use (TLU)
- Compressor Station Area
- Watercourse Crossing - Unsurveyed Crossing
- Constructed Drain
- Thermal Regime, Warm
- Watercourse (Intermittent)
- Watercourse (Permanent)
- Aquatic Species at Risk - Special Concern
- Areas Affected by Conservation Authority Regulations - Subject to Change
- Floodplain
- Property Boundary
- Structure
- Wooded Area

KEY MAP



Notes

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Project Location
County of Lambton

160901400 Rev A
Prepared by AWhite on 11/5/2026
Technical Review by on

Client/Project
ENBRIDGE GAS INC
DAWN-PARKWAY RENEWAL PROJECT
CUTHBERT TO ENNISKILLEN

Figure No.
A.2

Title
Environmental Alignment Sheets

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| | | |

Resources

CONSERVATION AUTHORITY REGULATED AREA / ANSI	Regulated Area			Regulated Area		
WETLAND WATERCOURSE		Water			Water	
VEGETATION						Woo
WATER WELL / CULTURAL HERITAGE WITHIN 50 m					Cultural Heritage Resource	
LINEAR FEATURES				Road		Road
ENVIRONMENTALLY SENSITIVE AREA						
SPECIES AT RISK (SAR) HABITAT						

Construction Mitigation Notes:

Note 1: Without preconstruction nesting surveys, no clearing activities should take place during the migratory breeding bird restricted activity period (April 1 – August 31). Refer to row ' Clearing of vegetation in accordance with the Migratory Birds Convention Act, 1994 (MBCA) and Migratory Birds Regulation 2022 (MBR) ' in Table 1.1, and row 'Terrestrial Features' in Table 5.1.

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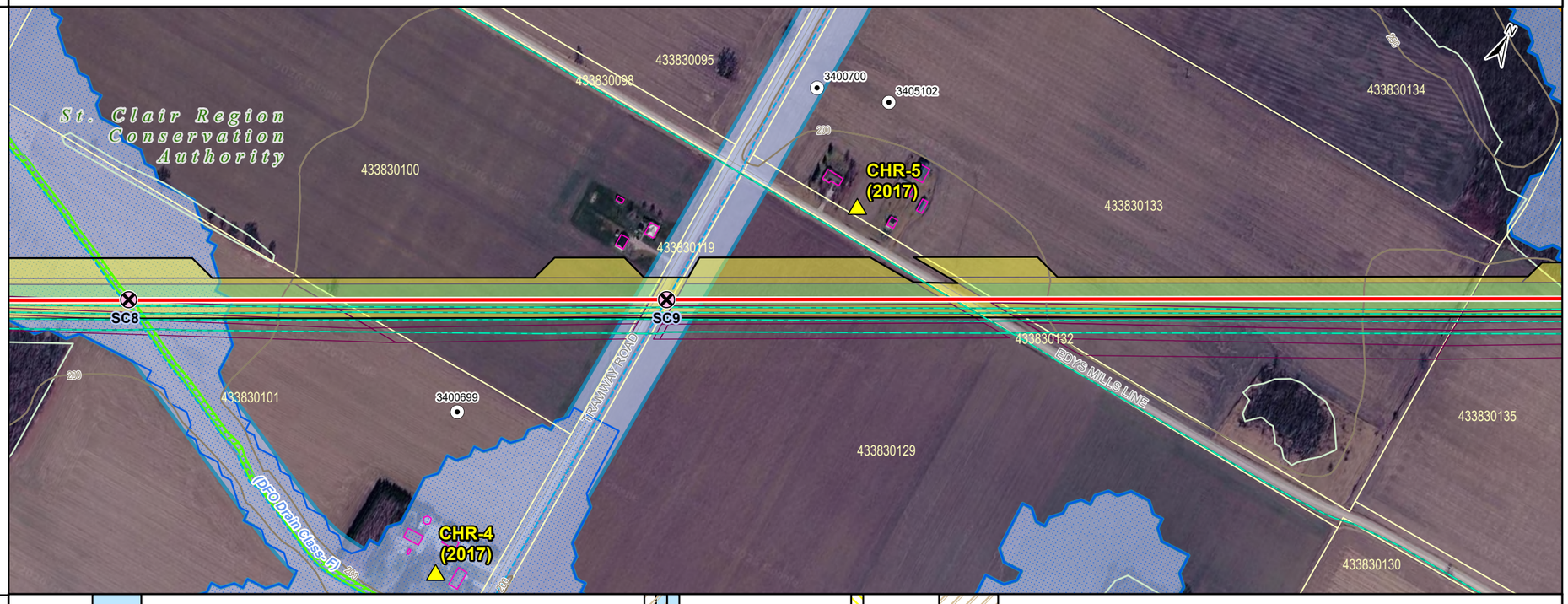


Construction Mitigation

CONSTRUCTION REQUIREMENTS		Note 7		Note 5 Note 7	Note 8	Note 5
FISHERIES TIMING RESTRICTIONS		Note 7		Note 7		
PIPELINE CROSSING METHODS		Open Cut		Open Cut		Open Cut
VEGETATION RESTRICTIONS						
AGRICULTURAL LAND	Note 6, 10					
PERMITTING REQUIREMENTS	Note 4			Note 4		
MONITORING						
BUILT STRUCTURE WITHIN 100 m				Note 9	Note 9	Note 9
SPECIES AT RISK (SAR) HABITAT						

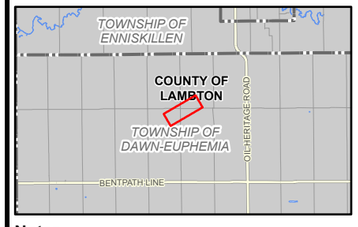
Stantec

ENBRIDGE

Legend

- Proposed Pipeline
- Existing Pipeline
- Existing Easement
- Project Footprint
- Proposed Permanent Easement
- Proposed Temporary Land Use (TLU)
- Compressor Station Area
- Water Well
- Watercourse Crossing - Unsurveyed Crossing
- Cultural Heritage Resource
- Constructed Drain
- Contour
- Thermal Regime, Warm
- Watercourse (Intermittent)
- Watercourse (Permanent)
- Aquatic Species at Risk - Special Concern
- Areas Affected by Conservation Authority Regulations - Subject to Change
- Floodplain
- Property Boundary
- Structure
- Wooded Area

KEY MAP



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Project Location
County of Lambton

160901400 Rev A
Prepared by AWhite on 11/5/2026
Technical Review by on

Client/Project
ENBRIDGE GAS INC
DAWN-PARKWAY RENEWAL PROJECT
CUTHBERT TO ENNISKILLEN

Figure No.
A.4

Title
Environmental Alignment Sheets

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Resources	
CONSERVATION AUTHORITY REGULATED AREA / ANSI	Regulated Area; Regulated Area; Regulated Area; Regulated Area
WETLAND WATERCOURSE	Water; Water
VEGETATION	Woodland; Woodland
WATER WELL / CULTURAL HERITAGE WITHIN 50 m	
LINEAR FEATURES	Road
ENVIRONMENTALLY SENSITIVE AREA	
SPECIES AT RISK (SAR) HABITAT	

Construction Mitigation Notes:

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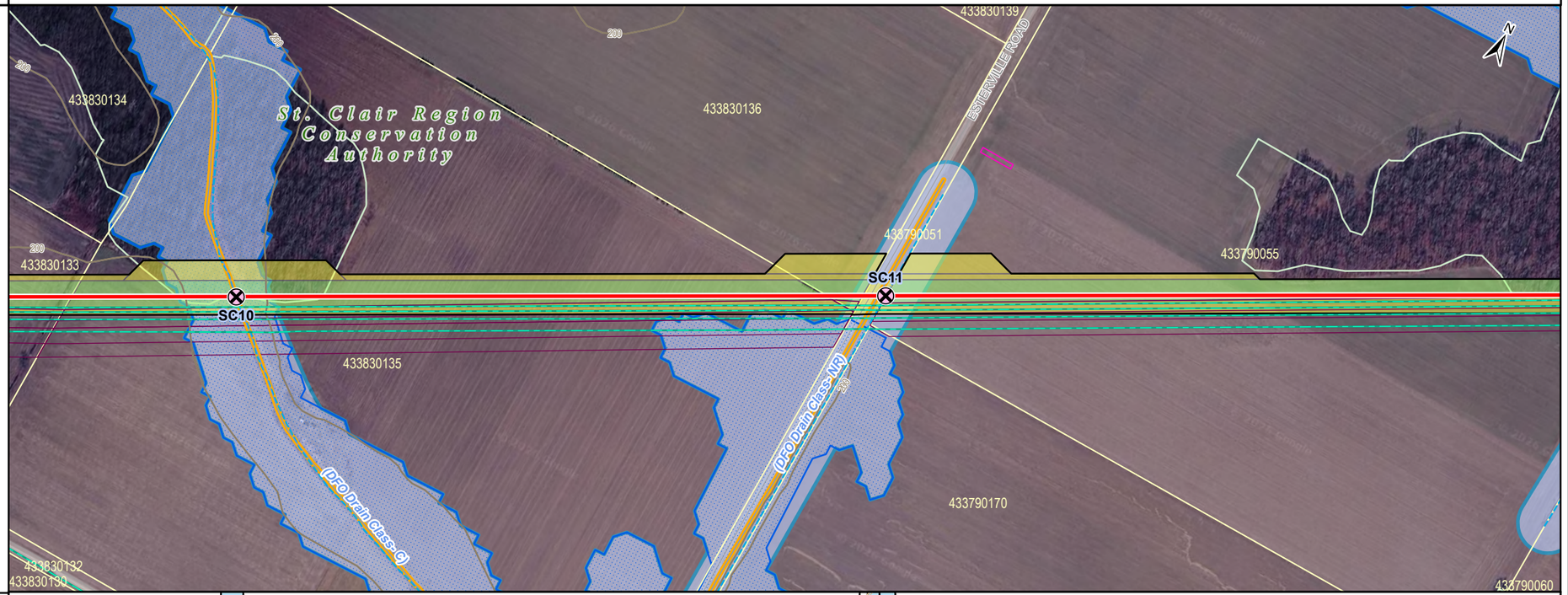

Construction Mitigation	
CONSTRUCTION REQUIREMENTS	Note 7; Note 5, Note 7; Note 7
FISHERIES TIMING RESTRICTIONS	Note 7; Note 7
PIPELINE CROSSING METHODS	Open Cut; Open Cut
VEGETATION RESTRICTIONS	Note 1, 2; Note 1, 2
AGRICULTURAL LAND	Note 6, 10
PERMITTING REQUIREMENTS	Note 4; Note 4; Note 4; Note 4
MONITORING	
BUILT STRUCTURE WITHIN 100 m	Note 9
SPECIES AT RISK (SAR) HABITAT	

Stantec

ENBRIDGE

Legend

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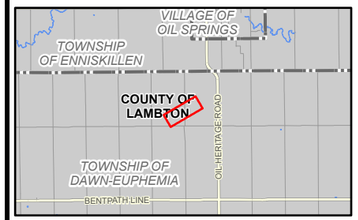
- Existing Pipeline
- Existing Easement
- Project Footprint
- Proposed Permanent Easement
- Proposed Temporary Land Use (TLU)
- Compressor Station Area
- Watercourse Crossing - Unsurveyed Crossing
- Constructed Drain
- Contour
- Thermal Regime, Warm
- Watercourse (Intermittent)
- Watercourse (Permanent)
- Areas Affected by Conservation Authority Regulations - Subject to Change
- Floodplain
- Property Boundary
- Structure
- Wooded Area

KEY MAP



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Project Location
County of Lambton

160901400 Rev A
Prepared by AWhite on 11/5/2026
Technical Review by on

Client/Project
ENBRIDGE GAS INC
DAWN-PARKWAY RENEWAL PROJECT
CUTHBERT TO ENNISKILLEN

Figure No.
A.5

Title
Environmental Alignment Sheets

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Resources	
CONSERVATION AUTHORITY REGULATED AREA / ANSI	Regulated Area
WETLAND WATERCOURSE	Water; Water
VEGETATION	Woodland
WATER WELL / CULTURAL HERITAGE WITHIN 50 m	Cultural Heritage Resource
LINEAR FEATURES	
ENVIRONMENTALLY SENSITIVE AREA	
SPECIES AT RISK (SAR) HABITAT	

Construction Mitigation Notes:
Note 1: Without preconstruction nesting surveys, no clearing activities should take place during the migratory breeding bird restricted activity period (April 1 – August 31). Refer to row ' Clearing of vegetation in accordance with the Migratory Birds Convention Act, 1994 (MBCA) and Migratory Birds Regulation 2022 (MBR) ' in Table 1.1, and row 'Terrestrial Features' in Table 5.1.
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Note 5: Road crossing – Refer to Section 3.5.3 and 7.1.7, and rows 'Demographics', and 'Community Services and Infrastructure' in Table 5.1 in the ER.
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Note 7: Warmwater watercourse crossing – In-water work permitted from July 1 to March 14. See Section 3.4.2 and 7.1.3, and row 'Aquatic Features' of Table 5.1 in the ER.
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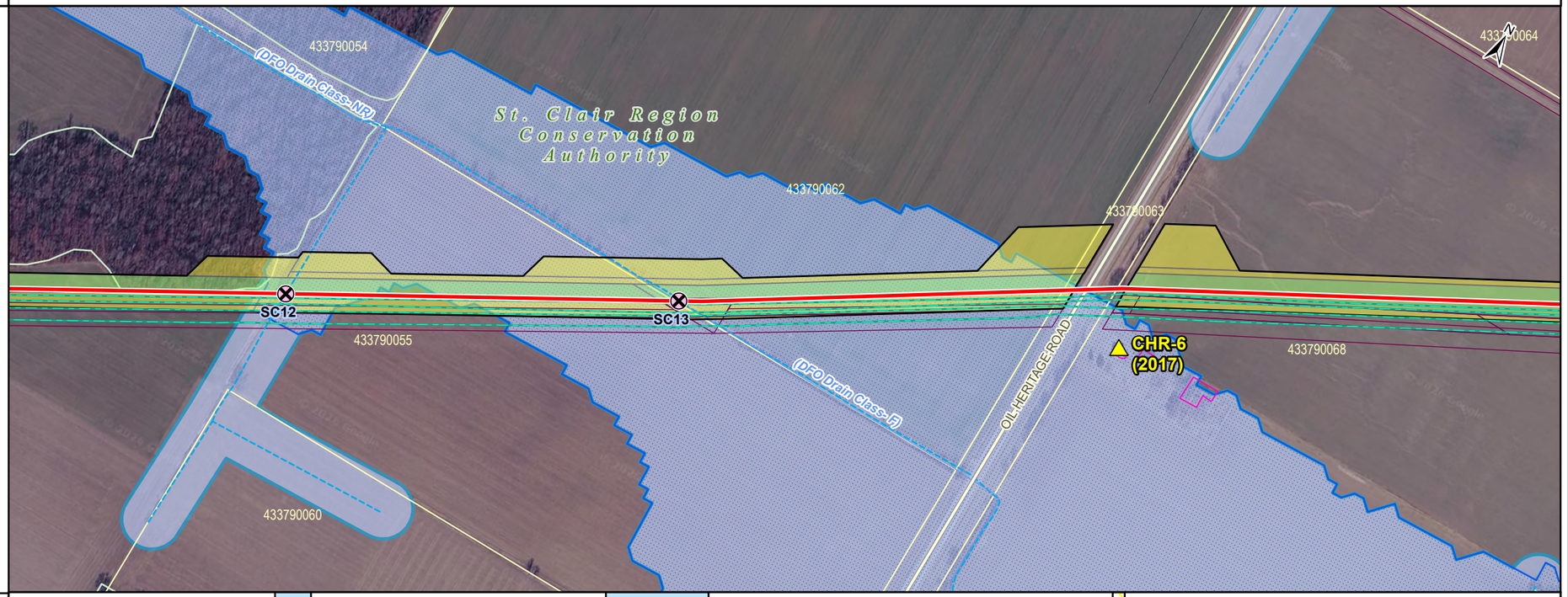

Construction Mitigation	
CONSTRUCTION REQUIREMENTS	Note 7; Note 7; Note 8
FISHERIES TIMING RESTRICTIONS	Note 7; Note 7
PIPELINE CROSSING METHODS	Open Cut; Open Cut
VEGETATION RESTRICTIONS	Note 1, 2
AGRICULTURAL LAND	Note 6, 10
PERMITTING REQUIREMENTS	Note 4
MONITORING	
BUILT STRUCTURE WITHIN 100 m	Note 9; Note 9
SPECIES AT RISK (SAR) HABITAT	

Stantec

ENBRIDGE

Legend

- Proposed Pipeline
- Existing Pipeline
- Existing Easement
- Project Footprint
- Proposed Permanent Easement
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- Compressor Station Area
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- Watercourse (Intermittent)
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- Floodplain
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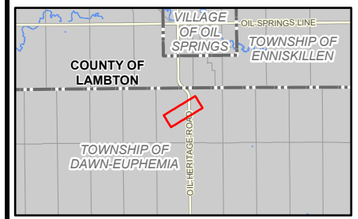
- Structure
- Wooded Area

KEY MAP



Notes

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Project Location
County of Lambton

160901400 Rev A
Prepared by AWhite on 11/5/2026
Technical Review by on

Client/Project
ENBRIDGE GAS INC
DAWN-PARKWAY RENEWAL PROJECT
CUTHBERT TO ENNISKILLEN

Figure No.
A.6

Title
Environmental Alignment Sheets

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| Resources | | |

Resources

CONSERVATION AUTHORITY REGULATED AREA / ANSI	Regulated Area; Regulated Area; Regulated Area
WETLAND WATERCOURSE	Water; Water; Water
VEGETATION	Woodland; Woodland; Woodland
WATER WELL / CULTURAL HERITAGE WITHIN 50 m	
LINEAR FEATURES	Road
ENVIRONMENTALLY SENSITIVE AREA	
SPECIES AT RISK (SAR) HABITAT	

Construction Mitigation Notes:

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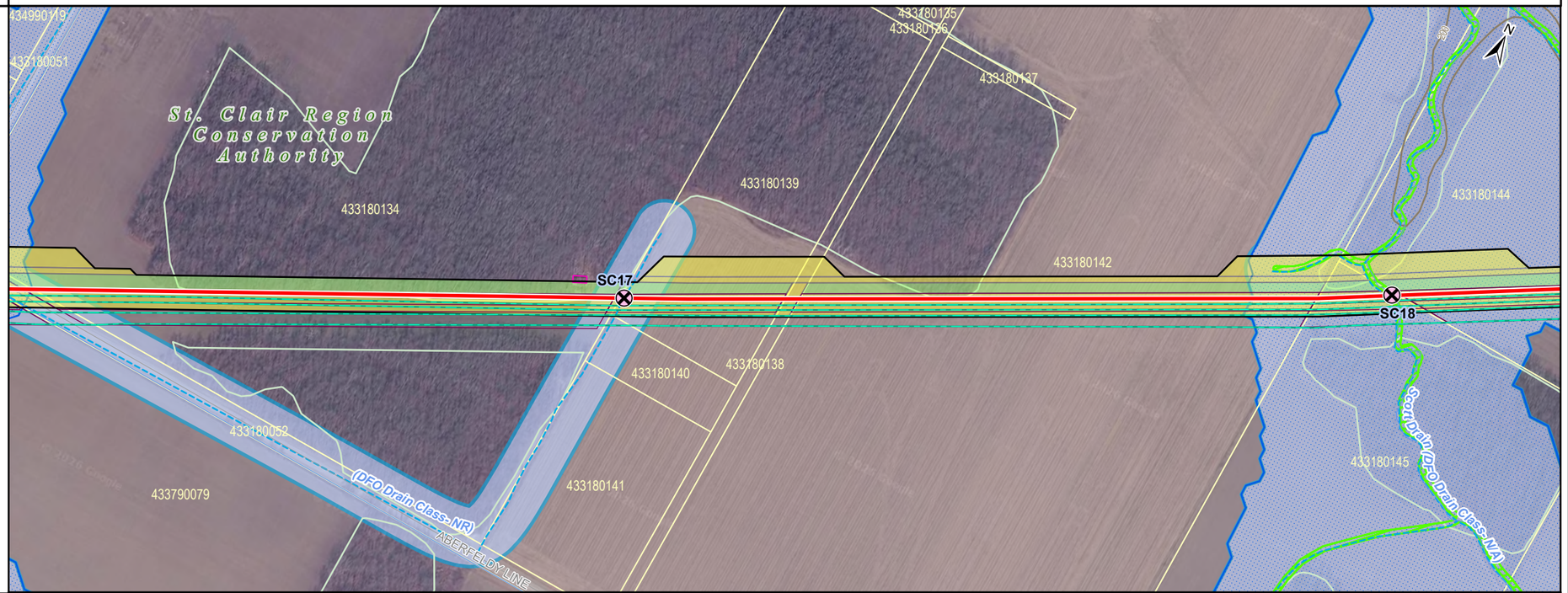

Construction Mitigation

CONSTRUCTION REQUIREMENTS	Note 5, Note 7; Note 7; Note 7
FISHERIES TIMING RESTRICTIONS	Note 7; Note 7; Note 7
PIPELINE CROSSING METHODS	Open Cut; Open Cut; Open Cut
VEGETATION RESTRICTIONS	Note 1, 2; Note 1, 2; Note 1, 2
AGRICULTURAL LAND	Note 6, 10
PERMITTING REQUIREMENTS	Note 4; Note 4; Note 4
MONITORING	
BUILT STRUCTURE WITHIN 100 m	Note 9
SPECIES AT RISK (SAR) HABITAT	

Stantec

ENBRIDGE

Legend

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KEY MAP



Notes

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Client/Project
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DAWN-PARKWAY RENEWAL PROJECT
CUTHBERT TO ENNISKILLEN

Figure No.
A.8

Title
Environmental Alignment Sheets

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Resources

CONSERVATION AUTHORITY REGULATED AREA / ANSI	Regulated Area; Regulated Area
WETLAND WATERCOURSE	Water; Water; Water
VEGETATION	Woodland; Woodland; Woodland
WATER WELL / CULTURAL HERITAGE WITHIN 50 m	Water Well
LINEAR FEATURES	Road
ENVIRONMENTALLY SENSITIVE AREA	
SPECIES AT RISK (SAR) HABITAT	

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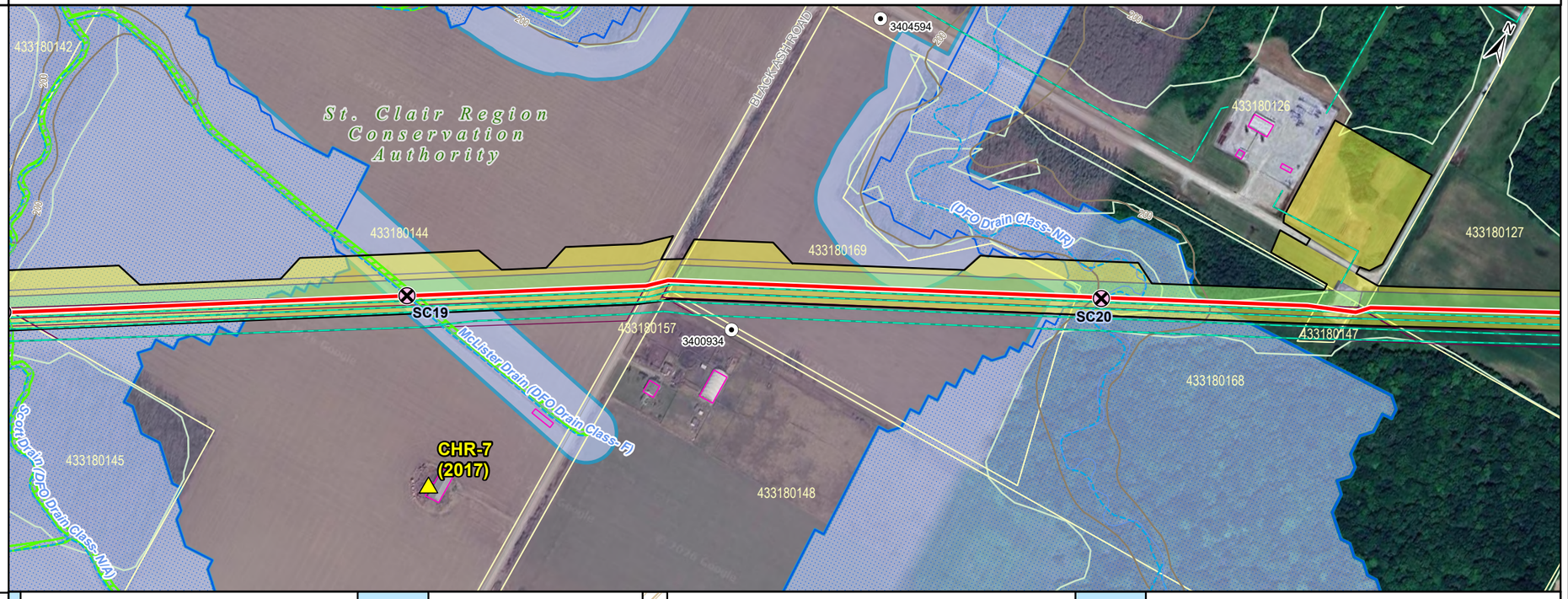

Construction Mitigation

CONSTRUCTION REQUIREMENTS	Note 7; Note 7; Note 5; Note 7
FISHERIES TIMING RESTRICTIONS	Note 7; Note 7; Note 7
PIPELINE CROSSING METHODS	Open Cut; Open Cut; Open Cut; Open Cut
VEGETATION RESTRICTIONS	Note 1, 2; Note 1, 2; Note 1, 2
AGRICULTURAL LAND	Note 6, 10
PERMITTING REQUIREMENTS	Note 4; Note 4
MONITORING	Note 3
BUILT STRUCTURE WITHIN 100 m	Note 9; Note 9; Note 9; Note 9
SPECIES AT RISK (SAR) HABITAT	

Stantec

ENBRIDGE

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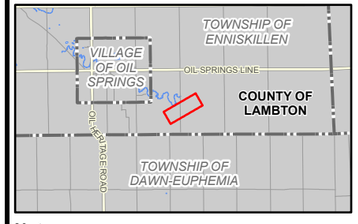

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CUTHBERT TO ENNISKILLEN

Figure No.
A.9

Title
Environmental Alignment Sheets

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Resources

CONSERVATION AUTHORITY REGULATED AREA / ANSI	Regulated Area
WETLAND WATERCOURSE	Water; Water
VEGETATION	Woodland
WATER WELL / CULTURAL HERITAGE WITHIN 50 m	
LINEAR FEATURES	Road
ENVIRONMENTALLY SENSITIVE AREA	
SPECIES AT RISK (SAR) HABITAT	

Construction Mitigation Notes:

Note 1: Without preconstruction nesting surveys, no clearing activities should take place during the migratory breeding bird restricted activity period (April 1 – August 31). Refer to row ' Clearing of vegetation in accordance with the Migratory Birds Convention Act, 1994 (MBCA) and Migratory Birds Regulation 2022 (MBR) ' in Table 1.1, and row 'Terrestrial Features' in Table 5.1.

Note 2: Tree removal to avoid the active season for bats (March 15 – November 30). Refer to Section 3.4.3.4, and row 'Terrestrial Features' in Table 5.1 in the ER.

Note 3: Groundwater wells present – Refer to Section 3.3.3, and 7.1.2 and 7.2.2 and row 'Groundwater' in Table 5.1 in the ER.

Note 4: Permit from SCRCA required. Refer to Section 3.3.8, and row 'Natural Hazards and Regulated Areas' in Table 5.1 in the ER.

Note 5: Road crossing – Refer to Section 3.5.3 and 7.1.7, and rows 'Demographics', and 'Community Services and Infrastructure' in Table 5.1 in the ER.

Note 6: Implement Suspect Soils Program. Refer to Section 7.2.1 of the ER.

Note 7: Warmwater watercourse crossing – In-water work permitted from July 1 to March 14. See Section 3.4.2 and 7.1.3, and row 'Aquatic Features' of Table 5.1 in the ER.

Note 8: Avoidance of construction activities within 50 m distance from CH features. Refer to Section 3.5.9, and row 'Built Heritage Resources and Cultural Heritage Landscapes' of Table 5.1 in the ER.

Note 9: Potential Residential Dwelling – Refer to Section 3.5.3 and 7.1.7, and rows 'Demographics', and 'Community Services and Infrastructure' in Table 5.1 in the ER.

Note 10: Agriculture Land – Refer to Section 3.3.5 and row 'Soil and Soil Capability' in Table 5.1 in the ER.

Acronyms List:
ER: Environmental Report (Stantec 2026)
SCRCA: St. Clair Region Conservation Authority



Construction Mitigation

CONSTRUCTION REQUIREMENTS	Note 7; Note 5; Note 7
FISHERIES TIMING RESTRICTIONS	Note 7; Note 7
PIPELINE CROSSING METHODS	Open Cut; Open Cut
VEGETATION RESTRICTIONS	Note 1, 2
AGRICULTURAL LAND	Note 6, 10
PERMITTING REQUIREMENTS	Note 4
MONITORING	
BUILT STRUCTURE WITHIN 100 m	
SPECIES AT RISK (SAR) HABITAT	

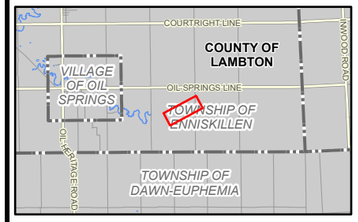
Stantec

ENBRIDGE

Legend

- Proposed Pipeline
- Existing Pipeline
- Existing Easement
- Project Footprint
- Proposed Permanent Easement
- Proposed Temporary Land Use (TLU)
- Compressor Station Area
- Watercourse Crossing - Unsurveyed Crossing
- Constructed Drain
- Contour
- Watercourse (Intermittent)
- Watercourse (Permanent)
- Aquatic Species at Risk - Special Concern
- Areas Affected by Conservation Authority Regulations - Subject to Change
- Floodplain
- Property Boundary
- Structure
- Wooded Area

KEY MAP



Notes

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0 100 200 m

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Project Location
County of Lambton

160901400 Rev A
Prepared by AWhite on 11/5/2026
Technical Review by on

Client/Project
ENBRIDGE GAS INC
DAWN-PARKWAY RENEWAL PROJECT
CUTHBERT TO ENNISKILLEN

Figure No.
A.10

Title
Environmental Alignment Sheets

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Resources

CONSERVATION AUTHORITY REGULATED AREA / ANSI		Regulated Area		Regulated Area
WETLAND WATERCOURSE		Water		Water
VEGETATION				
WATER WELL / CULTURAL HERITAGE WITHIN 50 m		Water Well	Cultural Heritage Resource	
LINEAR FEATURES				Road
ENVIRONMENTALLY SENSITIVE AREA				
SPECIES AT RISK (SAR) HABITAT				

Construction Mitigation Notes:
Note 1: Without preconstruction nesting surveys, no clearing activities should take place during the migratory breeding bird restricted activity period (April 1 – August 31). Refer to row ' Clearing of vegetation in accordance with the Migratory Birds Convention Act, 1994 (MBCA) and Migratory Birds Regulation 2022 (MBR) ' in Table 1.1, and row 'Terrestrial Features' in Table 5.1.
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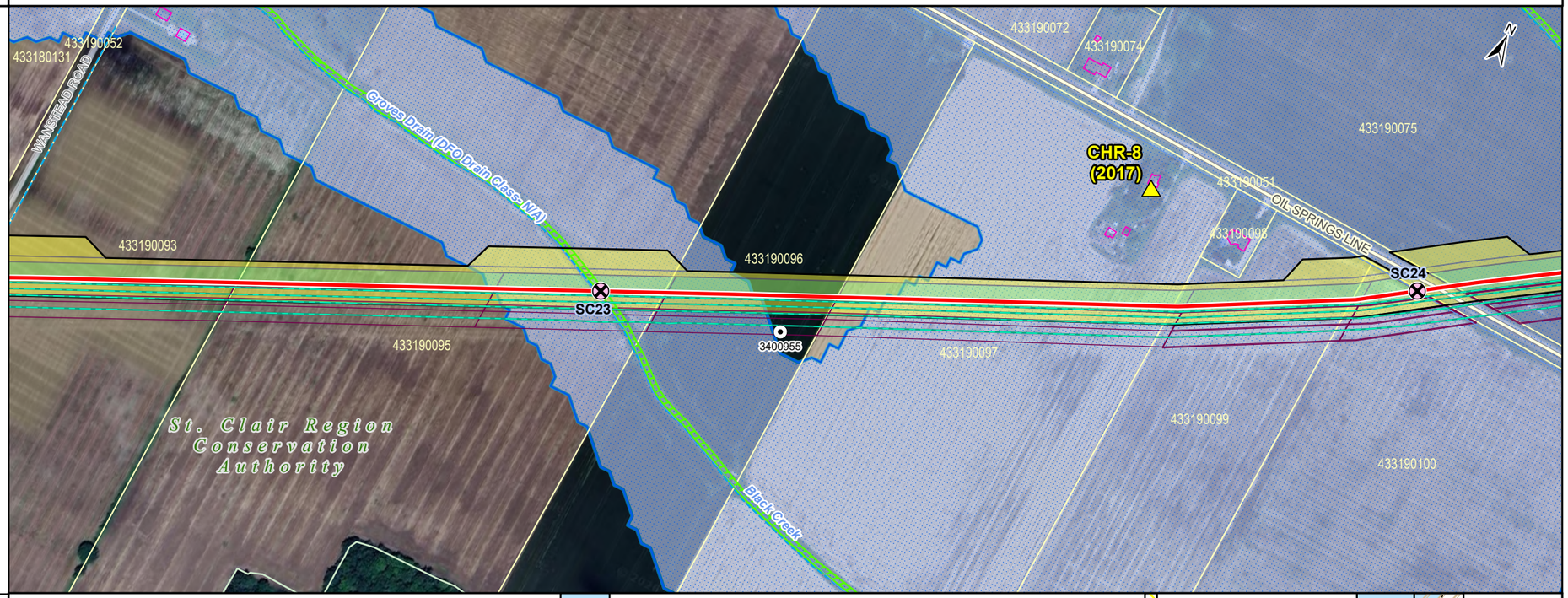


Construction Mitigation

CONSTRUCTION REQUIREMENTS		Note 7	Note 8	Note 7, Note 5
FISHERIES TIMING RESTRICTIONS		Note 7		Note 7
PIPELINE CROSSING METHODS		Open Cut		Open Cut
VEGETATION RESTRICTIONS				
AGRICULTURAL LAND	Note 6, 10			
PERMITTING REQUIREMENTS		Note 4		Note 4
MONITORING		Note 3		
BUILT STRUCTURE WITHIN 100 m			Note 9	Note 9
SPECIES AT RISK (SAR) HABITAT				

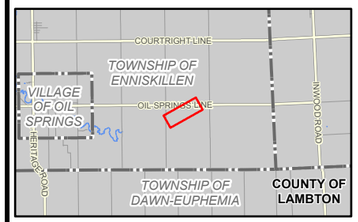
Stantec

ENBRIDGE

Legend

- Proposed Pipeline
- Existing Pipeline
- Existing Easement
- Project Footprint
- Proposed Permanent Easement
- Proposed Temporary Land Use (TLU)
- Compressor Station Area
- Water Well
- Watercourse Crossing - Unsurveyed Crossing
- Cultural Heritage Resource
- Constructed Drain
- Watercourse (Intermittent)
- Watercourse (Permanent)
- Aquatic Species at Risk - Special Concern
- Areas Affected by Conservation Authority Regulations - Subject to Change
- Floodplain
- Property Boundary
- Structure
- Wooded Area

KEY MAP



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160901400 Rev A
Prepared by AWhite on 11/5/2026
Technical Review by on

Client/Project
ENBRIDGE GAS INC
DAWN-PARKWAY RENEWAL PROJECT
CUTHBERT TO ENNISKILLEN

Figure No.
A.11

Title
Environmental Alignment Sheets

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Resources

CONSERVATION AUTHORITY REGULATED AREA / ANSI	Regulated Area
WETLAND WATERCOURSE	Water; Water
VEGETATION	
WATER WELL / CULTURAL HERITAGE WITHIN 50 m	Water Well
LINEAR FEATURES	Road
ENVIRONMENTALLY SENSITIVE AREA	
SPECIES AT RISK (SAR) HABITAT	

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PERMITTING REQUIREMENTS	Note 4
MONITORING	Note 3
BUILT STRUCTURE WITHIN 100 m	
SPECIES AT RISK (SAR) HABITAT	

Stantec

ENBRIDGE

Legend

- Existing Station/ Valve
- Proposed Pipeline
- <all other values>
- Existing Pipeline
- Existing Easement
- Project Footprint
- Proposed Permanent Easement
- Proposed Temporary Land Use (TLU)
- Compressor Station Area
- Water Well
- Watercourse Crossing - Unsurveyed Crossing
- Cultural Heritage Resource
- Constructed Drain
- Watercourse (Intermittent)
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- Aquatic Species at Risk - Special Concern
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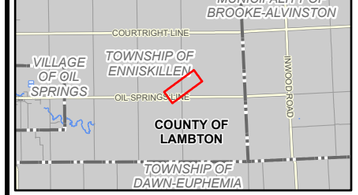
KEY MAP



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CUTHBERT TO ENNISKILLEN

Figure No.
A.12

Title
Environmental Alignment Sheets

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Appendix C Consultation

DRAFT

C.1 Letter of Delegation

DRAFT

Ministry of Energy and Mines

Energy Networks and Indigenous Policy Branch

Indigenous Energy Policy

77 Grenville Street, 6th Floor
Toronto, ON M7A 1B3
Tel: (416) 562-9492

Ministère de l'Énergie et des Mines

Direction Générale des Réseaux Énergétiques et des Politiques Autochtones

Politique Énergétique Autochtones

77 Rue Grenville, 6e Étage
Toronto, ON M7A 1B3
Tel: (416) 562-9492

Ontario

August 19, 2026

VIA EMAIL

Olatunbosun Ishola
Advisor, Regulatory Applications – Leave to Construct
Enbridge Gas Inc.
olatunbosun.ishola@enbridge.com

Re: Dawn Parkway System Renewal - Dawn to Enniskillen

Dear Olatunbosun Ishola,

Thank you for your email dated June 24, 2026 notifying the Ministry of Energy and Mines (MEM) of Enbridge Gas Inc. (Enbridge)'s intention to apply to the Ontario Energy Board (OEB) for Leave to Construct for the Dawn Parkway System Renewal project. The Dawn Parkway System Renewal project consists of two pipeline segments within Enbridge's Dawn Parkway Transmission System: Dawn to Enniskillen, located in Lambton County, and Kirkwall to Hamilton, located in the City of Hamilton. This letter is in relation to the Dawn to Enniskillen segment (the Project).

MEM understands that Enbridge is proposing to replace a portion of the existing NPS 26 Trafalgar pipeline between the Dawn Operations Centre and the Enniskillen Valve Site in Lambton County. The Project will involve installing approximately 16.7 km of new NPS 48 natural gas transmission pipeline, primarily within the existing permanent easement using a lift-and-lay approach where feasible. Station modifications and ancillary facilities may also be required to connect the new pipeline to the broader Dawn Parkway Transmission System. Construction is anticipated to begin in early 2028, with a proposed in-service date of late 2028.

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

Duty to Consult with Indigenous Communities

The Crown has a constitutional Duty to Consult and, where appropriate, accommodate Indigenous communities when it has knowledge of established or credibly asserted Aboriginal or treaty rights protected under section 35 of Canada's *Constitution Act 1982* (s. 35 rights), and it contemplates conduct that might adversely affect those rights. These consultations are in addition to consultation imposed by statute, though these processes can be integrated.

Although the legal Duty to Consult remains with the Crown, the Crown may delegate the procedural aspects of consultation to project proponents. The procedural aspects of the Duty to Consult refer to those portions of the consultation process, including sharing information, holding meetings, and receiving comments from Indigenous communities. Project proponents are typically best positioned to address the specific planning, technical, and environmental aspects of projects, and, where appropriate, to consider possible ways to address or mitigate concerns raised by Indigenous communities about the project's potential impacts. The Crown remains responsible for the substantive aspects of the consultation, including providing oversight of the consultation process and ensuring the adequacy of consultation with the communities to whom the Duty to Consult is owed.

Delegation of Procedural Aspects of the Crown's Duty to Consult

Based on MEM's review of the information provided by Enbridge concerning the Project, including the nature and location of the Project, anticipated environmental effects, and the Crown's current understanding of established or credibly asserted s. 35 rights in the Project area, MEM has determined that the Crown does have a Duty to Consult with Indigenous communities in respect of the Project. Therefore, on behalf of the Crown, MEM is delegating to Enbridge, through this letter, the procedural aspects of consultation in respect of the Project.

Please see the appendix for detailed information on the respective roles and responsibilities of the provincial Crown and Enbridge. You should seek guidance from MEM at any time if you are unclear about your roles and responsibilities.

Potentially Impacted Indigenous Communities

Based on the Crown's assessment of established and credibly asserted s. 35 rights and potential Project impacts, Enbridge should consult with the following Indigenous communities:

Community	Mailing Address
Aamjiwnaang First Nation	978 Tashmoo Ave. Sarnia, ON N7T 7H5 T: 519-336-8410 cjackson@aamjiwnaang.ca lrosales@aamjiwnaang.ca
Bkejwanong (Walpole Island)	117 Tahgahoning Road, R.R. #3, Wallaceburg ON, N8A 4K9 T: (519) 627-1481 peter.mayhew@wifn.org

Chippewas of Kettle and Stony Point First Nation	6247 Indian Lane, Kettle and Stoney Point ON, N0N 1J1 T: (519) 786-2125 kimberly.bressette@kettlepoint.org consultation@kettlepoint.org
Chippewas of the Thames First Nation	320 Chippewa Road, R.R. #1, Muncey ON, N0L 1Y0 T: (519) 289-5555 joemiskokomon@cottfn.com consultation@cottfn.com *COTTFN uses nationsconnect.ca for proponents to submit consultation requests.
Oneida Nation of the Thames	2212 Elm Avenue Southwold, ON N0L 2G0 T: (519) 652-6161 environment@oneida.on.ca

This rights-based consultation list is subject to change as new information becomes available, or the scope of the Project evolves. For example, First Nation and/or Métis communities may make new rights assertions at any time, and project-related developments may require additional Indigenous communities to be notified and/or consulted. A community may also indicate that they are not interested in being consulted regarding the Project. If any of the above should occur, Enbridge must notify MEM immediately so that updates to the consultation list can be considered.

We recommend that you contact the Crown if you are unsure about how to address a concern raised by an Indigenous community, particularly if the concern relates to a potential adverse impact on established or credibly asserted s. 35 rights. Consultation is ongoing throughout the project's duration, encompassing project development and design, consultation, approvals, construction, operation, and decommissioning.

If you become aware of potential impacts to s.35 rights of Indigenous communities that are not listed above at any stage of the project, please bring this to the attention of MEM with any supporting information regarding the claim at your earliest convenience.

Depth of Consultation

Based on currently available information about the Project's anticipated impacts, MEM's preliminary assessment has determined that consultation is owed at the low level of the consultation spectrum, at minimum, for the communities noted above.

As such, MEM requires Enbridge to, at a minimum, notify the communities of the project; share information about the project and provide an opportunity for the communities to comment. Any issues raised by the communities should be discussed and considered in light of the potential impact on rights, with mitigation or other forms of accommodation identified where appropriate. Enbridge's initial notice to the communities regarding the Project could include a request to confirm whether the community believes the Project will impact their rights and, accordingly, whether they are interested in being consulted. Should no response

be received, Enbridge should continue to provide high-level notifications in accordance with project stage milestones.

Should information become available throughout the consultation process to suggest that project impacts will be significant enough to warrant a deeper level of consultation, Enbridge must inform MEM so that updated guidance can be provided. If no response is received, the proponent should continue to provide high-level notifications at key project stage milestones.

Indigenous Consultation Record

Before, or at the time of, filing applications with the OEB for the Project, please send an Indigenous Consultation Record (ICR) as described in the appendix to the MEM contact identified in this delegation letter. The ICR will provide MEM with an opportunity to review the consultations undertaken to date, to understand any rights-based concerns raised, to assess the adequacy of the rights-based consultation conducted by Enbridge, and, where appropriate, to provide further direction to Enbridge on any additional consultations that should be undertaken. An ICR should be maintained and updated throughout the life of the Project, and ICR updates should be provided to MEM from time to time if any new s.35 rights-based issues or concerns are identified before key Project milestones. Should you have any questions about the appropriate time to provide MEM with an ICR or an ICR update, please contact MEM.

Acknowledgement

Through receipt of this letter, Enbridge acknowledges this Crown delegation, and the procedural consultation responsibilities enumerated in the appendix. Enbridge also acknowledges that it will endeavour to support the Crown's ongoing oversight of the consultation process by continuing to share with MEM any Project-related issues and concerns identified by Indigenous communities throughout the life of the Project. If you have any questions about these requirements, please contact Allison Palmer, Senior Policy Advisor, Indigenous Energy Policy at Allison.Palmer@ontario.ca.

I trust that this information provides clarity and direction regarding the respective roles of the Crown and Enbridge.

Sincerely,

Shannon McCabe

Shannon McCabe
Manager, Strategic Indigenous Initiatives
Ministry of Energy and Mines

c: Samir Adkar, Director, Energy Networks and Indigenous Policy, Ministry of Energy and Mines

APPENDIX: ROLES AND RESPONSIBILITIES OF THE PROPONENT AND THE CROWN RELATED TO THE DUTY TO CONSULT WITH INDIGENOUS COMMUNITIES

Duty to Consult Roles and Responsibilities Delegated to Enbridge (the Proponent)

Please refer to the letter above for specific guidance on the project. On behalf of the Crown, please be advised that your responsibilities as Project Proponent for this Project include:

- providing notice(s) of accurate, complete, and plain language information about the Project to Indigenous communities identified in the letter above, with sufficient detail and at a stage(s) in the process that allows the communities to prepare their views on the Project and, if appropriate, for changes to be made to the Project. Project information may include:
    - a detailed description of the nature and scope of the Project, textual or otherwise, and translations into Indigenous languages where appropriate;
    - a description of the Project location;
    - maps or other visuals showing the Project location and any other affected area(s);
    - information about the Project lands (e.g. whether the Project is on privately owned or Crown-controlled lands);
    - information about the potential negative effects of the Project on the environment, including their severity, geographic scope, and likely duration. This can include, but is not limited to, effects on ecologically sensitive areas, water bodies, wetlands, forests; species at risk and/or the habitat of species at risk;
    - identification of any measures to avoid, minimize or mitigate potential adverse impacts;
    - a description of Project milestones and projected timing for the same;
    - details about other provincial or federal approvals that may be required for the Project to proceed; and
    - any additional information that might be helpful to the community;
- a written request to Indigenous communities to provide in writing or through a face-to-face meeting:
    - any information available to them that should be considered when preparing the Project documentation;
    - any potential adverse Project impacts on their established or credibly asserted s. 35 rights;
    - any suggested measures for avoiding, minimizing or mitigating potential adverse impacts; and
    - information, for the community's approval, about how information provided by the Indigenous community as part of the consultation process will be collected, stored, used, and shared;
    - any additional information that might be helpful to the community;
    - identifying a requested timeline for response(s) from the Indigenous community;
- an indication of the Proponent's availability to discuss the process and provide further information about the Project;
- the Proponent's contact information; and

- any additional information that might be helpful to the community;
- following up, as necessary, with Indigenous communities to ensure they received Project notices and information and are aware of the opportunity to comment, raise questions or concerns and identify potential adverse impacts on their established or credibly asserted rights;
    - If a community is unresponsive to efforts to notify and consult, the Proponent should nonetheless make attempts to update the community on the progress of the Project, the environmental assessment (if applicable) and any other regulatory approvals.
- bearing the reasonable costs associated with the procedural aspects of consultation (e.g., paying for meeting costs, making technical support available) and providing reasonable capacity funding to Indigenous communities to assist in their participation in the consultation process;
- gathering information about how the Project may adversely affect Aboriginal or treaty rights, including gathering information about land use and traditional knowledge;
- consider and respond to comments and concerns raised by Indigenous communities and answer questions about the Project and its potential impacts on established or credibly asserted s. 35 rights;
- as appropriate, discussing and implementing changes to the Project in response to concerns raised by Indigenous communities. This could include modifying the Project to avoid or minimize an impact on established or credibly asserted s. 35 right (e.g., altering the season when construction will occur to avoid interference with mating or migratory patterns of wildlife); and
- informing Indigenous communities about how their concerns were taken into consideration and whether the Project proposal was altered in response. It is considered best practice to provide the Indigenous community with a copy of the consultation record as part of this step for verification purposes.

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

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

The consultation process must maintain sufficient flexibility to respond to new information. We request that you make every reasonable effort to establish positive relationships with all Indigenous communities that may be affected by the Project. If you are unclear about the nature of a concern raised by an Indigenous community, you should seek clarification and further details from the community, provide opportunities to listen to community concerns and discuss options, and clarify any issues that fall outside the scope of the consultation process. These steps should be taken to ensure that the consultation process is meaningful and that

concerns are heard and, where possible, addressed. If a community is unresponsive to efforts to notify and consult, you should nonetheless make an effort to update the community on the project's progress, the environmental assessment (if applicable), and other relevant regulatory approvals.

If the Proponent retains sub-contractors to support the procedural aspects of consultation undertaken by the Proponent, Indigenous communities should be made aware of the sub-contractors role, and the Proponent should inform the Crown if any issues concerning established or asserted s. 35 rights arise.

Consultation should occur throughout the project's duration, including project development and design, approvals, construction, operation, and decommissioning. The Proponent should consider how it will support the Crown's ongoing oversight of the consultation process throughout the life of the Project. You should make every reasonable effort to establish positive relationships with all Indigenous communities that may be affected by the Project. You may wish to consider translating communications with communities into Indigenous languages or other languages, where appropriate.

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

The Crown reserves the right to participate in the consultation process as it sees fit, including, but not limited to, providing further instructions to proponents on delegated procedural aspects of consultation or directly undertaking additional consultation with Indigenous communities. The Crown reserves the right to add communities throughout the consultation process.

Duty to Consult Roles and responsibilities assumed directly by the Crown

The role of the Crown in fulfilling any duty to consult and accommodate in relation to this Project includes:

- identifying the Proponent and updating, as appropriate, the Indigenous communities to consult for the fulfillment of the Crown duty;
- notifying Indigenous communities that they have been identified for consultation and that the procedural aspects of consultation have been delegated to the Proponent;
- carrying out, from time to time, any necessary assessment of the extent of consultation or, where appropriate, accommodation required for the project to proceed;
- supervising the aspects of the consultation process delegated to the Proponent;

- determining in the course of Project approvals whether the consultation of Indigenous communities was sufficient; and
- determining in the course of Project approvals whether accommodation of Indigenous communities, if required, was appropriate and sufficient.

If the Crown considers that there are outstanding issues related to consultation, the Crown may undertake additional consultation with Indigenous communities.

Indigenous Consultation Record

It is important to ensure that all consultation activities undertaken with Indigenous communities are fully documented. This includes all attempts by the Proponent, or any subcontractors or consultants retained by the Proponent to support the procedural aspects of consultation undertaken by the Proponent, such as notifying or consulting the community, all interactions with and feedback from the community, and all efforts to respond to community concerns. Crown regulators require a comprehensive consultation record to assess whether Aboriginal consultation and any necessary accommodations are sufficient for the Project to receive Ontario government approvals. The consultation record should include, but not be limited to, the following:

- a list of the identified Indigenous communities that were contacted;
- details of all attempts to notify or contact the community regarding the Project, all interactions with and feedback from the community, and all efforts to respond to community concerns, including:
    - copies of correspondence (e.g., letters and electronic communications) sent and received;
    - any evidence that communications were distributed to and received by the Indigenous communities (e.g., courier slips);
- where a community has been non-responsive to multiple efforts to contact the community, a record of such multiple attempts and the responses or lack thereof.
- a written summary of consultations with Indigenous communities and appended documentation such as copies of notices, any meeting summaries or notes including where the meeting took place and who attended, and any other correspondence (e.g., letters and electronic communications sent and received, dates and records of all phone calls);
- Sub-contractors, if any, that are retained by the Proponent to support the procedural aspects of consultation undertaken by the Proponent, information about their role and how Indigenous communities were made aware of the sub-contractor's role as well as any issues that may have arisen concerning established or asserted s. 35 rights.
- responses and information provided by Indigenous communities during the consultation process. This includes information on Aboriginal or treaty rights, traditional lands, claims, or cultural heritage features and information on potential adverse impacts on such Aboriginal or treaty rights and measures for avoiding, minimizing, or mitigating potential adverse impacts to those rights and

- a summary of the rights/concerns and potential adverse impacts on s. 35 rights or on sites of cultural significance (such as burial grounds and archaeological sites) identified by Indigenous communities, how comments or concerns were considered or addressed, and any changes to the Project as a result of the consultation, such as:
    - changing the Project scope or design;
    - changing the timing of proposed activities;
    - minimizing or altering the site footprint or location of the proposed activity;
    - avoiding impacts to the s. 35-related interest;
    - environmental monitoring; and
    - other mitigation strategies.
- Throughout the life of the Project, Indigenous Consultation Records should be updated with any significant interactions regarding s. 35 rights-based issues, and these significant updates should be shared with MEM.

As part of its oversight role, the Crown may, at any time during the consultation and approvals stage of the Project and beyond, request records from the Proponent relating to consultations with Indigenous communities. Any records provided to the Crown will be subject to the *Freedom of Information and Protection of Privacy Act; however, they* may be exempted from disclosure under section 15.1 (Relations with Aboriginal communities) of the Act. Additionally, please note that the information provided to the Crown may also be subject to disclosure where required under any other applicable laws or as part of other dispute resolution proceedings.

The nature of the contents of the consultation record should be shared with the Indigenous communities consulted, and their permission to share this information with the Crown should be obtained. It is considered best practice to share an Indigenous community's consultation record with the community prior to finalizing it, ensuring it is a robust and accurate record of consultation.

C.2 Project Contact List

DRAFT

Appendix C2 Project Contact List

Agencies Officials

Federal Agencies

First Name	Surname	Organization	Department	Position	Address	City/Town	Province	Postal Code	Telephone	E-Mail
Rob	Clavering	Environment and Climate Change Canada	Environmental Assessment Section, Environmental Protection Branch - Ontario Region Enviornment and Climate Change Canada	Manager	4905 Dufferin Street	Downsview	ON	M3H 5T4	416-458-9670	robert.clavering@ec.gc.ca
To Whom it May Concern		Fisheries and Oceans Canada	Fish and Fish Habitat Protection Program			Burlington	ON	L7S 1A1	1-855-852-8320	FisheriesProtection@dfo-mpo.gc.ca
To Whom it May Concern		Transport Canada								EnviroOnt@tc.gc.ca

Provincial Agencies

First Name	Surname	Organization	Department	Position	Address	City/Town	Province	Postal Code	Telephone	E-Mail
To Whom it May Concern		Ministry of Environment, Conservation and Parks	Species at Risk Branch		40 St. Clair Ave. W., 14th Floor	Toronto	ON	M4V 1M2		SAROntario@ontario.ca
Zachary	Potts	Ministry of Environment, Conservation and Parks	Environmental Assessment Branch - Indigenous Consultation	Advisor	40 St. Clair Ave. W., 14th Floor	Toronto	ON	M4V 1P5	705-346-0978	zachary.potts@ontario.ca

First Name	Surname	Organization	Department	Position	Address	City/Town	Province	Postal Code	Telephone	E-Mail
Saif	Sumbal	Ministry of Environment, Conservation and Parks	Southwest Region	Director	733 Exeter Rd	London	ON	N6E 1L3	519-873-5001	saifullah.sumbal@ontario.ca CC: [aaron.todd@ontario.ca]
Laura	Collings	Ministry of Environment, Conservation and Parks	Source Protection Screening - Conservation and Source Protection Branch	Program Analyst					249-733-1157	SourceProtectionScreening@ontario.ca
To Whom it May Concern		Ministry of Natural Resources	Southern Region	Resources Land Use Planning and Strategic Issues Section	300 Water Street, Box 7000. 4th Floor	Peterborough	ON	K9J 8MS		SR.Planning@ontario.ca

Conservation Authority

First Name	Surname	Organization	Department	Position	Address	City/Town	Province	Postal Code	Telephone	E-Mail
Jeff	Vlasman	St. Clair Region Conservation Authority	Planning and Regulations	Regulations Coordinator	205 Mill Pond Crescent	Strathroy	ON	L2V 4Y6	519.245.3710, Ext. 254	jvlasman@scrca.on.ca
Kelsey	Oatman	St. Clair Region Conservation Authority	Planning and Regulations	Planning & Regulations Clerk	205 Mill Pond Crescent	Strathroy	ON	N7G 3P9	519-245-3710 Ext. 221	koatman@scrca.on.ca

Elected Officials

Surname	Organization	Position	Address	City/Town	Province	Postal Code	Telephone	E-Mail
Gladu	Government of Canada	Member of Parliament- Sarnia—Lambton—Bkejwanong	1000 Finch Drive. Unit 6	Sarnia	ON	N7S 6G5	519-383-6600	Marilyn.gladu@parl.gc.ca
Rood	Government of Canada	Member of Parliament Lambton-Kent- Middlesex	65 Front St W	Strathroy	ON	N7G 1X6	519-245-6561	Lianne.Rood@parl.gc.ca
Bailey	Government of Ontario	Member of Provincial Parliament Sarnie - Lambton	805 Christina St. N. Suite 102	Point Edward	ON	N7V 1X6	519-337-0051	bob.baileyco@pc.ola.org

Surname	Organization	Position	Address	City/Town	Province	Postal Code	Telephone	E-Mail
Pinsonneault	Government of Ontario	Member of Provincial Parliament Lambton-Kent- Middlesex	81 Front St. W	Strathroy	ON	N7G 1X6	519-245-8696	steve.pinsonneault@pc.ola.org
Broad	Township of Dawn-Euphemia	Mayor	4591 Lambton Line. R.R. #4	Dresden	ON	N0P 1M0	519-784-0373	mayor@dawneuphemia.on.ca
Gray	Township of Dawn-Euphemia	Councillor	4591 Lambton Line. R.R. #4	Dresden	ON	N0P 1M0	519-350-8462	gray@dawneuphemia.on.ca
McGuire	Township of Dawn-Euphemia	Councillor	4591 Lambton Line. R.R. #4	Dresden	ON	N0P 1M0	519-381-7900	mcguire@dawneuphemia.on.ca
Meyer	Township of Dawn-Euphemia	Councillor	4591 Lambton Line. R.R. #4	Dresden	ON	N0P 1M0	519-401-0130	meyer@dawneuphemia.on.ca
LeBoeuf	Township of Dawn-Euphemia	Councillor	4591 Lambton Line. R.R. #4	Dresden	ON	N0P 1M0	519-350-5315	leboeuf@dawneuphemia.on.ca
Marriott	Township of Enniskillen	Mayor	4465 Rokeby Line. R.R.1	Petrolia	ON	N0N 1R0	519-844-2307	kevin.marriott@county-lambton.on.ca
Van Dun	Township of Enniskillen	Councillor	4465 Rokeby Line. R.R.1	Petrolia	ON	N0N 1R0	226-402-3864	kwonthefarm@live.ca
Burke	Township of Enniskillen	Councillor	4465 Rokeby Line. R.R.1	Petrolia	ON	N0N 1R0	226-402-1647	chad.am.burke@gmail.com
Williams	Township of Enniskillen	Councillor	4465 Rokeby Line. R.R.1	Petrolia	ON	N0N 1R0	519-339-6866	timwilliamsweslanefarms@gmail.com

Ontario Pipeline Coordinating Committee

First Name	Surname	Organization	Department	Position	Address	City/Town	Province	Postal Code	Telephone	E-Mail
Zora	Crnojacki	Ontario Pipeline Coordinating Committee	Ontario Energy Board	Sr. Advisor, Natural Gas Applications	2300 Younge Street, PO Box 2319	Toronto	ON	M4P 1E4	416-440-8104	OPCC.Chair@oeb.ca (ONLY CC)
Randy	Doradat	Ontario Pipeline Coordinating Committee	Ontario Energy Board	Advisor, Natural Gas Applications	2300 Younge Street, PO Box 2319	Toronto	ON	M4P 1E4	416-440-8104	OPCC.Chair@oeb.ca (ONLY CC)
Ken	Mott	Ontario Pipeline Coordinating Committee	Ministry of Agriculture, Food & Agribusiness	Rural Planner	1 Stone Road West, 3rd Floor SE	Guelph	ON	N1G 4Y2	613-290-9112	omafra.eanotices@ontario.ca
Karla	Barboza	Ontario Pipeline Coordinating Committee	Ministry of Citizenship and Multiculturalism	Team Lead, Heritage	400 University Avenue, 5th floor	Toronto	ON	M7A 2R9	416-660-1027	karla.barboza@ontario.ca
Anastasia	Abrazhevich	Ontario Pipeline Coordinating Committee	Ministry of Citizenship and Multiculturalism	Heritage Planner	400 University Avenue, 5th floor	Toronto	ON	M7A 2R9	437-240- 2379	Anastasia.Abrazhevich@ontario.ca
Marc	Boucher	Ontario Pipeline Coordinating Committee	Ministry of Energy	Senior Advisor, Indigenous Energy Policy Unit	77 Grenville Street, 6th floor	Toronto	ON	M7A 1B3	416-419-3899	Marc.Boucher@Ontario.ca

First Name	Surname	Organization	Department	Position	Address	City/Town	Province	Postal Code	Telephone	E-Mail
Jake	Noordhof	Ontario Pipeline Coordinating Committee	Ministry of Environment, Conservation and Parks, Environmental Services Environmental Assessment Branch	Manager, Environmental Assessment Servicies	135 St. Clair Avenue West, 1st floor	Toronto	ON	M4V 1P5	647-961-4850	jake.noordhof@ontario.ca
Nick	Cole	Ontario Pipeline Coordinating Committee	Infrastructure Ontario	Environmental Manager	2001 - 1 Dundas Street West	Toronto	ON	M5G 2L6	647-264-4499	nick.cole@infrastructureontario.ca
Erick	Boyd	Ontario Pipeline Coordinating Committee	Ministry of Municipal Affairs and Housing Office, Western Municipal Services Office	Manager	659 Exeter Road, 2nd floor	London	ON	N6E 1L3	519-873-4025	erick.boyd@ontario.ca
To Whom It May Concern,		Ontario Pipeline Coordinating Committee	Ministry of Natural Resources and Forestry, Environmental Planning Team		300 Water Street, 3rd floor south	Peterborough	ON	K9J 3C7		Environmental.Planning.Team@ontario.ca
Connor	Broughton	Ontario Pipeline Coordinating Committee	Ministry of Natural Resources and Forestry	Planning Intern	300 Water Street, 3rd floor south	Peterborough	ON	K9J 3C7	705-761-1713	connor.broughton@ontario.ca
Andre	Nurgel	Ontario Pipeline Coordinating Committee	Technical Standards and Safety Authority, Fuels Safety Program	Manager, Fuels Engineering	345 Carlingview Drive	Toronto	ON	M9W 6N9	1-416-734-3521	anurgel@tssa.org
Robin	Yu	Ontario Pipeline Coordinating Committee	Technical Standards and Safety Authority, Fuels Safety Program	Engineer, Fuels	345 Carlingview Drive	Toronto	ON	M9W 6N9	416-734-3402	ryu@tssa.org
Daniel	Prelipcean	Ontario Pipeline Coordinating Committee	Ministry of Transportation, Corridor Management Office	Senior Project Manager	301 St. Paul Street	St. Catharines	ON	L2R 7R4	289-407-4238	daniel.prelipcean@ontario.ca

Municipal

Municipality	First Name	Surname	Title	Agency	Department	Address	City/Town	Province	Postal Code	Telephone	E-Mail
County of Lambton	Jarod	Preston	Planner	County of Lambton	Planning Services	4465 Rokeby Line. R.R.1	Petrolia	ON	N0N 1R0	519-845-0801 ext 5333	jarod.preston@county-lambton.on.ca
County of Lambton	Matt	Deline	Manager	County of Lambton	Public Works	789 Broadway Street, Box 3000	Wyoming	ON	N0M 2S0	519-845-0801 ext. 5370	matt.deline@county-lambton.on.ca
County of Lambton	Stephanie	Thiffeault	CAO	County of Lambton	CAO Office	4465 Rokeby Line. R.R.1	Petrolia	ON	N0N 1R0	519-845-0801	stephane.thiffeault@county-lambton.on.ca
County of Lambton	Ezio	Nadalin	Planner	County of Lambton	Planning Services	789 Broadway Street, Box 3000	Wyoming	ON	N0M 2S0	519-845-0801. Ext. 5343	ezio.nadalin@county-lambton.on.ca
Township of Dawn-Euphemia	John	Collison	Acting Superintendent	Township of Dawn Euphemia	Public Works	4591 Lambton Line. RR 4	Dresden	ON	N0P 1M0	519-692-5018	roads@dawneuphemia.on.ca
Township of Dawn-Euphemia	Donna	Clermont	Admin Clerk / Treasurer	Township of Dawn Euphemia	Office	4591 Lambton Line. RR 4	Dresden	ON	N0P 1M0	519-692-5148	clerk@dawneuphemia.on.ca
Township of Enniskillen	Darcy	Mitchell	Superintendent	Township of Enniskillen	Public Works	4465 Rokeby Line. R.R.1	Petrolia	ON	N0N 1R0	519-882-2490	dmitchell@enniskillen.ca
Township of Enniskillen	Christine	Poland	Admin Clerk / Treasurer	Township of Enniskillen	Council Staff	4465 Rokeby Line. R.R.1	Petrolia	ON	N0N 1R0	519-882-2490	cpoland@enniskillen.ca

Indigenous Communities

First Name	Surname	Organization	Phone Number	Address	City	Province	Postal Code	E-Mail
Lynn	Rosales	Aamjiwnaang First Nation	519-336-8410	978 Tashmoo Ave.	Sarnia	ON	N7T 7H5	lrosales@aamjiwnaang.ca; cjackson@aamjiwnaang.ca; kwalker@aamjiwnaang.ca
To Whom It May Concern		Chippewas of the Thames	519-289-5555	320 Chippewa Rd	Muncey	ON	N0L 1Y0	FLwork@cottfn.com
Verna	George	Chippewas of Kettle and Stony Point	519-786-2125	6247 Indian Lane	Kettle & Stony Point First Nation	ON	N0N 1J1	verna.george@kettlepoint.org; consultation@kettlepoint.org
Janelle	Cornelius	Oneida Nation of the Thames	519-652-3244	2212 Elm Avenue	Southwold	ON	N0L 2G0	councillor.jenelle@oneida.on.ca; councillor.trianna@oneida.on.ca
Peter	Mayhew	Walpole Island First Nation	519-627-1481	117 Tahgahoning Rd.	Wallaceburg	ON	N8A 4K9	peter.mayhew@wifn.org ; dean.jacobs@wifn.org; taylor.myers@wifn.org

Stakeholders

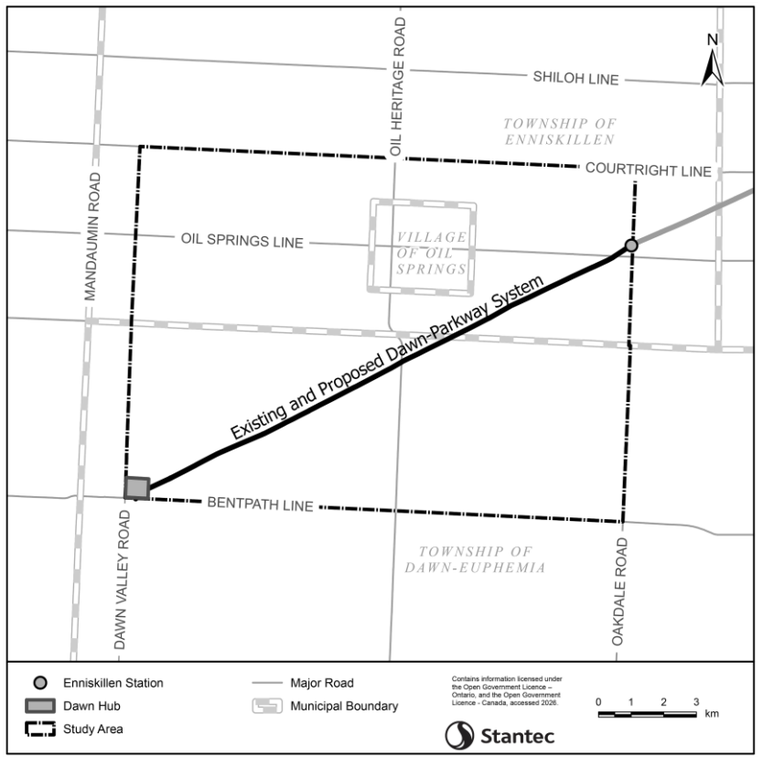
First Name	Surname	Organization	Position	Phone Number	Address	City	Province	Postal Code	E-Mail
Robyn	Rumney	Conservation Ontario	Policy and Planning Coordinator	905-895-0716	120 Bayview Parkway	Newmarket	ON	L3Y 3W3	rrumney@conservationontario.ca
To Whom it May Concern		Hydro One Networks Inc.							SecondaryLandUse@HydroOne.com
Clinton	Harper	Lambton Area Water Supply System	General Manager	519-344-7429	1215 Fort St.	Sarnia	ON	N7V 1M1	clinton.harper@lawss.org
Leah	Belan	Lambton Federation of Agriculture	Office Administrator	519-821-8883	2086 Naylor Road	Oil Springs	ON	N0N 1P0	info@lambtonfederation.ca
Paul	Nairn	Ontario Federation of Agriculture	Manager - Western Region	519-272-5533	200 Hanlon Creek Boulevard	Guelph	ON	N1C 0A1	paul.nairn@ofa.on.ca
Karen	McLean	Ontario Federation of Agriculture	Zone 6- Lambton, Middlesex	519-918-4470	200 Hanlon Creek Boulevard	Guelph	ON	N1C 0A1	karen.mclean@ofa.on.ca
Glen	Prevost	Ontario Woodlot Association	Executive Director	613-713-1525	10 Campus Dr. Unit 4	Kemptville	ON	K0G 1J0	glen.prevost@ontariowoodlot.com info@ontariowoodlot.com
Lindsay	Buchanan	Rural Lambton Stewardship Network	Private Land Manager	519-809-5767	6890 Base Line E	Wallaceburg	ON	N8A 2K6	lbuchanan.rlsn@gmail.com

C.3 Notice of Upcoming Environmental Study Letters and Preliminary Desktop Environmental and Cultural Heritage Summary Memo

DRAFT

Enbridge Gas Inc.
Notice of Upcoming Environmental Study
Dawn Parkway System Renewal Project: Dawn to Enniskillen

This notice is to inform you of an upcoming Enbridge Gas Inc. (Enbridge Gas) Environmental Study taking place in southwestern Ontario for a potential project that is in early development called the "Dawn Parkway System Renewal Project." The Dawn Parkway Transmission System was built in the 1950s and is the backbone of the natural gas system supporting energy security and economic competitiveness in Ontario and across Canada. It is part of a broader integrated supply network that serves homes and businesses across 500 municipalities in Ontario, Quebec, the Maritimes, and the Northeastern United States.



Through its integrity management program, Enbridge Gas identified several proactive measures to maintain capacity, safety, and reliability, ranging from targeted segment replacements to broader line upgrades. For this Environmental Study, Enbridge Gas is considering the removal of approximately 16.7 km NPS 26-inch diameter natural gas pipeline between the existing Enbridge Gas Dawn Natural Gas Storage and Transportation Facility (the Dawn Hub) located at Bentpath Line and Dawn Valley Road in the Township of Dawn-Euphemia, and the existing Enbridge Gas Enniskillen Station located north of Oil Springs Line on Oakdale Road in the Township of Enniskillen and replacing it with the construction of a new NPS 48-inch diameter natural gas pipeline. The study area and existing infrastructure are shown in the figure.

Where practicable, the existing NPS 26 pipeline will be removed and replaced in the existing easement; new permanent easement may be required. Temporary working space will be required during construction. Additional ancillary work in the existing Dawn Hub is also proposed in association with the pipeline described above.

Enbridge Gas has retained a third-party environmental consultant, Stantec Consulting Ltd. (Stantec), to complete an Environmental Study for the Project, which will fulfill the requirements of the Ontario Energy Board's (OEB) E*nvironmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023)*. The Environmental Study will include a consultation and engagement program, impact assessment, and cumulative effects assessment.

It is anticipated that the Environmental Report for the study will be completed in Q1 2027, after which Enbridge Gas plans to file a Leave to Construct application for the Project with the OEB. The OEB's review and approval is required before the proposed Project can proceed. If approved, construction is anticipated to begin in the spring of 2028.

Enbridge Gas is committed to undertaking consultation and engagement with stakeholders, Indigenous communities, and the public as an integral component of the Environmental Study. Additional details about the Environmental Study and how to become involved during the consultation and engagement process will be provided in future correspondence.

Should you have any questions, comments, or input regarding the Environmental Study, please contact Stantec using the information below. All correspondence will be evaluated and may be considered during the Environmental Study.

Mark Knight
Environmental Planner
Stantec Consulting Ltd.
Telephone: (519) 585-7430
Email: Dawn-EnniskillenES@stantec.com

Stantec

ENBRIDGE
Life Takes Energy®

July 6, 2026

«Names»
«Mailing_Address»
«Town», «Province»
«PC»

Dear «Names»

Re: Enbridge Gas – Dawn Parkway System Renewal Project, Dawn to Enniskillen: Notice of Upcoming Environmental Study

Enbridge Gas Inc. (Enbridge Gas) will be completing an Environmental Study taking place in southwestern Ontario for a potential project that is in early development called the "Dawn Parkway System Renewal Project." For this Environmental Study, Enbridge Gas is considering the removal of the 16.7 km NPS 26-inch diameter natural gas pipeline between the existing Enbridge Gas Dawn Natural Gas Storage and Transportation Facility (the Dawn Hub) located at Bentpath Line and Dawn Valley Road in the Township of Dawn-Euphemia, and the existing Enbridge Gas Enniskillen Station located north of Oil Springs Line on Oakdale Road in the Township of Enniskillen and replacing it with the construction of a new NPS 48-inch diameter natural gas pipeline.

Enbridge Gas has retained a third-party environmental consultant, Stantec Consulting Ltd. (Stantec), to complete an Environmental Study for the Project, which will fulfill the requirements of the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023).*

Enbridge Gas is committed to undertaking consultation and engagement with stakeholders, Indigenous communities, and the public as an integral component of the Environmental Study. Additional details about the Environmental Study and how to become involved during the consultation and engagement process will be provided in future correspondence.

Should you have any questions, comments, or input regarding the Environmental Study, please contact Stantec using the information provided in the attached Notice.

Regards,

Knight, Mark
2026.06.30
10:33:54 -04'00'

Mark Knight, MA, RPP, MCIPStantec Consulting Ltd.
Principal, Environmental Planner
Assessment and Permitting
Phone: (519) 585-7430

Attachment: Notice of Upcoming Environmental Study

Enbridge
10175 101 St NW
Edmonton, Alberta T5J 0H3
Canada

July 6, 2026

Dear Neighbour,

Re: Enbridge Gas Inc. (Enbridge Gas) – Dawn-Parkway System Renewal

Enbridge Gas is writing to inform you of an upcoming environmental study taking place as part of a potential project called the “Dawn-Parkway System Renewal”. Enbridge Gas is considering the replacement of the existing NPS 26 inch diameter natural gas pipeline between the existing Enbridge Gas Dawn Natural Gas Storage and Transportation Facility (the Dawn Hub) located at Bentpath Line and Dawn Valley Road in the Township of Dawn-Euphemia, and the existing Enbridge Gas Enniskillen Station located north of Oil Springs Line on Oakdale Road in the Township of Enniskillen (Dawn-Enniskillen) with the construction of a new NPS 48 inch diameter natural gas pipeline.

The Dawn Parkway Transmission System is a critical component of Enbridge Gas’s existing natural gas transmission network and one of the most important natural gas transportation routes in Ontario. Its continued operation helps ensure a steady and reliable supply of natural gas for homes, businesses, and industry. The system connects the Dawn Operations Centre in St. Clair Township, the Parkway Compressor Station in the City of Mississauga, and the Kirkwall Valve Site in the City of Hamilton, and forms part of the broader transmission network serving Ontario.

This potential project is in the early stages of development, and the exact routing and footprint will be determined as the detailed design and environmental studies progress. For more information, please refer to the ‘Notice of Upcoming Environmental Study’ enclosed with this letter.

We are committed to engaging openly and respectfully with landowners and stakeholders within the communities we operate. Where potential land access or routing of the pipeline is proposed, we will be reaching out to you in the near future. A land representative will be contacting you on our behalf to introduce themselves, provide information and answer any questions you may have regarding land access if required for upcoming survey work and environmental studies prior to their commencement. Their contact details are also provided in this letter for your reference.

We will be hosting upcoming Information Sessions and will provide you with more information regarding the commencement of environmental studies very shortly.

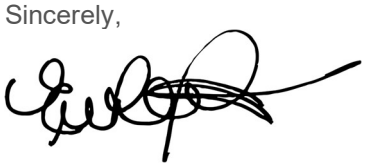
Should you have any questions regarding this letter or at any time, please contact:

Rick Plant - Field Land Agent, Vertex Professional Services Ltd.

Phone Number: 226-868-9810

Email: rplant@vertex.ca

Sincerely,



Erin Whillans

Sr Advisor, Lands and Right of Way

Dawn Parkway System Renewal Project – Dawn to Enniskillen Section: Preliminary Desktop Environmental and Cultural Heritage Summary Memo

Final Memo

June 30, 2026

Prepared for:
Enbridge Gas Inc.
50 Keil Drive
Chatham, Ontario N7M 5J5

Prepared by:
Stantec Consulting Ltd.
300 Hagey Boulevard, Suite 100
Waterloo, Ontario N2L 0A4

Project/File:
160901400

Stantec

Limitations and Sign-off

The conclusions in the Memo titled Dawn Parkway System Renewal Project – Dawn to Enniskillen Section: Preliminary Desktop Environmental and Cultural Heritage Summary Memo are Stantec's professional opinion, as of the time of the Memo, and concerning the scope described in the Memo. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not take into account any subsequent changes. The Memo relates solely to the specific project for which Stantec was retained and the stated purpose for which the Memo was prepared. The Memo is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from Enbridge Gas Inc. (the "Client") and third parties in the preparation of the Memo to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This Memo is intended solely for use by the Client in accordance with Stantec's contract with the Client. While the Memo may be provided by the Client to applicable authorities having jurisdiction and to other third parties in connection with the project, Stantec disclaims any legal duty based upon warranty, reliance or any other theory to any third party, and will not be liable to such third party for any damages or losses of any kind that may result.

Prepared by  Kelly, Dominique
2026.06.30
14:01:07 -04'00'
(signature)

Dominique Kelly, B.A.
Environmental Planner

Reviewed by  Knight, Mark
2026.06.30
14:35:42 -04'00'
(signature)

Mark Knight, M.A., RPP, MCIP
Principal, Environmental Planner

Table of Contents

1 Preliminary Desktop Environmental and Cultural Heritage Summary Memo 1
1.1 Content and Purpose 1
2 Project Overview 3
3 Regulatory Process 6
3.1 Ontario Energy Board Application 6
3.2 Environmental Study Process 6
3.2.1 Overview 6
3.2.2 Route Evaluation and Selection 6
3.2.3 Impact Assessment and Environmental Report 7
3.3 Project Schedule 8
4 Environmental Surveys 9
4.1 Ecology 9
4.1.1 Methodology 9
4.1.2 Existing Conditions and Future Surveys 11
4.2 Archaeology 17
4.2.1 Methodology 17
4.2.2 Existing Conditions and Future Surveys 18
5 Construction Process and Steps 19
6 Potential Impacts and Mitigation Measures 23
6.1 Socio-Economic Features 23
6.1.1 Potential Impacts 23
6.1.2 Mitigation Measures 24
6.2 Cultural Heritage Resources 24
6.2.1 Potential Impacts 24
6.2.2 Mitigation Measures 24
6.3 Aquatic Resources 25
6.3.1 Potential Impacts 25
6.3.2 Mitigation Measures 25
6.4 Terrestrial Resources 25
6.4.1 Potential Impacts 25
6.4.2 Mitigation Measures 26
7 Closing 27

List of Tables

Table 1 Timing Windows for Ecological Surveys 10
Table 2 Species of Conservation Concern 12
Table 3 Terrestrial Species at Risk 14
Table 4 Aquatic Species at Risk 15

List of Figures

Figure 1 Proposed Pipeline Route 5
Figure 2 Process for the Preparation and Review of the Environmental Report 8
Figure 3 Constructing an Enbridge Gas Pipeline 19

List of Photos

Photo 1 Site Grading and Soil Stripping 20
Photo 2 Pipeline Installation in a Trench 20
Photo 3 Damn and Pump Watercourse Crossing 21
Photo 4 Pipeline Backfill and Regrading to Previous Conditions 21

List of Appendices

Appendix A Stage 1 Archaeological Assessment –Dawn to Enniskillen
Appendix B DFO and Enbridge Gas Inc. Drawings

1 Preliminary Desktop Environmental and Cultural Heritage Summary Memo

1.1 Content and Purpose

This Preliminary Desktop Environmental and Cultural Heritage Summary Memo (PSM) provides a description of the Project, summarizes the regulatory process, outlines environmental surveys and the construction process, and lists potential impacts and mitigation measures.

It should be noted that more details are known about the Project than would typically be expected at this very early planning stage due to previous environmental studies completed in the Study Area. As the Project evolves, these details will be subject to change as design progresses, and as Enbridge Gas Inc. (Enbridge Gas) obtains access to the private property upon which the project will be constructed.

The purpose of the PSM is to both provide Indigenous communities with project details in advance of the public consultation period, and to seek Indigenous input and knowledge to enhance the Project Team's understanding of the Study Area. Enbridge Gas and Stantec respectfully acknowledge the value of traditional knowledge and oral history that is shared among Indigenous peoples. We recognize that Indigenous peoples have strong ties to their lands and that the use of these lands, from a development, ecosystems, and sustainability perspective, is of vital importance to communities. We also recognize that the worldviews shared by Indigenous peoples contain a rich knowledge of rare plants and animals. An Indigenous worldview is one that is developed through a mutually beneficial relationship, where one see's themselves as deeply connected to the natural world. This PSM is the product of Western knowledge and a Western worldview. In this vein, we acknowledge that the discussions in this Memo on Provincially and Federally protected species, for instance, do not capture the full breadth of the value these species have to Indigenous peoples.

We welcome the opportunity for Indigenous peoples to share context and background so that we may gain a broader understanding of the Study Area. We request your review of this PSM, and your feedback on the Study Area and items of importance that should be considered as the Project unfolds.

2 Project Overview

Through Enbridge Gas's Integrity Management Program (IMP), which involves regular inspection and condition monitoring on assets, certain integrity-related features were identified on the NPS 26 Dawn Parkway natural gas pipeline. To support continued safe operation, Enbridge Gas reduced the operating pressure of the pipeline, resulting in a significant reduction in throughput across the Dawn Parkway Transmission System. This capacity reduction is not sustainable in the long term because it limits the system's ability to meet firm design day commitments and will create future gas supply and system capacity risks.

Enbridge Gas is proposing to construct the Dawn Parkway System Renewal Project – Dawn to Enniskillen Section (the Project). The purpose of the Project along with the proposed work on the Kirkwall to Hamilton Section, is to recover a portion of the lost capacity within the Dawn Parkway Transmission System, while supporting the continued safe, reliable, economic, and secure delivery of natural gas to serve existing demand.

This PSM focuses on the Dawn to Enniskillen section. The Dawn Parkway Transmission System was built in the 1950s and is the backbone of the natural gas system supporting energy security and economic competitiveness in Ontario and across Canada. It is part of a broader integrated supply network that serves homes and businesses across 500 municipalities in Ontario, Quebec, the Maritimes, and the Northeastern United States.

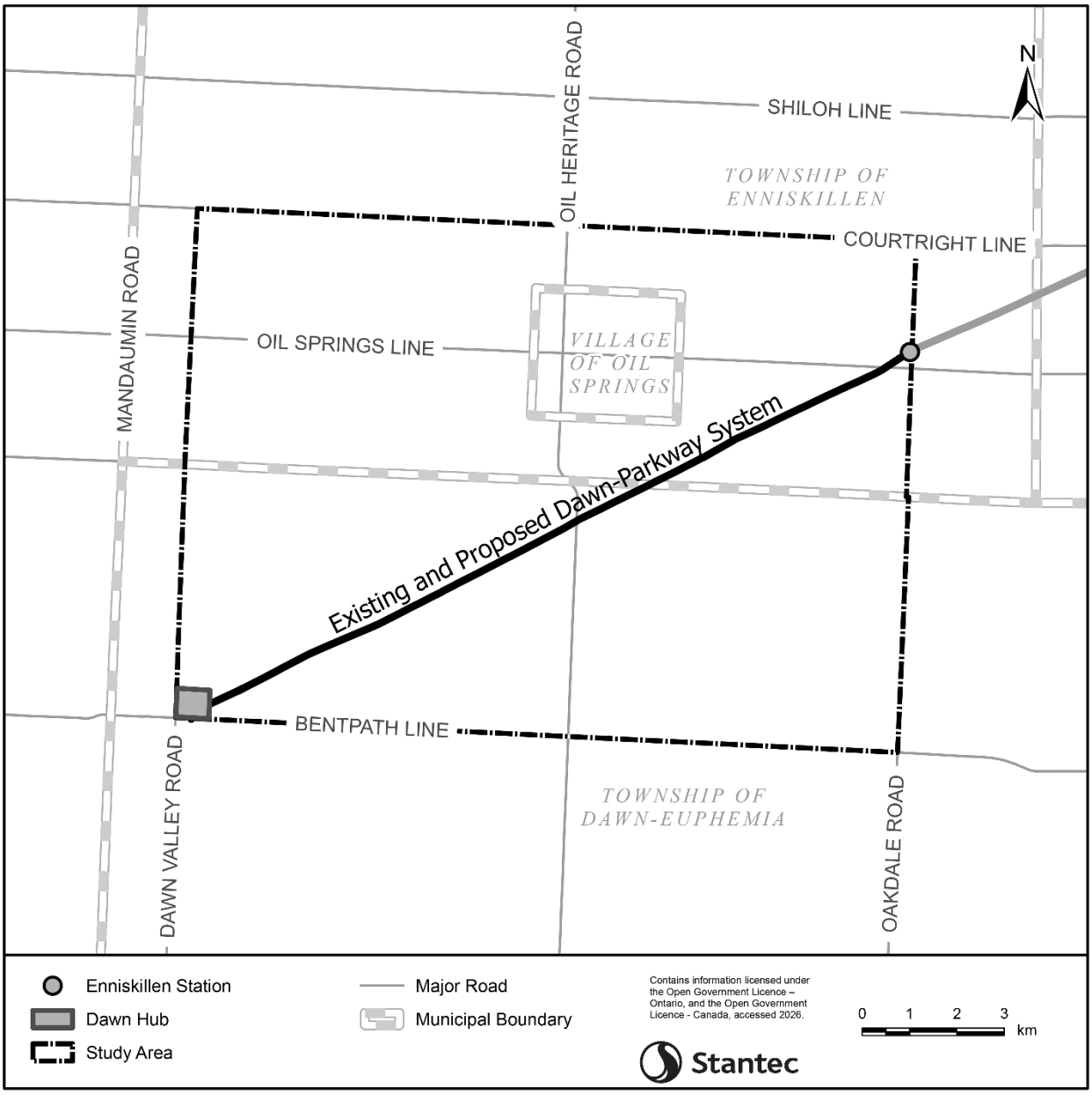
For this Project, Enbridge Gas is considering the removal of the 16.7 km NPS 26-inch diameter natural gas pipeline between the existing Enbridge Gas Dawn Natural Gas Storage and Transportation Facility (the Dawn Hub) located at Bentpath Line and Dawn Valley Road in the Township of Dawn-Euphemia, and the existing Enbridge Gas Enniskillen Station located north of Oil Springs Line on Oakdale Road in the Township

of Enniskillen and replacing it with the construction of a new NPS 48-inch diameter natural gas pipeline.

Where practicable, the pipeline will be constructed via a lift and lay method whereby the existing NPS 26 pipeline will be removed, and the new 48-inch pipeline will be placed in the same easement. New permanent easement may be required, and temporary working space will be required during construction. Additional ancillary work in the existing Dawn Hub is also proposed in association with the pipeline described above.

The proposed pipeline route is shown on Figure 1.

Figure 1 Proposed Pipeline Route



3 Regulatory Process

3.1 Ontario Energy Board Application

The Project involves the construction of a hydrocarbon pipeline in Ontario, which requires Leave to Construct approval under section 90(1) of the *Ontario Energy Board Act*, 1998. As such, Enbridge Gas will submit a Leave to Construct application to the Ontario Energy Board for this Project. The Leave to Construct application will include technical details for the Project, including project need, alternatives, engineering, costs, environmental, lands, and Indigenous consultation.

3.2 Environmental Study Process

3.2.1 Overview

As part of the planning process, Enbridge Gas has retained Stantec Consulting Ltd. (Stantec) to complete an Environmental Study for the Project. The findings of the Environmental Study will be summarized in an Environmental Report which will form part of the Leave to Construct application.

It should be noted that while the term environmental assessment is often used to describe the Environmental Study, the process does not fall under the Ontario *Environmental Assessment Act*. The Environmental Study and resultant Environmental Report will follow the Ontario Energy Board *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023)*.

3.2.2 Route Evaluation and Selection

The Environmental Study begins with the route evaluation and selection process. The first step is the development of the routing methodology. The overarching objective is to identify routes with the least potential for adverse environmental and socio-economic impacts; which is supported by the objectives of direct routes, reducing impacts, and

paralleling existing infrastructure. An initial Study Area will then be developed to allow for a reasonable number of alternative routes to be considered. The size of the initial Study Area can vary based on surrounding existing features and infrastructure.

Once alternative routes are identified, they will undergo a comparative evaluation to select the Preliminary Preferred Route. The Route is considered 'Preliminary' until it has been presented to stakeholders and Indigenous Communities for feedback, which will occur through an in-person and virtual information session, and various meetings. Based on feedback the Preliminary Preferred Route will be adjusted as required, and a Preferred Route will be determined.

As mentioned in Section 2, for the Dawn to Enniskillen section of the Project the new 48-inch diameter pipeline will be replacing the existing 26-inch pipeline infrastructure through a lift and lay construction method, and therefore no route alternatives will be considered.

3.2.3 Impact Assessment and Environmental Report

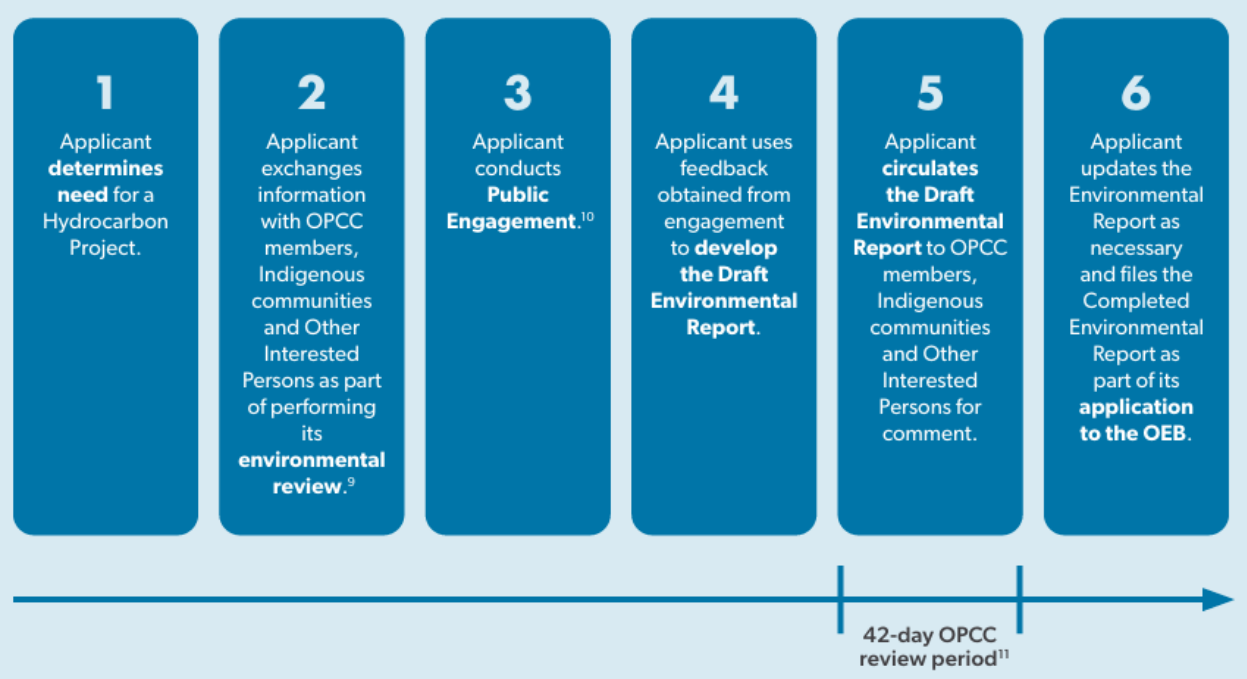
Once a Preliminary Preferred Route is determined, a reduced Study Area will be established to cover environmental and socio-economic features with which the Project may interact. Existing features in the Study Area will be summarized, and an assessment will be conducted to determine potential environmental and socio-economic impacts, and cumulative effects, that would result from the Project. Based on the assessment, mitigation and protective measures, supplemental studies, monitoring, and contingency plans will be outlined to reduce or avoid impacts.

The Environmental Study concludes with the with the preparation of the Environmental Report, as well as Environmental Alignment Sheets to identify site-specific mitigation and protective measures to be implemented during construction.

The process for the preparation and review of the Environmental Report can be found in Figure 1. As noted, a draft version of the Environmental Report will be circulated for a

42-day review and comment period. Comments received outside of the 42-day period will be considered but will not be reflected in the final Environmental Report.

Figure 2 Process for the Preparation and Review of the Environmental Report



3.3 Project Schedule

The Project Schedule includes the following main goal posts:

- Preferred Route presented for feedback – Summer 2026
- Draft Environmental Report circulated for 42-day review – Fall 2026
- Ontario Energy Board regulatory process – Early 2027
- Environmental and Cultural Heritage Surveys – 2027
- Construction – 2028
- In-Service – End of 2028

4 Environmental Surveys

Environmental surveys will be completed as part of the Project. By necessity, data becomes available at various stages of the Project. The level of data increases as the Project moves from the Environmental Study (which will largely use desktop information), to site-specific surveys which will be completed in advance of construction to confirm the recommendations of the Environmental Report. Environmental surveys will only be undertaken after detailed design is complete and landowner permission is obtained. Environmental surveys will be completed using Study Areas unique to each discipline. For example, ecological surveys typically occur within 120 m of a Project Footprint, where land access allows, to align with Natural Heritage survey guidance. On the other hand, cultural heritage surveys typically occur within 50 m of a Project Footprint to capture Project vibration impacts. And archaeological surveys typically occur only on the Project Footprint to capture areas of ground disturbance. The specific Study Area for each survey will be determined at the time of future surveys.

4.1 Ecology

4.1.1 Methodology

Ecological surveys are completed to document the presence of vegetation communities, wildlife habitat features, and aquatic features in a Study Area. Additional ecological surveys that may need to be completed are species specific surveys, and wetland identification and boundary delineation. The timing of ecological surveys is dictated by species-specific survey windows and seasonal considerations. Surveys are typically conducted during periods when target species are most active or detectable, such as breeding seasons or periods of increased activity (see Table 1). Ecological field programs are developed based on existing conditions and habitat present in a Study Area and therefore may not include all the outlined surveys. All ecological surveys follow regulatory requirements and accepted survey standards.

Table 1 Timing Windows for Ecological Surveys

Category	Months											
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Bats						✓						
Birds					✓	✓	✓					
Frogs and Toads				✓	✓	✓						
Insects							✓	✓				
Plants				✓	✓	✓	✓	✓	✓			
Salamanders			✓									
Snakes			✓	✓	✓	✓	✓	✓	✓			
Turtles			✓	✓	✓	✓	✓	✓	✓			
Aquatic Assessments			✓	✓	✓	✓	✓	✓	✓	✓		
Habitat Assessments	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

4.1.2 Existing Conditions and Future Surveys

Based on previous work that has been completed by Stantec in 2015 between the Dawn Hub and Enniskillen Station, the area contains four woodlands that may also have pockets of wetlands, significant wildlife habitat (such as seasonal concentration areas, animal movement corridors, rare vegetation communities or specialized habitats, and habitat for 19 species of conservation concern – see Table 2), potential habitat for 31 Species at Risk – see Table 3 and Table 4, and 24 watercourse crossings in the Lower North Sydenham and Black Creek Subwatersheds.

Table 2 Species of Conservation Concern

Species Scientific Name	S-Rank	Provincial Status (COSSARO)	National Status (COSEWIC)
Plants			
Fraxinus quadrangulata	S3?	Special Concern	Special Concern
Vicia caroliniana	S2	-	-
Crataegus suborbiculata	S1	-	-
Bidens trichosperma	S2	-	-
Arisaema dracontium	S3	Special Concern	Special Concern
Erigenia bulbosa	S3?	-	-
Carya glabra	S3	-	-
Asclepias hirtella	S3	-	-
Quercus shumardii	S3	Special Concern	Special Concern
Krigia biflora	S2	-	-
Cassia hebecarpa	S1	-	-
Verbesina alternifolia	S3	-	-
Insects			
Argia tibialis	S3	-	-
Reptiles			
Chelydra serpentina	S3	Special Concern	Special Concern

Species Scientific Name	S-Rank	Provincial Status (COSSARO)	National Status (COSEWIC)
Birds			
Chordeiles minor	S4B	Special Concern	Threatened
Contopus virens	S4B	Special Concern	Special Concern
Ammodramus savannarum	S4B	Special Concern	Special Concern
Melanerpesery Threatenedocephalus	S4B	Special Concern	Threatened
Hylocichla mustelina	S4B	Special Concern	Threatened

Notes:

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

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

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

S4 Apparently Secure: Uncommon but not rare

S? Rank Uncertain

SH Possibly Extirpated (Historical)

S#B Breeding status rank

S#N Non Breeding status rank

Table 3 Terrestrial Species at Risk

Common Name	Scientific Name	S-Rank	Provincial Status (COSSARO)	National Status (COSEWIC)
Plants				
American Chestnut	*Castanea dentate*	S2	Endangered	Endangered
Butternut	*Juglans cinerea*	S3?	Endangered	Endangered
False Hop Sedge	*Carex lupuliformis*	S1	Endangered	Endangered
Birds				
Bank Swallow	*Riparia riparia*	S4B	Threatened	Threatened
Barn Swallow	*Hirundo rustica*	S4B	Threatened	Threatened
Bobolink	*Dolichonyx oryzivorus*	S4B	Threatened	Threatened
Chimney Swift	*Chaetura pelagica*	S4B, S4N	Threatened	Threatened
Eastern Meadowlark	*Sturnella magna*	S4B	Threatened	Threatened
Northern Bobwhite	*Colinus virginianus*	S1	Endangered	Endangered
Mammals				
Little Brown Myotis	Myotis lucifugus	S5	Endangered	Endangered

Table 4 Aquatic Species at Risk

Common Name	Scientific Name	Provincial Status (COSSARO/ESA)	Federal Status (COSEWIC)	Federal Status (SARA)
Fish				
Channel Darter	*Percina copelandi*	Threatened	Threatened	Threatened
Eastern Sand Darter	*Ammocrypta pellucida*	Endangered	Threatened	Threatened
Lake Chubsucker	*Erimyzon sucetta*	Threatened	Endangered	Endangered
Northern Madtom	*Noturus stigmosus*	Endangered	Endangered	Endangered
Pugnose Minnow*	*Opsopoeodus emiliae*	Threatened	Threatened	Special Concern
Pugnose Shiner	*Notropis anogenus*	Threatened	Threatened	Endangered
Blackstripe Topminnow	*Fundulus notatus*	Special Concern	Special Concern	Special Concern
Silver Lamprey	*Ichthyomyzon unicuspis*	Special Concern	Special Concern	
Grass Pickerel	*Esox americanus vermiculatus*	Special Concern	Special Concern	Special Concern
River Redhorse	*Moxostoma carinatum*	Special Concern	Special Concern	Special Concern
Spotted Sucker	*Minytrema melanops*	Special Concern	Special Concern	Special Concern
Mussels				
Eastern Pondmussel	*Ligumia nasuta*	Endangered	Endangered	Endangered
Northern Riffleshell	*Epioblasma torulosa rangiana*	Endangered	Endangered	Endangered

Common Name	Scientific Name	Provincial Status (COSSARO/ESA)	Federal Status (COSEWIC)	Federal Status (SARA)
Kidneyshell	*Ptychobranchus faSpecial Concerniolaris*	Endangered	Endangered	Endangered
Mapleleaf	*Quadrula quadrula*	Threatened	Threatened	Threatened
Rainbow	*Villosa iris*	Threatened	Special Concern	Endangered
Rayed Bean	*Villosa fabalis*	Endangered	Endangered	Endangered
Round Hickorynut	*Obovaria subrotunda*	Endangered	Endangered	Endangered
Round Pigtoe	*Pleurobema sintoxia*	Endangered	Endangered	Endangered
Salamander Mussel	*Simpsonaias ambigua*	Endangered	Endangered	Endangered
Snuffbox	*Epioblasma triquetra*	Endangered	Endangered	Endangered

While the above information is a good starting point, given the age of the information it will need to be reviewed and updated. A roadside assessment will be conducted in the summer of 2026 to prepare a preliminary Ecological Land Classification, assess wildlife habitat (both significant and for Species at Risk), and identify watercourses. Stantec and Enbridge Gas will provide communication to Indigenous Communities ahead of the roadside assessment to offer participation. Any formal agreements for participation will occur directly with Enbridge Gas.

It is anticipated that on-site fieldwork will occur in 2027 after detailed design is complete (so the Project Footprint can be finalized) and access to private land is obtained. The nature of the surveys will depend on the features present and the anticipated project impacts. Stantec and Enbridge Gas will provide communication to Indigenous Communities ahead of the 2027 fieldwork program to offer participation. Any formal agreements for participation will occur directly with Enbridge Gas.

4.2 Archaeology

4.2.1 Methodology

Archaeological assessments are completed to identify and document potential archaeological resources that may be impacted by a Project. Initial assessments (Stage 1) determine the potential for archaeological sites, followed by field investigations (Stage 2-4) where warranted. These investigations may include pedestrian surveys or test pit surveys, depending on site conditions.

The pedestrian survey involves archaeologists walking across a property looking for artifacts, such as stone tools or pottery, ceramics, bones from wild or domesticated animals, or any other possible evidence of past human activity in the area. A pedestrian survey requires the landowner to plough their fields so that the so that the ground is visible. These surveys can be conducted any time of year and in any weather condition, except when snow cover or excessive rain impedes ground visibility.

A test pitting survey is conducted in areas that cannot be ploughed, such as woodlots, manicured lawns, areas of scrub or brush, and rocky areas. Small pits about 30 centimetres in diameter are dug every five metres across the entire project footprint. The contents of the test pit are filtered through a wire screen until only solid materials are left. Test pit surveys need to be conducted when the soil is soft enough to excavate.

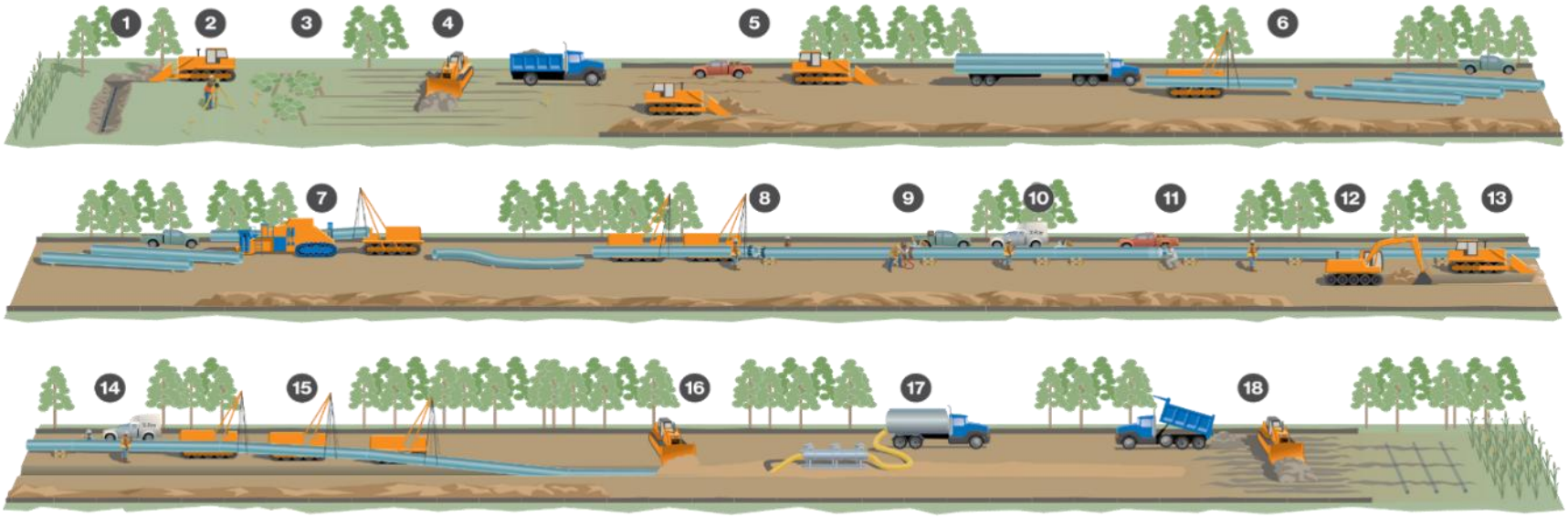
4.2.2 Existing Conditions and Future Surveys

Based on the Draft Stage 1 Archaeological Assessment conducted between the Dawn Hub and Enniskillen Station in 2016, it was determined that the area has a moderate to high potential for as-yet undiscovered archaeological remains (see Appendix A).

A Stage 2 Archaeological Assessment will be conducted for any portion of the Project's anticipated construction easement, or temporary work area, which impacts an area of archaeological potential. It is anticipated that the Stage 2 fieldwork will occur in the spring of 2027 after detailed design is complete (so the Project Footprint can be finalized) and access to private land is obtained. Stantec and Enbridge Gas will provide communication to Indigenous Communities ahead of the Stage 2 fieldwork to offer participation. Any formal agreements for participation will occur directly with Enbridge Gas.

5 Construction Process and Steps

Figure 3 Constructing an Enbridge Gas Pipeline



1. Pre-construction tiling
2. Surveying and staking
3. Clearing
4. Right-of-way topsoil stripping
5. Front-end grading
6. Stringing pipe
7. Field bending pipe
8. Lining-up pipe
9. Welding process
10. X-ray or ultrasonic inspection, weld repair
11. Field coating
12. Digging the trench
13. Padding trench bottom
14. Final inspection and coating repair
15. Lowering pipe
16. Backfilling
17. Hydrostatic testing
18. Site restoration and post-construction tiling

Photo 1 Site Grading and Soil Stripping



Photo 2 Pipeline Installation in a Trench



Photo 3 Damn and Pump Watercourse Crossing



Photo 4 Pipeline Backfill and Regrading to Previous Conditions



The full 18-step pipeline construction process is shown above on Figure 2. In a simplified manner, Project construction will involve 4 main steps. First, the Project footprint is prepared, including staking, clearing, topsoil stripping, and grading (see Photo 1). Next, the existing 26-inch natural gas pipeline will be exposed, removed and backfilled. A new trench will be excavated adjacent to the previous and the new 48-inch natural gas pipeline will be installed (see Photo 2). This is completed to support constructability, and the larger 48-inch pipeline requires larger separation from the existing pipelines within the corridor relative to the small 26-inch pipeline. Any watercourse crossings will be constructed via dam and pump and temporary bridges (see Photo 3, and the specifications provided in Appendix B). Lastly, the trench is backfilled, and the site is regraded to previous conditions (see Photo 4). Following site restoration, there will be little indication that a natural gas pipeline exists.

6 Potential Impacts and Mitigation Measures

The sections below outline typical impacts and mitigation measures for natural gas pipeline projects. A Project-specific assessment of impacts and mitigation will be undertaken following determining of the Preferred Route and will be summarized in the Environmental Report. Impacts and mitigation will be further refined following the completion of the surveys outlined in Sections 4.1.2 and 4.2.2, and through the permitting process with relevant agencies.

The standard process for mitigation, monitoring, and contingency measures is that a third-party consultant, in this case Stantec, will make recommendations in the Environmental Report. Enbridge Gas will commit to the Ontario Energy Board to implement the recommendations. To support implementation, Enbridge Gas will have a full-time Environmental Advisor and on-site Inspector during the design and construction phases of the Project. The Environmental Advisor will be involved throughout the consultation process and will provide input on the Environmental Report including mitigation and monitoring measures. During construction, the on-site Inspector will be present to confirm that construction activities are following the recommendations of the Environmental Report and any conditions of environmental permits.

6.1 Socio-Economic Features

The Project will be primarily constructed through agricultural fields, and near rural homes and businesses.

6.1.1 Potential Impacts

Potential impacts include:

- Temporary increases in noise, dust and air emissions.
- Increased construction traffic volumes.
- Temporary impairment of the use of rural homes and businesses.

- Ornamental vegetation clearing along the pipeline route.

6.1.2 Mitigation Measures

Mitigation measures include:

- Provide access across the construction area.
- Restrict construction to daylight hours and adhere to applicable noise by-laws.
- Develop and implement a Traffic Control Plan.
- Place fencing at appropriate locations for safety.
- Ensure that a designated Enbridge Gas representative is available prior to and throughout construction.
- Implement dust control measures.
- Re-vegetation of cleared ornamental vegetation areas as needed (including seeding/planting).

6.2 Cultural Heritage Resources

Cultural heritage features such as archaeological finds, heritage buildings, fences, and landscapes may be encountered during construction.

6.2.1 Potential Impacts

Potential impacts include:

- Damage or destruction of archaeological or historical resources.

6.2.2 Mitigation Measures

Mitigation measures include:

- Archaeological assessment of the construction footprint.
- Cultural heritage assessment (for built heritage features and cultural heritage landscapes).
- Reporting of any previously unknown archaeological or historical resources uncovered, or suspected to be uncovered, during excavation.

6.3 Aquatic Resources

Aquatic features such as watercourses and aquatic wildlife may be crossed during construction.

6.3.1 Potential Impacts

Potential impacts include:

- Disruption or alteration to aquatic species and habitat and/or nuisance effects.
- Increased erosion, sedimentation, and turbidity resulting from removal of vegetation.

6.3.2 Mitigation Measures

Mitigation measures include:

- Implement measures consistent with the Fisheries and Oceans Canada's (DFO) Measures to Protect Fish and Fish Habitat.
- Follow the measures outlined in the DFO and Enbridge Gas Inc. Agreement related to Watercourse Crossings for Pipeline Construction and Maintenance in Ontario (2022) – see Appendix B.
- Install erosion and sediment control measures.
- Obtain and abide by all agency permits and approvals.
- Conform to fish timing window guidelines.
- For in-channel construction, protect aquatic species through methods such as flow diversion/dewatering, controlled pumping rates, intake screening, and fish rescue planning.
- Restore and seed disturbed areas to establish habitat and reduce erosion.

6.4 Terrestrial Resources

Natural environment features such as woodlands, wetlands, and wildlife habitat may need to be crossed during construction.

6.4.1 Potential Impacts

Potential impacts include:

- Damage or removal of vegetation and wildlife habitat in the construction area.
- Disturbance and/or mortality to local wildlife.

6.4.2 Mitigation Measures

Mitigation measures include:

- Conduct ecological surveys in advance of construction.
- Complete tree removal outside of migratory bird windows to the extent possible.
- Clearly mark the construction area to avoid accidental damage.
- Restore and seed disturbed areas to establish habitat and reduce erosion, where appropriate.
- Secure all necessary permits and follow conditions of approval.

7 Closing

Enbridge Gas is committed to working collaboratively with Indigenous communities to ensure that treaty rights and interests are respected throughout the planning and development process. We encourage the early sharing of knowledge, including field observations and community perspectives, to help us effectively identify and assess potential impacts. This early engagement is vital to developing appropriate mitigation measures and ensuring that community values and priorities are meaningfully reflected in the project.

Appendices

Appendix A Stage 1 Archaeological Assessment – Dawn to Enniskillen

Stage 1 Archaeological Assessment: Dawn-Enniskillen Pipeline Project

Parts of Various Lots and Concessions, Geographic Township of Dawn, now Township of Dawn-Euphemia and Township of Enniskillen, Lambton County, Ontario



Prepared for:
Union Gas Limited
50 Keil Drive North,
PO Box 2001,
Chatham, ON N7M 5M1
Tel: (866) 949-1595 Ext. 5236954

Prepared by:
Stantec Consulting Ltd.
600-171 Queens Ave.
London, ON N6A 5J7
Tel: (519) 645-2007
Fax: (519) 645-6575

Licensee: Arthur Figura, MA
License #: P083
PIF #: P083-0272-2016
Project #: 160960981

REVISED REPORT

June 19, 2017

Table of Contents

EXECUTIVE SUMMARY ..... **I**

PROJECT PERSONNEL ..... **III**

ACKNOWLEDGEMENTS ..... **III**

1.0 PROJECT CONTEXT **1.1**
1.1 DEVELOPMENT CONTEXT 1.1
1.1.1 Objectives 1.1
1.2 HISTORICAL CONTEXT 1.2
1.2.1 Post-Contact Aboriginal Resources 1.2
1.2.2 Euro-Canadian Resources 1.4
1.3 ARCHAEOLOGICAL CONTEXT 1.7
1.3.1 The Natural Environment 1.7
1.3.2 Pre-contact Aboriginal Resources 1.8
1.3.3 Previously Known Archaeological Sites and Surveys 1.10
1.3.4 Existing Conditions 1.12

2.0 FIELD METHODS **2.1**

3.0 ANALYSIS AND CONCLUSIONS **3.1**

4.0 RECOMMENDATIONS **4.1**

5.0 ADVICE ON COMPLIANCE WITH LEGISLATION **5.1**

6.0 BIBLIOGRAPHY AND SOURCES **6.1**

7.0 IMAGES **7.1**
7.1 PHOTOGRAPHS 7.1

8.0 MAPS **8.1**

9.0 CLOSURE **9.1**

LIST OF TABLES

Table 1: Summary of Lots and Concessions Comprising Study Area 1.1
Table 2: Summary of Historical Townships Comprising Study Area 1.5
Table 3: Generalized Cultural Chronology of the Study Area 1.9
Table 4: Previously Registered Archaeological Sites 1.10
Table 5: Archaeological Reports Within 50 Metres of the Study Area 1.11

LIST OF FIGURES

Figure 1: Study Area Overview 8.2

Figure 2.1: Study Area Location 8.3
Figure 2.2: Study Area Location 8.4
Figure 2.3: Study Area Location 8.5
Figure 3: Map of Treaty Areas in Upper Canada 8.6
Figure 4: Map of Treaties and Purchases (Adapted from Morris 1943) 8.7
Figure 5: The 1796 Chenail Ecarté Treaty 8.8
Figure 6: The 1821 Surveyor's Map of the Township Of Dawn 8.9
Figure 7: The 1880 Historical Atlas Map of Dawn Township 8.10
Figure 8: The 1833 Surveyor's Map of the Township of Enniskillen 8.11
Figure 9: The 1880 Historical Atlas Map of Enniskillen Township 8.12
Figure 10: Archaeological Potential of Study Area Overview 8.13
Figure 11.1: Archaeological Potential of Study Area 8.14
Figure 11.2: Archaeological Potential of Study Area 8.15
Figure 11.3: Archaeological Potential of Study Area 8.16

Executive Summary

Stantec Consulting Ltd. (Stantec) was retained by Union Gas Ltd. (Union Gas) to conduct a Stage 1 archaeological assessment prior to the construction of the Dawn-Enniskillen Pipeline Project (Dawn-Enniskillen) (the Project) located on parts of various lots and concessions, Geographic Township of Dawn, now Township of Dawn-Euphemia, and Township of Enniskillen, Lambton County, Ontario. The Stage 1 assessment was conducted during the preliminary - planning phase of the Project in accordance with the provisions of the *Ontario Heritage Act* (Government of Ontario 1990a) and the requirements of Section 4.3.4 of the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario* (OEB 2011).

The alignment of the proposed pipeline is expected to follow the existing easement of the Dawn-Parkway System. Thus, the current study area for the Stage 1 assessment is large and serves to capture a broad and generalized geographic area associated with the Project. This Stage 1 archaeological assessment was conducted under archaeological consulting license P083 issued to Arthur Figura, MA, of Stantec by the Ministry of Tourism, Culture and Sport (MTCS). A property inspection was undertaken on March 30, 2016 in accordance with Section 1.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The property inspection included the existing pipeline alignment and the lands immediately adjacent to it to provide overview of a larger study area as noted above. The goal of the property inspection was to identify the presence or absence of any features of archaeological potential.

The Stage 1 archaeological assessment, involving background research and a property inspection, resulted in the determination that large portions of the study area exhibit a moderate to high potential for the identification and recovery of archaeological resources. As such, in accordance with Section 1.3 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), **a Stage 2 archaeological assessment will be required for portions of the study area which retain archaeological potential.** The Stage 1 archaeological assessment further determined that the study area retains areas of no archaeological potential, including previously disturbed areas, particularly around existing Union Gas infrastructure; municipal drains; and areas that are low and permanently wet, directly associated with present-day water sources.

The objective of the Stage 2 archaeological assessment will be to document archaeological resources within the study area and to determine whether these archaeological resources require further assessment or if they have already been previously documented by other known archaeological assessments within the study area. The Stage 2 archaeological assessment will include the systematic walking of open ploughed fields at five metre intervals as outlined in Section 2.1.1 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists*

(Government of Ontario 2011). The MTCS standards further require that all agricultural land, both active and inactive, be recently ploughed and sufficiently weathered to improve the visibility of archaeological resources. Ploughing must be deep enough to provide total topsoil exposure, but not deeper than previous ploughing, and should provide at least 80% ground surface visibility.

For areas inaccessible for ploughing, the Stage 2 archaeological assessment will include a test pit survey at a five-metre interval as outlined in Section 2.1.2 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The MTCS standards require that each test pit be approximately 30 centimetres in diameter, excavated to at least five centimetres in to subsoil, and have all soil screened through six millimetre hardware cloth to facilitate the recovery of any cultural material that may be present. Prior to backfilling, each test pit will be examined for stratigraphy, cultural features, or evidence of fill.

Should any areas of disturbance or features indicating that archaeological potential have been removed, including municipal road ROWs and areas of ground disturbance due to landscaping, as well as permanently wet or steeply sloped areas not previously identified during the Stage 1 property inspection be encountered during the Stage 2 archaeological assessment, they will not require assessment but will be photo documented as outlined in Section 2.1.8 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

In addition to the above, the Stage 1 archaeological assessment determined that there are small pockets within the study area which retain low to no archaeological potential due to low and permanently wet conditions and modern disturbances (e.g., municipal drains, and Union Gas infrastructure). Thus, these portions of the study area do not retain potential for the identification or recovery of archaeological resources. In accordance with Section 1.3.2 and Section 7.7.4 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), **a Stage 2 archaeological assessment is not required for any portion of the study area with low to no archaeological potential.**

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

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

Project Personnel

Project Manager:	Meghan Bertenshaw, Environmental Scientist
Licensed Archaeologist:	Arthur Figura, MA (P083)
Licensed Field Director:	Arthur Figura, MA (P083)
Report Writer:	Arthur Figura, MA (P083)
GIS Specialist:	Patrick Worsell, BES, DGIS
Quality Review:	Jeffrey Muir, BA (P304)
Independent Review:	Tracie Carmichael, BA, B.Ed. (R140)

Acknowledgements

Proponent Contacts:	Doug Schmidt, Union Gas Limited Ryan Park, Union Gas Limited
Ministry of Tourism, Culture and Sport:	Robert von Bitter
Ministry of Natural Resources and Forestry:	Lisa Casselman – Survey Records Clerk
Walpole Island Heritage Centre:	Jared Macbeth – Project Review Coordinator Dr. Dean Jacobs – Consultation Manager

1.0 PROJECT CONTEXT

1.1 DEVELOPMENT CONTEXT

Stantec Consulting Ltd. (Stantec) was retained by Union Gas Ltd. (Union Gas) to conduct a Stage 1 archaeological assessment for the Dawn-Enniskillen Pipeline Project (the Project). The study area for the Stage 1 archaeological assessment of the Project comprises parts of various lots and concessions, Geographic Township of Dawn, now Township of Dawn-Euphemia, and Township of Enniskillen, Lambton County, Ontario (Figures 1 and 2). The Stage 1 assessment was conducted during the preliminary planning phase of the Project in accordance with the provisions of the *Ontario Heritage Act* (Government of Ontario 1990a) and the requirements of Section 4.3.4 of the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario* (OEB 2011).

The proposed Project will occur between the existing Union Gas Dawn Compressor Station located at the intersection of Bentpath Line and Dawn Valley Road in the Township of Dawn-Euphemia and the existing Enniskillen Transmission Station located at Oakdale Road in the Township of Enniskillen. While the alignment for the new pipeline is expected to follow the existing easement of the Dawn-Parkway System (Figures 1 and 2), the final construction easement, or temporary land use, will be determined by Union Gas at a later date. Thus, the current study area for the Stage 1 assessment is large and serves to capture a broad and generalized geographic area associated with the Project. Table 1 provides a summary of the lots and concessions included within this Stage 1 report.

Table 1: Summary of Lots and Concessions Comprising Study Area

Lower Tier Municipality	Geographic Township	Concession	Lot
Dawn-Euphemia	Dawn	1	Part 25 to Part 34
Dawn-Euphemia	Dawn	2 to 12	Part 25, 26 to 34
Dawn-Euphemia	Dawn	13	Part 25 to Part 34
Enniskillen	Enniskillen	1 to 4	Part 2; 3 to 27; Part 28
Enniskillen	Enniskillen	5	Part 2 to Part 28

1.1.1 Objectives

The objectives of the Stage 1 assessment were to compile all available information about the known and potential archaeological heritage resources within the study area and to provide specific direction for the protection, management and/or recovery of these resources. In compliance with the provincial standards and guidelines set out in the Ministry of Tourism, Culture and Sport's (MTCS) 2011 *Standards and Guidelines for Consultant Archaeologists*

(Government of Ontario 2011), the objectives of the Stage 1 Archaeological Overview/Background Study are as follows:

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

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

- A review of relevant archaeological, historic and environmental literature pertaining to the study area;
- A review of the land use history, including pertinent historic maps;
- An examination of the Ontario Archaeological Sites Database (ASDB) to determine the presence of known archaeological sites in and around the project area; and
- A property inspection of the study area.

Permission to enter the property was provided by Doug Schmidt at Union Gas Limited.

1.2 HISTORICAL CONTEXT

1.2.1 Post-Contact Aboriginal Resources

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

The study area for the Project falls within the lands of the archaeologically known Western Basin tradition. It has been put forward that the Western Basin people were of the Fire Nation, an Algonkian-speaking group pushed out of Ontario by the Iroquoian-speaking Neutral people in the early 17th century (Murphy and Ferris 1990). The Neutral, in turn, ceased to exist as a corporate entity following the incursion of the New York Iroquois in 1650 (Heidenreich 1990). The First Nations people who occupied this portion of southwestern Ontario have been referred to as Anishinaabe or Anishinaabeg; Chippewa; and Ojibwa, an Algonquian-speaking people. According to traditional history, they were once one nation, but subdivisions occurred as people migrated to different areas. They were also known as the Three Fires Confederacy, and acted together in political and military affairs through the 17th to 19th centuries.

Under British administration in the 19th century, the groups were divided into separate bands. The Anishinaabe included the western Algonquian peoples, among them the Chippewa and the Odawa. Until the 18th century, the central Algonquian-speaking peoples, among them Potawatomi, were located in the Michigan Peninsula (Blackbird 1887). In the middle of 18th century, the Chippewa were located on the south shores of Lake Huron, the east shores of Georgian Bay, and on the west end of Lake Ontario. Aboriginal peoples continue to play a large role in the occupation of the study area and its environs.

Following the American Revolutionary War, Britain focused on the settlement of European immigrants into what became province of Upper Canada in 1791. To enable widespread settlement, the British government negotiated a series of treaties with the First Nations peoples. Figure 3 provides a map of southwestern Ontario illustrating early treaties and purchases (Government of Canada n.d.a). One of the earliest treaties involving lands located near the study area was made on May 19, 1790. Originally identified as the Detroit Treaty, the chiefs of the Odawa, Chippewa, Pottawatomi, and Huron Nations and representatives of the British Crown established a vast tract of land "…from the Detroit River easterly to Catfish Creek and south of the river La Tranche [now Thames River] and Chenail Ecarte [now St. Clair River], and contains Essex County except Anderdon Township and Part of West Sandwich; Kent County except Zone Township, and Gores of Camden and Chatham; Elgin County except Bayham Township and parts of South Dorchester and Malahide…[i]n Middlesex County, Del[a]ware and Westminster Township and part of North Dorchester" (Morris 1943:17). Today, this treaty is identified as Treaty Number 2, illustrated by the letter "C" on Figure 4. A plaque, erected by the Historic Sites and Monuments Board of Canada further identifies this treaty as *McKee's Purchase*. A commemorative plaque located in the Blenheim Memorial Park in Blenheim, Ontario reads (Ontario Plaques 2016a):

> *In May 1790 Alexander McKee, Deputy Agent of the British Indian Department, and the principal chiefs of the Ottawa, Potawatomi, Chippewa and Wyandot negotiated a treaty whereby the British Crown acquired title to what is now southwestern Ontario. This treaty completed the process begun with Niagara treaties of 1781 and 1784, with the result that most of the Ontario peninsula was soon opened to British and Loyalist settlement.*

Later, on September 29, 1795, McKee obtained a preliminary agreement from several Ojibwa Chiefs to set apart land at Chenail Ecarté for the purpose of establishing a Reserve for those who lost their lands and homes during the last stages of the American Revolution War (Willig 2008). A preliminary agreement was signed by which the Crown offered to pay £1,200 for these lands (Willig 2008). On September 7, 1796, the Chenail Ecarté Treaty was signed by the Ojibwa and Odawa chiefs (Lytwyn 2009). Figure 5 provides an early illustration by Abraham Iredell of the Chenail Ecarté Treaty lands (Government of Canada n.d.b; see also Curnoe 1996:166). Today, this treaty is more commonly identified as Treaty Number 7, identified by the letter "J" on Figure 4. This treaty comprises "…a tract of land near the River called Chenail Ecart[é]…[to include] the Township of Sombra in Lambton County and the Gore of Chatham Township in Kent County" (Morris 1943:21).

The study area for the Project is located within Treaty Number 21, which was an agreement made on March 9, 1819 between John Aiken, on behalf of the British Crown, and the Chippewa Nation. Treaty Number 21 is illustrated on Figure 4 by the letter "R". The lands of Treaty Number 21 commence:

> *…at the northerly side of the River Thames at the south west angle of the Township of London; thence along the western boundary of the Township of London, in a course north 21 degrees, 30 minutes west, twelve miles to the north west angle of the said Township; then on a course about south 62 degrees and 30 minutes west forty-eight miles more or less until it intersects a line on a course produced north two miles from the north east angle of the Shawnee [Sombra] Township; then along the eastern boundary line of the said Township, twelve miles and a half more or less to the northern boundary line of the Township of Chatham; then east twenty-four miles more or less to the River Thames; then along the water[']s edge of the River Thames against the stream to the place of beginning, reserving a tract of land situate[d] on the northerly side of the River Thames nearly opposite to the northerly angle of the Township of Southwold and south west angle of the Del[a]ware Township containing 15,360 acres; also reserving two miles square distant about four miles above the rapids where the Indians have their improvements and nearly parallel to the Moravian Village containing 5,120 acres.*
>
> (Morris 1943:24-25)

As demonstrated above, the nature of Aboriginal settlement size, population distribution, and material culture shifted as European settlers encroached upon Aboriginal territory. However, despite this shift, "written accounts of material life and livelihood, the correlation of historically recorded villages to their archaeological manifestations, and the similarities of those sites to more ancient sites have revealed an antiquity to documented cultural expressions that confirms a deep historical continuity to…systems of ideology and thought" (Ferris 2009:114). As a result, First Nations peoples of southern Ontario have left behind archaeologically significant resources throughout the region which show continuity with past peoples, even if they have not been explicitly recorded in Euro-Canadian documentation. Examples of documentation of Aboriginal activities (e.g., notations on early township survey plans and surveyor's field notes) are noted below.

1.2.2 Euro-Canadian Resources

In 1791, the Provinces of Upper Canada and Lower Canada were created from the former Province of Quebec by an act of British Parliament. At this time, Colonel John Graves Simcoe was appointed as the Lieutenant Governor of Upper Canada and was tasked with governing the new province, directing its settlement and establishing a constitutional government modelled after that of Britain's (Petryshyn 1985). In 1792, Simcoe divided Upper Canada into 19 counties consisting of previously-settled lands, new lands opened for settlement, and lands not yet acquired by Crown. These new counties stretched from Essex in the west, to Glengarry in the

east. Table 2 provides a summary of the former and current municipal designations for the study area.

Table 2: Summary of Historical Townships Comprising Study Area

Geographic Township	Former County	Current Lower Tier Municipality	Current Upper Tier Municipality
Dawn	Lambton	Township of Dawn-Euphemia	Lambton County
Enniskillen	Lambton	Township of Enniskillen	Lambton County

Lambton County was originally part of the District of Hesse, and in 1792 was renamed the Western District. The Western District consisted of Kent (which included Lambton) and Essex Counties. Lambton County was named after John George Lambton, first Earl of Durham. Lambton was the author of the Durham Report, which investigated the issues that led to the Upper Canada Rebellion of 1837. All of the townships in Lambton were not completely surveyed until 1835. After the *Municipal Act* of 1849, which provided a means of government for towns and counties, several counties amalgamated and separated over the next few years with the former Kent County; Lambton County finally became an independent county in 1853 (Elford 1982).

Euro-Canadian settlement in the area of Lambton County began as early as 1796 as French settlers began living along the banks of the St. Clair River. Large scale settlement, however, did not begin until the 1830s. The majority of the surveyed lots in the townships of Lambton County were assigned to children of the United Empire Loyalists, who sold their rights to early Euro-Canadian occupants. Early Euro-Canadian inhabitants were primarily tenant farmers from Britain as well as artisans and retired military men. The population of Lambton County swelled in the 1850s with the establishment of the Great Western Railway and the Great Trunk Railway. This growth remained steady until 1891, when the population peaked at 58,810 people (Elford 1982).

Dawn Township was surveyed in 1821 by Shubal Park, and Euro-Canadian settlement started in 1822. Survey records obtained from the Ministry of Natural Resources and Forestry (MNRF) were examined for evidence of Aboriginal and early Euro-Canadian settlements in Dawn Township (Government of Ontario n.d.). An early survey plan of the township, originally drawn in 1821, depicts numerous land grant recipients, and illustrates how land grants changed over time as multiple names are denoted in each lot, with many overlapping each other. The 1821 survey of Dawn Township, confirmed by an examination of the accompanying field notes, also illustrates an Aboriginal presence in the township, particularly along the banks of Bear Creek, now known as the Sydenham River (Figure 6). Two instances of an “Indian Clearing” (Insets 1 and 3 on Figure 6) and one instance of an “Indian Village” (Inset 2 on Figure 6) are noted on the map. While none of these labels fall within the study area, they do illustrate the Aboriginal presence in the vicinity.

The 1880 historical atlas of Lambton County (Belden & Co. 1880) shows the extent to which Dawn Township was settled by the late 19th century (Figure 7). Early Euro-Canadian settlement of the township was limited to the southeastern portion around the early communities of Florence and Dawn Centre. Dawn Township was originally connected with three other townships to form one municipal unit, consisting of 147 taxpayers (Lauriston 1949). The township was densely wooded and had poor drainage, which held back settlement in the 1800s. The majority of land was not cleared, and most clearings were only between five and 25 acres (Lauriston 1949).

By 1835, Dawn was its own township, although a portion of Dawn Township was lost to Kent County when Lambton and Kent Counties split in 1849. In 1850 the township still only numbered 429 people. With sawmills in use by the 1870s growth picked up; by 1881 the population was 2,026 and by 1901 grew once more to 3,659 (Elford 1982). However, even by 1901, only half of all the land in Dawn township was cultivated, and reliable roadways had not been built; most concession roads could not be traversed their entire length until the 1920s (Elford 1982). After 1901, people left the township for Western Canada with the promise of 160 free acres and since then the population has continued to decrease. However, during this time, the oil and gas resources that the area became known for were starting to be developed, which also discouraged land clearance for agricultural purposes. By 1980 only 1,796 people lived in Dawn Township (Elford 1982). Drainage continues to be an issue throughout the township and much of the poorly drained land is used as pasture for beef cattle. The remaining land is used for production of corn, soybeans, hay, tomatoes and cereal crops. As a result of municipal restructuring in 1998, the townships of Dawn and neighbouring Euphemia were amalgamated as the Township of Dawn-Euphemia.

The Township of Enniskillen was named after the Earl of Enniskillen from Ireland. Deputy Surveyor Lewis Burwell hired Eliakim Malcolm to survey Enniskillen Township in 1832. Malcolm prepared his report in January 1833. Many of the lots were assigned to the British soldiers who served in the War of 1812 (Elford 1982). Large portions of the township were known to contain forested swamps and often impassable wetland areas. Survey records obtained from the MNRF were examined for evidence of Aboriginal and early Euro-Canadian settlements in Enniskillen Township (Government of Ontario n.d.). An early survey plan of the township, originally drawn in 1833, depicts lots and concession numbers, but does not include any names of land grants. The map shows major and minor watercourses located within township boundaries (Figure 8).

The 1880 historical atlas of Lambton County (Belden & Co. 1880) shows the extent to which Enniskillen Township was settled by the late 19th century (Figure 9). Early Euro-Canadian settlement of the township was slow. In 1850 Enniskillen had a population of only 150 people. The 1861 census of Enniskillen Township states that only a few people initially settled in the township known by many as a "miserable swamp" (Canada Census 1861). According to the 1861 census there were 1,069 Enniskillen township occupants. The fortunes of the township changed in mid-1850 after the discovery of oil in Enniskillen Township. One of the first oil wells was drilled in North America on Lot 16, Concession 2 owned by James Miller Williams (Ball and Phelps 2016). The historical plaque erected in Oil Springs by the Historic Sites and Monuments Board of Canada identifies the first oil wells in Canada (Ontario Plaques 2016b):

> *The presence of oil in this locality was observed by early travelers and by the pioneer farmers who used it for medical purposes. In 1858, near Oil Springs, James M. Williams dug the first oil well in Canada and later established a refinery at Hamilton. In 1861, John Shaw, by drilling into the rock, opened the first flowing well, its situation being Lot 18, Concession 2, Enniskillen Township. From these beginnings developed one of Canada's most important industries.*

Initially the discovery of petroleum did not have a positive effect on the overall township population. Many unoccupied lots were purchased or leased by oil speculators, who kept them out of reach of the Euro-Canadian inhabitants. At the end of 1862, there were 1,000 oil wells and 10 refineries in the Enniskillen Township, and by 1866 there were estimated 1,500 wells in operation. Much of the product was refined in nearby Oil Springs until the discovery of the Petrolia oil field and the construction of the railway connecting Petrolia with the Great Western Railway at Wyoming.

The last quarter of the 19th century saw an increase in township settlement due to changes to provincial legislation allowing farmers to have ditches made along the concession lines and have them paid by the taxes levied on all adjacent lands. Once the oil boom subsided in 1870s the township became an agricultural community with improved drainage and roadways (Elford 1982).

The historical context of the Stage 1 study area for the Project includes numerous examples of Aboriginal and early Euro-Canadian resources. In discussing the late 19th century historical mapping it must be remembered that historical county atlases were produced primarily to identify factories, offices, residences and landholdings of subscribers and were funded by subscription fees. Landowners who did not subscribe were not always listed on the maps (Caston 1997:100). As such, all structures were not necessarily depicted or placed accurately (Gentilcore and Head 1984).

The majority of the region surrounding the study area has been subject to European-style agricultural practices for over 100 years, having been densely populated by Euro-Canadian farmers by the late 19th century. Moreover, much of the study area has been cleared of woodlot and had extensive drainage systems installed to reclaim swamp and marshland as agricultural fields.

1.3 ARCHAEOLOGICAL CONTEXT

1.3.1 The Natural Environment

The study area is situated within the St. Clair Clay Plain physiographic region, as identified by Chapman and Putnam 1984). The St. Clair Clay Plain is described as:

> *Adjoining Lake St. Clair in Essex and Kent County Counties and the St. Clair River in Lambton County are extensive clay plains covering 2,270 square miles. The region is one of little relief, lying between 575 and 700 feet a.s.l., except for the moraine at*

> *Ridgetown and Blenheim which rises 50 to 500 feet higher….Glacial Lake Whittlesey, which deeply covered all of these lands, and Lake Warren which subsequently covered nearly the whole area, failed to leave deep stratified beds of sediment on the underlying clay till except around Chatham, between Blenheim and the Rondeau marshes, and in a few other smaller areas. Most of Lambton and Essex Counties, therefore, are essentially till plains smoothed by shallow deposits of lacustrine clay which settled in the depressions while the knolls were being lowered by wave action.*
>
> (Chapman and Putnam 1984:147)

The study area is located primarily within Caistor Clay and Brookston Clay deposits. Generally, pre-contact Aboriginal settlement tended towards locations which contained well drained soil. However the presence of Caistor and Brookston Clays as the predominant soil types in the study area should not discount the potential for the presence of archaeological resources. Large portions of the forested tracts within and in close proximity to the study are still poorly drained, as they were when Dawn Township was first surveyed in 1821.

The major topographic feature nearest to the study area is the St. Clair River located to the west, although other sources of potable water are abundant within the Stage 1 study area. In addition to large primary water sources such as St. Clair River, there are numerous other primary and secondary sources of potable water. The study area drains towards the St. Clair River and Lake St. Clair by creeks such as Booth Creek, Crooked Creek, and Black Creek. Additional secondary and tertiary creeks and streams from these primary sources are noted throughout the study area.

1.3.2 Pre-contact Aboriginal Resources

This portion of southwestern Ontario has been occupied by First Nations peoples since the retreat of the Wisconsin glacier approximately 11,000 years ago. Local environmental conditions were significantly different from what they are today. Ontario's first peoples would have crossed the landscape in small groups in search of food, particularly migratory game species. In this area, caribou may have been a Paleo-Indian diet staple, supplemented by wild plants, small game, birds, and fish. Given the low density of populations on the landscape at this time and their mobile nature, Paleo-Indian sites are small and ephemeral. They are sometimes identified by the presence of fluted points. Sites are frequently located adjacent to the shorelines of large glacial lakes (Ellis and Deller 1990).

Archaeological records indicate subsistence changes around 8,000 B.C. at the start of the Archaic Period in southwestern Ontario. Since the large mammal species that formed the basis of the Paleo-Indian diet became extinct or moved north with the warming of the climate, Archaic populations had a more varied diet, exploiting a range of plants and bird, mammal, and fish species. Reliance on specific food resources like fish, deer, and several nut species became more noticeable through the Archaic Period and the presence of warmer, more hospitable environs led to expansion of group and family sizes. In the archaeological record, this is evident in the presence of larger sites. The coniferous forests of earlier times were replaced by

stands of mixed coniferous and deciduous trees by about 4,000 B.C. The transition to more productive environmental circumstances led to a rise in population density. As a result, Archaic sites become more abundant over time. Artifacts typical of these occupations include a variety of stemmed and notched projectile points; chipped stone scrapers; ground stone tools (e.g., celts, adzes) and ornaments (e.g., bannerstones, gorgets); bifaces or tool blanks; animal bone; and chert waste flakes, a byproduct of the tool making process (Ellis *et al*. 1990).

Significant changes in cultural and environmental patterns occurred in the Early and Middle Woodland periods (*circa* 950 B.C. to 800 A.D.). Occupations became increasingly more permanent in this period, culminating in major semi-permanent villages by roughly 1,000 years ago. Archaeologically, the most significant changes by Woodland peoples were the appearance of artifacts manufactured from modeled clay and the emergence of more sedentary villages. The earliest pottery was crudely made by the coiling method and early house structures were simple oval enclosures. The Early and Middle Woodland periods are also characterized by extensive trade in raw materials, objects and finished tools, with sites in Ontario containing trade items with origins in the Mississippi and Ohio River valleys (Spence *et al*. 1990).

By the Late Woodland period there was a distinctive cultural occupation in southwestern Ontario, including Essex, Kent, and Lambton counties. The primary Late Woodland occupants of the Windsor area were populations described by archaeologists as Western Basin Tradition. Murphy and Ferris (1990:189) indicate that these people had ties with populations in southeastern Michigan and northwestern Ohio, and represent an *in situ* cultural development from the earlier Middle Woodland groups. The Western Basin Tradition seems to have been centred in the territory comprising the eastern drainage basin of Lake Erie, Lake St. Clair, and the southern end of Lake Huron. The Western Basin Tradition is divided up into four phases based on differences in settlement and subsistence strategies and pottery attributes. Table 3 provides a general outline of the cultural chronology of the study area, summarized from Ellis and Ferris (1990).

Table 3: Generalized Cultural Chronology of the Study Area

Period	Characteristics	Time	Comments
Early Paleo-Indian	Fluted Projectiles	9,000 – 8,400 B.C.	spruce parkland/caribou hunters
Late Paleo-Indian	Hi-Lo Projectiles	8,400 – 8,000 B.C.	smaller but more numerous sites
Early Archaic	Kirk and Bifurcate Base Points	8,000 – 6,000 B.C.	slow population growth
Middle Archaic	Brewerton-like Points	6,000 – 2,500 B.C.	environment similar to present
Late Archaic	Narrow Point	2,000 – 1,800 B.C.	increasing site size
	Broad Point	1,800 – 1,500 B.C.	large chipped lithic tools
	Small Point	1,500 – 1,100 B.C.	introduction of bow hunting
Terminal Archaic	Hind Points	1,100 – 950 B.C.	emergence of true cemeteries
Early Woodland	Meadowood Points	950 – 400 B.C.	introduction of pottery

Period	Characteristics	Time	Comments
Middle Woodland	Couture Corded Pottery	400 B.C. – A.D. 500	increased sedentism
	Riviere au Vase Phase	A.D. 500 – 800	seasonal hunting and gathering
Late Woodland	Younge Phase	A.D. 800 – 1200	incipient agriculture
	Springwells Phase	A.D. 1200 – 1400	agricultural villages
	Wolf Phase	A.D. 1400 – 1550	earth worked villages, warfare
Contact Aboriginal	Various Algonkian and Iroquoian Groups	A.D. 1600 – 1875	early written records and treaties
Historic	French/Euro-Canadian	A.D. 1749 – present	European settlement

1.3.3 Previously Known Archaeological Sites and Surveys

In order to compile an inventory of archaeological resources, the registered archaeological site records kept by the MTCS were consulted. In Ontario, information concerning archaeological sites stored in the ASDB is maintained by the MTCS. This database contains archaeological sites registered according to the Borden system. Under the Borden system, Canada is divided into grid blocks based on latitude and longitude. A Borden Block is approximately 13 kilometres east to west and approximately 18.5 kilometres north to south. Each Borden Block is referenced by a four-letter designator and sites within a block are numbered sequentially as they are found. The study area under review is located within Borden Blocks AeHn and AeHm.

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

An examination of the ASDB has shown that there are 10 previously registered archaeological sites within the study area or within a one-kilometre radius of the study area (Government of Ontario 2016a). Table 4 provides a summary of the previously registered archaeological sites including whether they retain cultural heritage value or interest (CHVI), and Tile 1 in the Supplementary Documentation shows the location of these sites.

Table 4: Previously Registered Archaeological Sites

Borden #	Site Name	Site Type	Cultural Affiliation	Status
AeHm-1	-	Findspot	pre-contact Aboriginal	No Further CHVI
AeHm-19	-	Homestead	Euro-Canadian	No Further CHVI
AeHn-1	Simpson	Findspot	Middle Woodland, Saugeen Tradition	No Further CHVI

Borden #	Site Name	Site Type	Cultural Affiliation	Status
AeHn-4	Booth Creek	Campsite	Early to Middle Woodland	No Further CHVI
AeHn-6	Bentpath-Rosedale 1	Homestead	Euro-Canadian	No Further CHVI
AeHn-7	Bentpath-Rosedale 3	Homestead	Euro-Canadian	No Further CHVI
AeHn-8	Bentpath-Rosedale 4	Homestead	Euro-Canadian	No Further CHVI
AeHn-9	Bentpath-Rosedale 2	Campsite	Late Woodland	No Further CHVI
AeHn-10	-	Dump	Euro-Canadian	No Further CHVI
AeHn-11	Location 13	Dump	Euro-Canadian	No Further CHVI

Among the pre-contact Aboriginal sites noted above, the Simpson site (AeHn-1) is a findspot dating to the Middle Woodland Saugeen Tradition, identified during an assessment of the proposed Union Gas Pipeline in 1985 (Museum of Indian Archaeology [MIA] 1985). No further work is required. The Booth Creek site (AeHn-4) is an Early to Late Woodland campsite identified during an assessment of the Union Gas Pipeline by Mayer, Pihl, Poulton and Associates Incorporated (MPP) in 1985 (MPP 1985). This site has been fully documented and have no further CHVI. The site location AeHm-1 is a pre-contact Aboriginal findspot of one retouched flake, documented during a 1987 assessment of the proposed Union Gas Pipeline (MIA 1987). No further work is required. Bentpath-Rosedale 2 (AeHn-9) is a Late Woodland campsite identified during a survey of the Union Gas Pipeline by Mayer Heritage Consultants Inc. (MHCI) in 1997 (MHCI 1997). This site has been fully documented and has no further CHVI.

The six Euro-Canadian sites include four homesteads and two historic dumps. The four homesteads, Bentpath-Rosedale 1 (AeHn-6), Bentpath-Rosedale 3 (AeHn-7), Bentpath-Rosedale 4 (AeHn-8), and an unnamed site (AeHm-19) were identified during the 1997 MHCI assessment of the Union Gas Pipeline (MHCI 1997). Location AeHn-10 was a historic dump identified during an assessment for the Union Gas Dawn Parkway System and Compressor Station in 2015 by Stantec (Stantec 2015). Location 13 (AeHn-11) was a historic dump identified during the Union Gas Dawn-Dover Pipeline Project in 2016 by Stantec (Stantec 2016; Stantec 2017). All sites have been fully documented and have no further CHVI.

There are seven archaeological projects that have been conducted within 50 metres or within the study area. The reports related to these projects are summarized below in Table 5. All of the work conducted has been related to Union Gas pipeline work and all of the sites listed in Table 4 were documented during these projects, as summarized above.

Table 5: Archaeological Reports Within 50 Metres of the Study Area

Date	Report Name	Archaeologist	PIF #	Reference
1985	*An Archaeological Resource Assessment of the Proposed Union Gas NPS 10 Pipeline to Link the Enniskillen Pool Station and the Dawn Compressor Plant*	MPP	85-14	MPP

Date	Report Name	Archaeologist	PIF #	Reference
1985	*Report on Archaeological Resource Assessment of a Proposed Union Gas Pipeline Submitted to Union Gas and Ecological Services for Planning*	MIA	85-38	MIA 1985
1987	*Licence Report 87-40: Archaeological Resource Assessment of the Proposed Union Gas Pipeline Relocation on Lot 27, Concession 1 to 3, and Lot 28, Concession 1, Enniskillen Township, Lambton County., Submitted to Union Gas Ltd., Chatham*	MIA	87-40	MIA 1987
1995	*Archaeological Assessment (Stages 1 to 3), Union Gas NPS-30, Bentpath-Rosedale Pipeline, Townships of Dawn and Enniskillen, Lambton County, Ontario*	Robert Mayer	95-005	MHCI 1995
1997	*Addendum to Archaeological Resource Assessment: Survey Union Gas NPS 48 Pipeline, Dawn to Enniskillen Segment, Lambton County, Ontario*	Robert Mayer	97-035	MHCI 1997
2015	*Stage 1-2 Archaeological Assessment: Dawn Parkway System, Dawn H Compressor Station Project*	Walter McCall	P389-0215-2015	Stantec 2015
2016	*Stage 2 Archaeological Assessment: Panhandle Reinforcement Project (Dawn – Dover): Parts of Various Lots and Concessions, Geographic Township of Dawn, now Township of Dawn-Euphemia, and Geographic Township of Sombra, now Township of St. Clair, Lambton County; and Geographic Townships of Chatham and Dover, now Municipality of Chatham-Kent, Ontario*	Parker Dickson	P256-0388-2015	Stantec 2016
2017	*Stage 3 Archaeological Assessment: Location 13 (AeHn-11), Panhandle Reinforcement Project (Dawn-Dover): Part of Lot 25, Concession 1, Geographic Township of Dawn, now Township of Dawn-Euphemia, County of Lambton, Ontario*	Parker Dickson	P256-0410-2016	Stantec 2017

1.3.4 Existing Conditions

The study area for the Stage 1 assessment of the Project comprises approximately 18,276 hectares and includes various Lots and Concessions, Geographic Township of Dawn, now Township of Dawn-Euphemia, and Township of Enniskillen, Lambton County, Ontario. The proposed Project will occur between the existing Union Gas Dawn Compressor Station located

at the intersection of Bentpath Line and Dawn Valley Road, Township of Dawn-Euphemia and the existing Enniskillen Transmission Station located at Oakdale Road, Township of Enniskillen. Broadly, much of the study area consists of active agricultural field with smaller pockets of sparse woodlot. The study area is also inundated with numerous water sources, municipal road ROWs, and municipally constructed drains. Existing Union Gas infrastructure, such as metering stations, pumping stations, and storage facilities, are also located within the study area.

The study area was subject to a property inspection on March 30, 2016. Further details regarding the property inspections are provided in Section 2.0 below.

2.0 FIELD METHODS

Initial background research compiled the information concerning any known and/or potential archaeological resources within the study area. A property inspection was conducted under archaeological consulting license P083 issued to Arthur Figura, MA, of Stantec by the MTCS. The property inspection was completed on March 30, 2016 under PIF P083-0272-2016 in accordance with Section 1.2 of the MTCS' 2011 Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011). During the property inspection the weather was overcast and cool. The lighting and visibility of land features was suitable. At no time were field, lighting, or weather conditions detrimental to the identification of features of archaeological potential.

The Stage 1 study area for the Project comprises approximately 18,276 hectares in various lots and concessions in the Geographic Township of Dawn, now Township of Dawn-Euphemia, and Township of Enniskillen. While the final construction easement for the Project has yet to be determined by Union Gas, the alignment of the new pipe will follow the existing alignment. Therefore the property inspection was limited to the existing pipeline alignment and the lands immediately adjacent to it in order to identify the presence or absence of any features of archaeological potential.

The photography from the property inspection is presented in Section 7.1 and confirms that the requirements for a Stage 1 property inspection were met, as per Section 1.2 and Section 7.7.2 Standard 1 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Photos 1 to 8 illustrate typical agricultural fields within the study area which retain archaeological potential. Typical woodlots within the study area, though sparse, are depicted in the background of these photos. A sample of the water courses throughout the study area are illustrated in Photos 9 and 10. These areas are low and permanently wet and retain low to no archaeological potential. Numerous modern disturbances were noted throughout the study area, including: municipal road rights-of-way (ROWs) (Photos 11 to 13), municipal drains (Photos 14 to 18), and existing Union Gas infrastructure (Photos 19 to 21). These areas retain low to no archaeological potential.

3.0 ANALYSIS AND CONCLUSIONS

Archaeological potential is established by determining the likelihood that archaeological resources may be present on a subject property. Stantec applied archaeological potential criteria commonly used by MTCS (Government of Ontario 2011) to determine areas of archaeological potential within the region under study. These variables include proximity to previously identified archaeological sites, distance to various types of water sources, soil texture and drainage, glacial geomorphology, elevated topography and the general topographic variability of the area. However, extensive land disturbance can eradicate archaeological potential (Wilson and Horne 1995).

Potable water is the single most important resource for any extended human occupation or settlement and since water sources in southwestern Ontario have remained relatively stable over time, proximity to drinkable water is regarded as a useful index for the evaluation of archaeological site potential. In fact, distance to water is one of the most commonly used variables for predictive modeling of archaeological site location in Ontario. Distance to modern or ancient water sources is generally accepted as the most important determinant of past human settlement patterns and, considered alone, may result in a determination of archaeological potential. However, any combination of two or more other criteria, such as well-drained soils or topographic variability, may also indicate archaeological potential.

As discussed above, distance to water is an essential factor in archaeological potential modeling. When evaluating distance to water it is important to distinguish between water and shoreline, as well as natural and artificial water sources, as these features affect sites locations and types to varying degrees. The MTCS categorizes water sources in the following manner:

- Primary water sources: lakes, rivers, streams, creeks;
- Secondary water sources: intermittent streams and creeks, springs, marshes and swamps;
- Past water sources: glacial lake shorelines, relic river or stream channels, cobble beaches, shorelines of drained lakes or marshes; and
- Accessible or inaccessible shorelines: high bluffs, swamp or marshy lake edges, sandbars stretching into marsh.

Primary water sources are abundant within the Stage 1 study area. Transecting the study area are creeks such as Booth Creek, Crooked Creek, and Black Creek. Additional secondary and tertiary creeks and streams from these primary sources run throughout the study area. Additional ancient and/or relic tributaries of water sources may have existed but are not identifiable today and are not indicated on historic mapping. Further examination of the study area's natural environment identified soil conditions suitable for Aboriginal and Euro-Canadian agriculture, especially in the 19th and 20th centuries following the implementation of municipal drainage systems and agricultural field tiling. Aboriginal agricultural practices are noted on the early 19th

century township surveys. An examination of the ASDB identified ten registered archaeological sites, including six Euro-Canadian sites (four homesteads and two historic dumps) and four pre-pre-contact Aboriginal sites (one findspot of indeterminate age, one Middle Woodland Saugeen Tradition findspot, one Early to Middle Woodland campsite, and one Late Woodland campsite).

For Euro-Canadian sites, archaeological potential can be extended to areas of early Euro-Canadian settlement, including places of military or pioneer settlements; early transportation routes; and properties listed on the municipal register or designated under *the Ontario Heritage Act* (Government of Ontario 1990a) or property that local histories or informants have identified with possible historical events, activities, or occupations. Historical mapping demonstrates that the study area follows early concession roads with structures illustrated as fronting these roads, particularly focused around major waterways. Much of the established road and rail networks and agricultural settlement from the 19th century is still visible today. Adding to these observations is the presence of the Four previously registered 19th century archaeological sites.

In summary, the pre-contact Aboriginal, post-contact Aboriginal, and Euro-Canadian archaeological potential of the study area are judged to be moderate to high. However, as noted above, extensive and deep land alteration can eradicate archaeological potential. The Stage 1 property inspection has determined that portions of the study area, particularly focused around Union Gas' existing pipeline, have been subject to extensive land disturbance which has removed archaeological potential. In addition to the existing pipeline corridor the areas of modern disturbances include municipal road ROWs, municipal drains, and existing Union Gas infrastructures. Further areas which retain low to no archaeological potential are low and permanently wet areas directly associated with present-day water sources.

4.0 RECOMMENDATIONS

The Stage 1 archaeological assessment of the study area for the Project determined that much of the area retains potential for the identification and documentation of archaeological resources. In accordance with Section 1.3.1 and Section 7.7.4 of the MTCS' 2011 Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011), **a Stage 2 archaeological assessment is required for any portion of the study area which impacts an area of archaeological potential (Figures 10 and 11).**

The objective of the Stage 2 archaeological assessment will be to document any archaeological resources within the portions of the study area still retaining archaeological potential and to determine whether these archaeological resources require further assessment or if they have already been previously documented by other known archaeological assessments within the study area. The Stage 2 archaeological assessment will include the systematic walking of open ploughed fields at five metre intervals as outlined in Section 2.1.1 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The MTCS standards further require that all agricultural land, both active and inactive, be recently ploughed and sufficiently weathered to improve the visibility of archaeological resources. Ploughing must be deep enough to provide total topsoil exposure, but not deeper than previous ploughing, and must provide at least 80% ground surface visibility.

Moreover, for areas inaccessible for ploughing, the Stage 2 archaeological assessment will include a test pit survey at five metre intervals as outlined in Section 2.1.2 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The MTCS standards require that each test pit be approximately 30 centimetres in diameter, excavated to at least five centimetres in to subsoil, and have all soil screened through six millimetre hardware cloth to facilitate the recovery of any cultural material that may be present. Prior to backfilling, each test pit will be examined for stratigraphy, cultural features, or evidence of fill.

If the archaeological field team determines any lands to be low and wet, steeply sloped, or disturbed (e.g. municipal road ROWs) during the Stage 2 field work, those areas will not require survey, but will be photographically documented in accordance with Section 2.1 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

In addition to the above, the Stage 1 archaeological assessment determined that there are small pockets within the study area which retain low to no archaeological potential due to low and permanently wet conditions and modern disturbances (e.g., municipal drains, and Union Gas infrastructure). Thus, these portions of the study area do not retain potential for the identification or recovery of archaeological resources. In accordance with Section 1.3.2 and Section 7.7.4 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), **a Stage 2 archaeological assessment is not required for any portion of the study area with low to no archaeological potential (Figures 10 and 11).**

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

5.0 ADVICE ON COMPLIANCE WITH LEGISLATION

This report is submitted to the Minister of Tourism, Culture and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act* (Government of Ontario 1990a), R.S.O. 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture and Sport, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

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

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

The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (Government of Ontario 2002) requires that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Government and Consumer Services.

Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the *Ontario Heritage Act* (Government of Ontario 1990a) and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.

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7.0 IMAGES

7.1 PHOTOGRAPHS

Photo 1: Typical Agricultural Field within Study Area Retaining Archaeological Potential, facing northeast



Photo 2: Typical Agricultural Field within Study Area Retaining Archaeological Potential, facing northeast



Photo 3: Typical Agricultural Field within Study Area Retaining Archaeological Potential, facing northeast



Photo 4: Typical Agricultural Field within Study Area Retaining Archaeological Potential, facing southwest



Photo 5: Typical Agricultural Field within Study Area Retaining Archaeological Potential, facing southwest



Photo 6: Typical Agricultural Field within Study Area Retaining Archaeological Potential, facing northeast



Photo 7: Typical Agricultural Field within Study Area Retaining Archaeological Potential, facing northeast



Photo 8: Typical Agricultural Field within Study Area Retaining Archaeological Potential, facing southwest



Photo 9: Typical Low and Permanently Wet Area (Booth Creek) – Low to No Archaeological Potential, facing southeast



Photo 10: Typical Low and Permanently Wet Area (Black Creek) – Low to No Archaeological Potential, facing east



Photo 11: Typical Municipal Road ROW (Robinson Rd.) – Low to No Archaeological Potential, facing north



Photo 12: Typical Municipal Road ROW (Marthaville Rd.) – Low to No Archaeological Potential, facing south



Photo 13: Typical Municipal Road ROW (Edys Mills Line) – Low to No Archaeological Potential, facing east



Photo 14: Typical Disturbed Municipal Drain (6th Concession Road Drain) – Low to No Archaeological Potential, facing north



Photo 15: Typical Disturbed Drain Along Aberfeldy Line – Low to No Archaeological Potential, facing east



Photo 16: Typical Disturbed Drain Along Black Ash Rd. – Low to No Archaeological Potential, facing north



Photo 17: Typical Disturbed Municipal Drain (Dale Drain) – Low to No Archaeological Potential, facing north



Photo 18: Typical Disturbed Drain Along Oil Springs Line – Low to No Archaeological Potential, facing west



Photo 19: Existing Disturbed Union Gas Station (Marthaville Rd.) – Low to No Archaeological Potential, facing west



Photo 20: Existing Disturbed Union Gas Enniskillen Station - Low to No Archaeological Potential, facing west



Photo 21: Existing Disturbed Union Gas Cuthbert Station - Low to No Archaeological Potential, facing west



8.0 MAPS

All maps will follow on succeeding pages.



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Revised: 2016-07-08 By: pworsell

July 2016
160960981

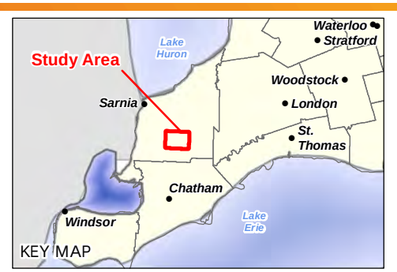
Stantec

Legend

- Study Area
- Enniskillen Station
- Cuthbert Station
- Dawn Compressor Station
- Preferred Route
- Existing Dawn-Parkway System
- Road
- Municipal Boundary - Lower Tier

Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2016.
3. Orthoimagery © Mapcon, 2016. Imagery taken in 2010.



Client/Project

Union Gas Limited
Dawn-Enniskillen Pipeline Project

Figure No.

1

Title

Study Area Overview

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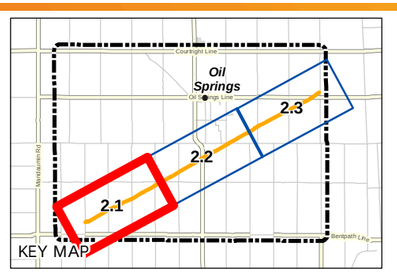
Legend
- Study Area
- Cuthbert Station
- Dawn Compressor Station
- Preferred Route
- Pipeline Easement
- Existing Dawn-Parkway System
- Road
- Constructed Drain
- Watercourse
- Waterbody
- Municipal Boundary - Lower Tier



Client/Project
Union Gas Limited
Dawn-Enniskillen Pipeline Project

Figure No.
2.1

Title
Study Area Location

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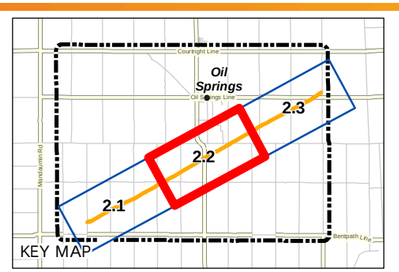
Legend
- Study Area
- Preferred Route
- Pipeline Easement
- Existing Dawn-Parkway System
- Road
- Constructed Drain
- Watercourse
- Waterbody
- Municipal Boundary - Lower Tier



Client/Project
Union Gas Limited
Dawn-Enniskillen Pipeline Project

Figure No.
2.2

Title
Study Area Location



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1. Coordinate System: NAD 1983 UTM Zone 17N
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3. Orthoimagery © Mapcon, 2016. Imagery taken in 2010.

Legend
- Study Area
- Enniskillen Station
- Preferred Route
- Pipeline Easement
- Existing Dawn-Parkway System
- Road
- Constructed Drain
- Watercourse
- Waterbody
- Municipal Boundary - Lower Tier

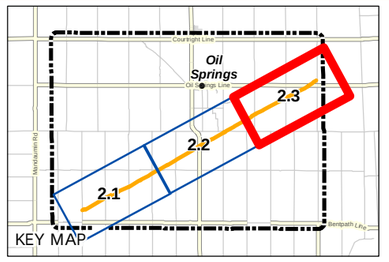

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Figure No.
2.3

Title
Study Area Location



N

Legend
- Study Area
- Preferred Route

Notes
1. Map is not to scale.
2. Government of Canada. n.d.a. Map of Treaty Areas in Upper Canada. Ottawa: Department of Indian Affairs, Survey Branch.

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Client/Project
Union Gas Limited
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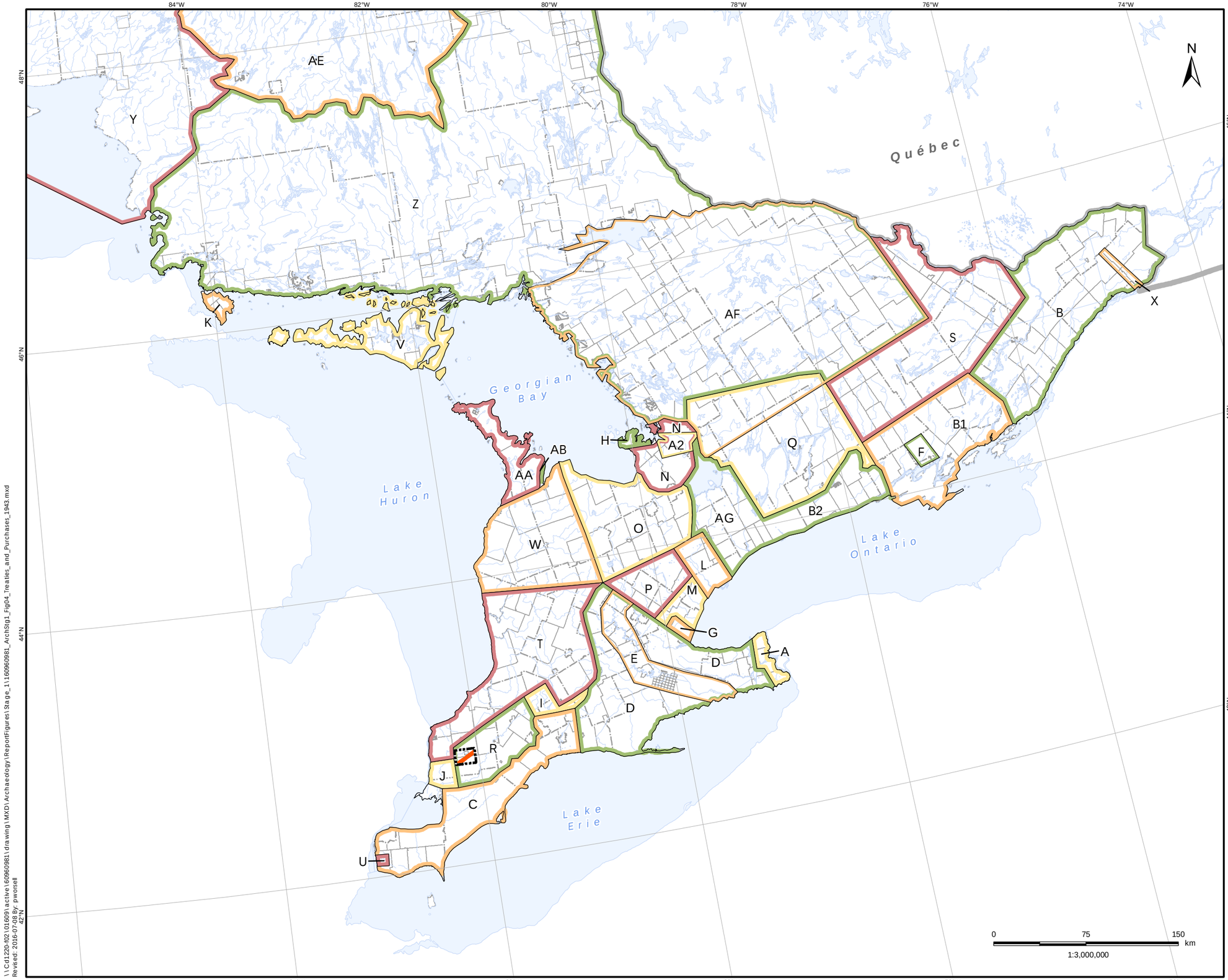
Figure No.
3

Title
Map of Treaty Areas in Upper Canada

\\Cd1220-f02\101609\active\160960981\drawing\MXD\Archaeology\ReportFigures\Stage_1\160960981_ArchStg1_Fig03_Treaty_Areas_Upper_Canada.mxd
Revised: 2016-07-08 By: pworsell



Legend

- Study Area
- Preferred Route
- Municipal Boundary - Upper Tier
- Municipal Boundary - Lower or Single
- Watercourse
- Waterbody

A Treaty No. 381, May 9th, 1781 (Mississauga and Chippewa)
B Crawford's Purchase, October 9th, 1783 (Algonquin and Iroquois)
B1 Crawford's Purchase, October 9th, 1783 (Mississauga)
B2 Crawford's Purchases, 1784, 1787 And 1788 (Mississauga)
A2 John Collins' Purchase, 1785 (Chippewa)
C Treaty No. 2, May 19th, 1790 (Odawa, Chippewa, Pottawatomi, and Huron)
D Treaty No. 3, December 2nd, 1792 (Mississauga)
E Haldimand Tract:from the Crown to the Mohawk, 1793
F Tyendinaga:from the Crown to the Mohawk, 1793
G Treaty No. 3 3/4:from the Crown to Joseph Brant, October 24th, 1795
H Treaty No. 5, May 22nd, 1798 (Chippewa)
I Treaty No. 6, September 7th, 1796 (Chippewa)
J Treaty No. 7, September 7th, 1796 (Chippewa)
L Treaty No. 13, August 1st, 1805 (Mississauga)
M Treaty No. 13A, August 2nd, 1805 (Mississauga)
N Treaty No.16, November 18th, 1815 (Chippewa)
O Treaty No. 18, October 17th, 1818 (Chippewa)
P Treaty No. 19, October 28th 1818 (Chippewa)
Q Treaty No. 20, November 5th, 1818 (Chippewa)
R Treaty No. 21, March 9th, 1819 (Chippewa)
S Treaty No. 27, May 31st, 1819 (Mississauga)
T Treaty No. 27½, April 25th, 1825 (Ojibwa and Chippewa)
U Treaty No. 35, August 13th, 1833 (Wyandot or Huron)
V Treaty No. 45, August 9th, 1836 (Chippewa and Odawa, "For All Indians To Reside Thereon")
W Treaty No. 45½, August 9th, 1836 (Saugeen)
X Treaty No. 57, June 1st, 1847 (Iroquois of St. Regis)
Z Treaty No. 61, September 9th, 1850 (Robinson Treaty:Ojibwa)
AA Treaty No. 72, October 30th, 1854 (Chippewa)
AB Treaty No. 82, February 9th, 1857 (Chippewa)
AF Williams Treaty, October 31st and November 15th, 1923 (Chippewa and Mississauga)
AG Williams Treaty, October 31st, 1923 (Chippewa)

Notes

1. Coordinate System: NAD 1983 Statistics Canada Lambert
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2016.
3. Treaty boundaries adapted from Morris 1943 (1964 reprint). For cartographic representation only.

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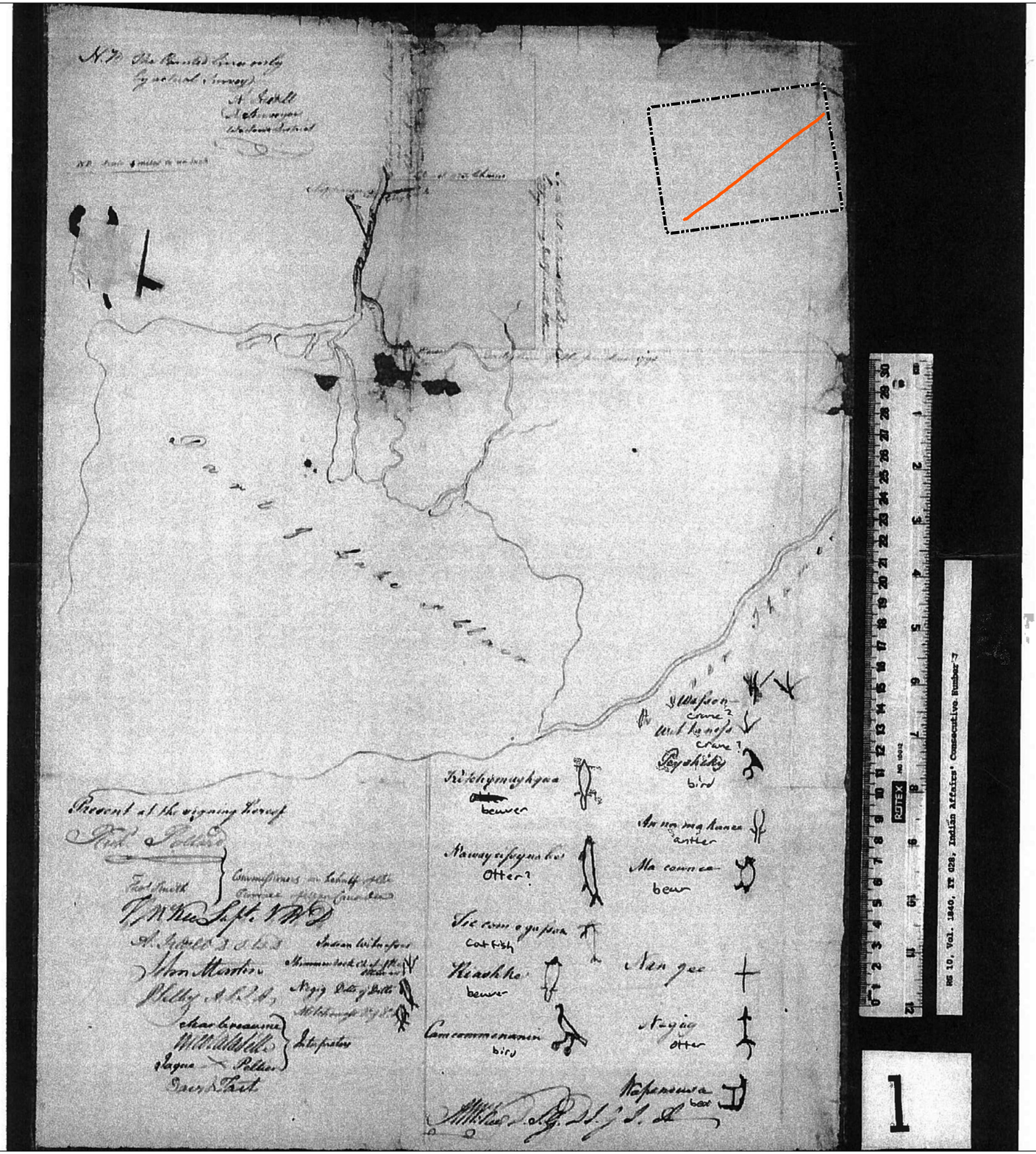
Figure No.

4

Title

Treaties and Purchases
(Adapted from Morris 1943)

\\Cd1220-f02\01609\active\160960981\drawing\MXD\Archaeology\ReportFigures\Stage_1\160960981_ArchSig1_Fig04_Treaties_and_Purchases_1943.mxd
Revised: 2016-07-08 By: pworsell



N

Stantec

Legend

- Study Area
- Preferred Route

Notes

1. Map is not to scale.
2. Government of Canada. n.d.b. Surrender #7, September 7, 1796. Ottawa: National Archives of Canada, File I7026 C-3.

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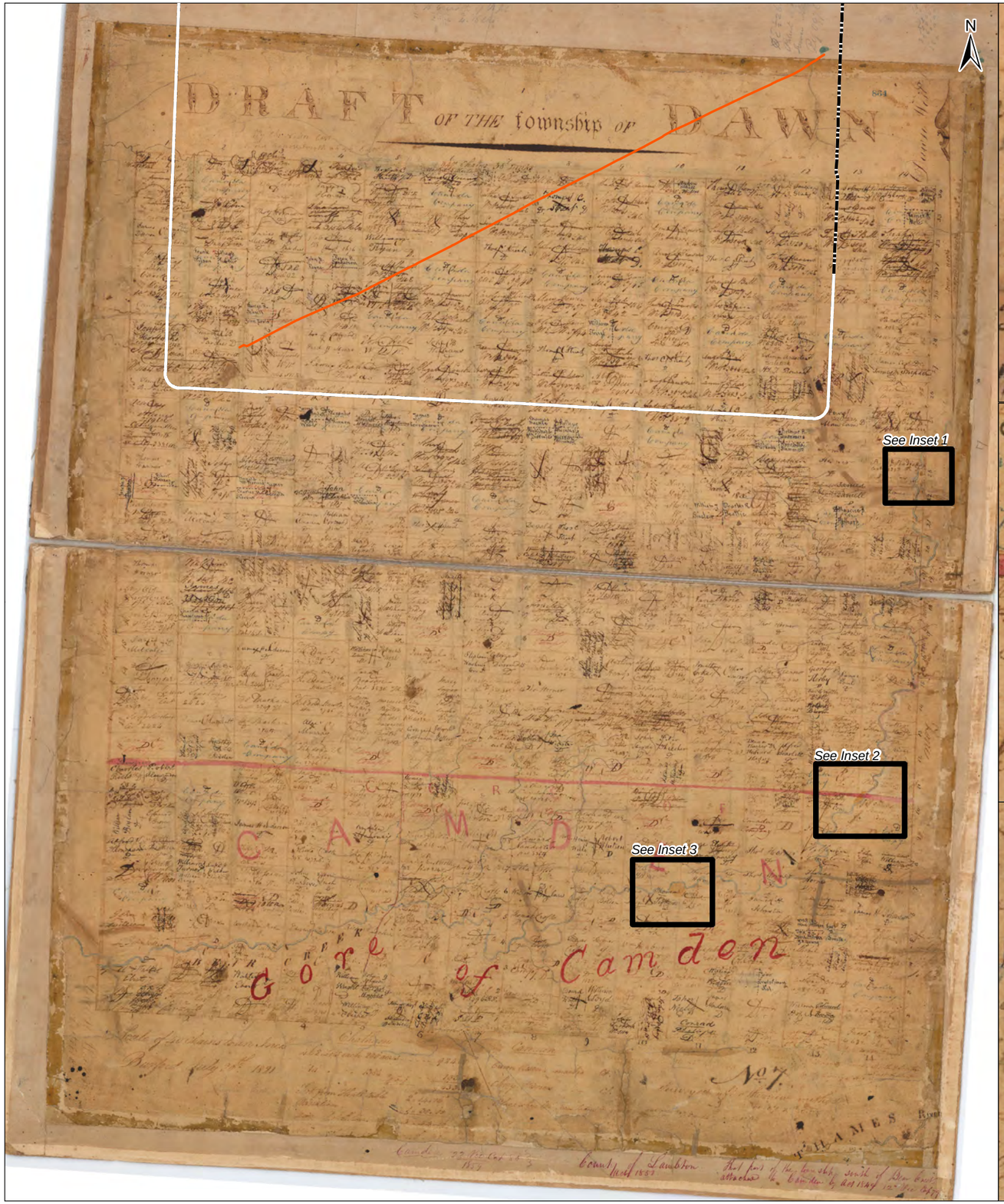
Figure No.

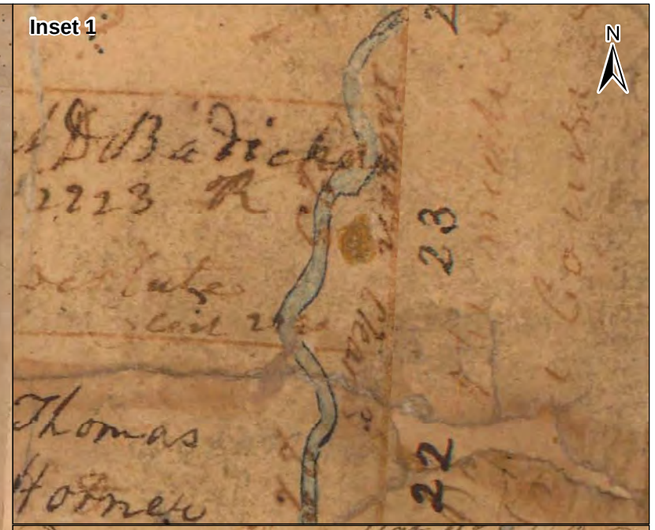
5

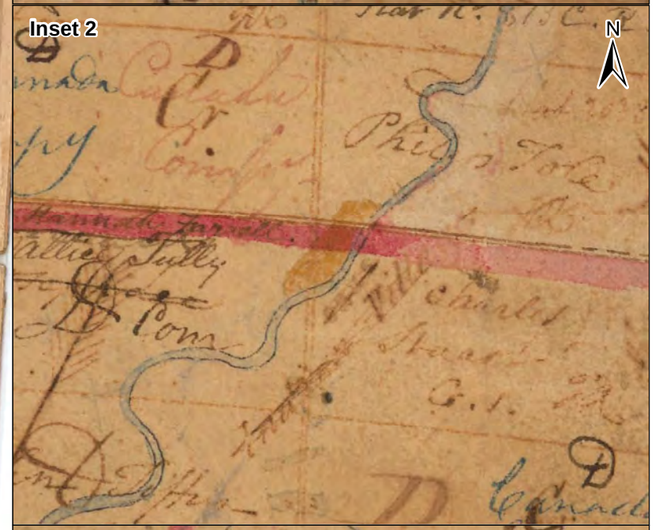
Title

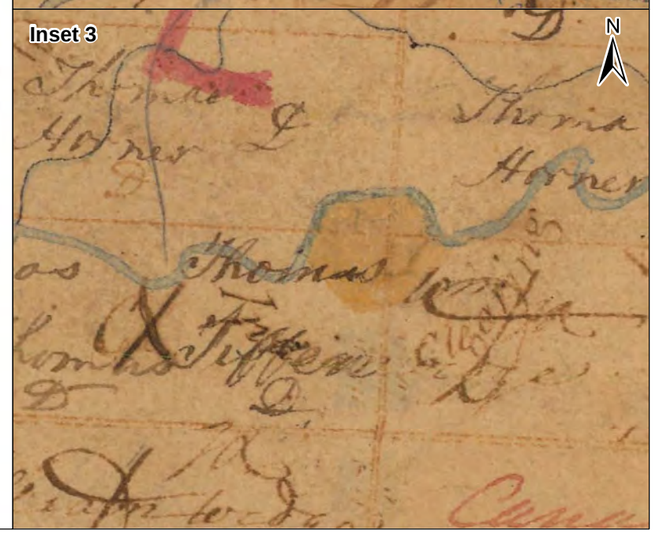
The 1796 Chenail Ecarté Treaty

\\Cd1220-f02\01609\active\160960981\drawing\MXD\Archaeology\ReportFigures\Stage_1\160960981_ArchStg1_Fig05_1796_Chenail_Ecarté_Treaty.mxd
Revised: 2016-07-08 By: pworsell









Stantec

Legend
- Study Area
- Preferred Route

Notes

1. Map is not to scale.
2. Government of Ontario. n.d.a. Crown Land Surveys. Personal communication: Lisa Casselman, Survey Records Clerk, Ministry of Natural Resources and Forestry.

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Union Gas Limited
Dawn-Enniskillen Pipeline Project

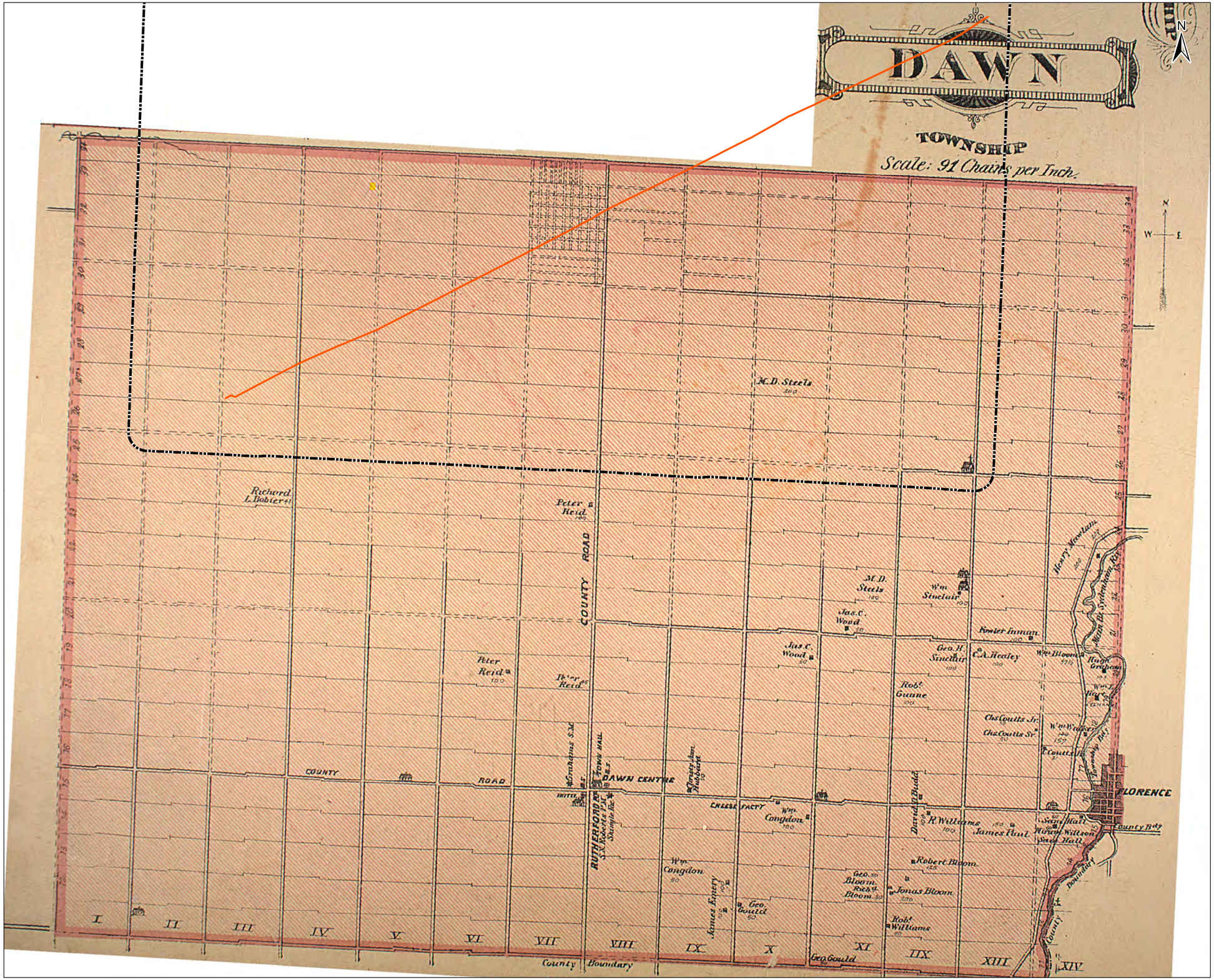
Figure No.

6

Title

The 1821 Surveyor's Map of the Township of Dawn

\\Cd1220-f02\01609\active\160960981\drawing\MXD\Archaeology\ReportFigures\Stage_1\160960981_ArchStg1_Fig06_1821_Dawn_Township_Survey.mxd
Revised: 2016-07-08 By: pworsell



Stantec

Legend

- Study Area
- Preferred Route

Notes

1. Map is not to scale.
2. Belden & Co. 1880a. Illustrated Historical Atlas of Lambton Count, Ont. Toronto: H. Belden & Co.

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Dawn-Enniskillen Pipeline Project

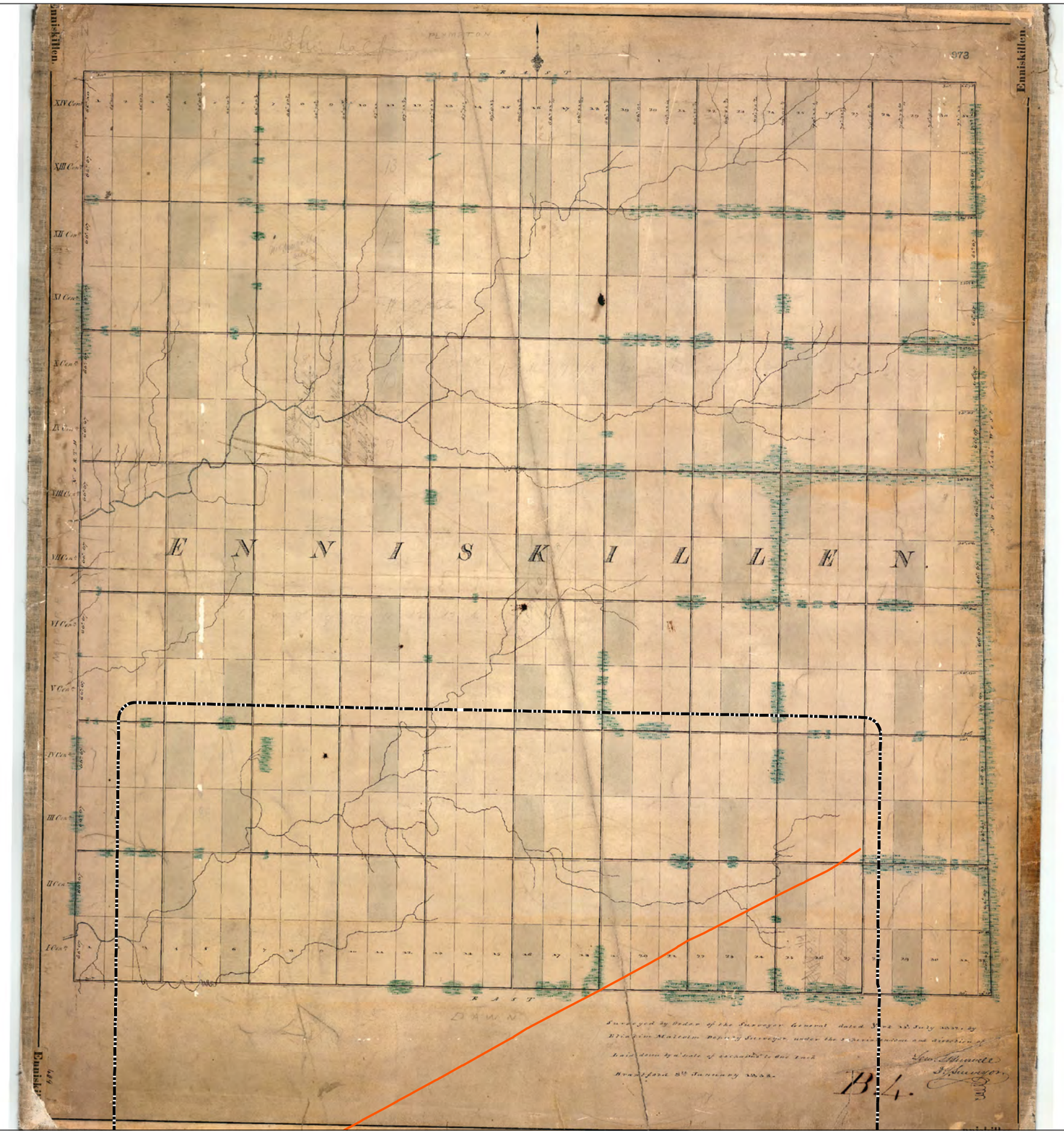
Figure No.

7

Title

The 1880 Historical Atlas Map of Dawn Township

\\Cd1220-f02\01609\active\160960981\drawing\MXD\Archaeology\ReportFigures\Stage_1\160960981_ArchStg1_Fig07_1880_Dawn_Township_Historic_Atlas.mxd
Revised: 2016-07-08 By: pworsell



N

Stantec

Legend

- Study Area
- Preferred Route

Notes

1. Map is not to scale.
2. Government of Ontario. n.d.a. Crown Land Surveys. Personal communication: Lisa Casselman, Survey Records Clerk, Ministry of Natural Resources and Forestry.

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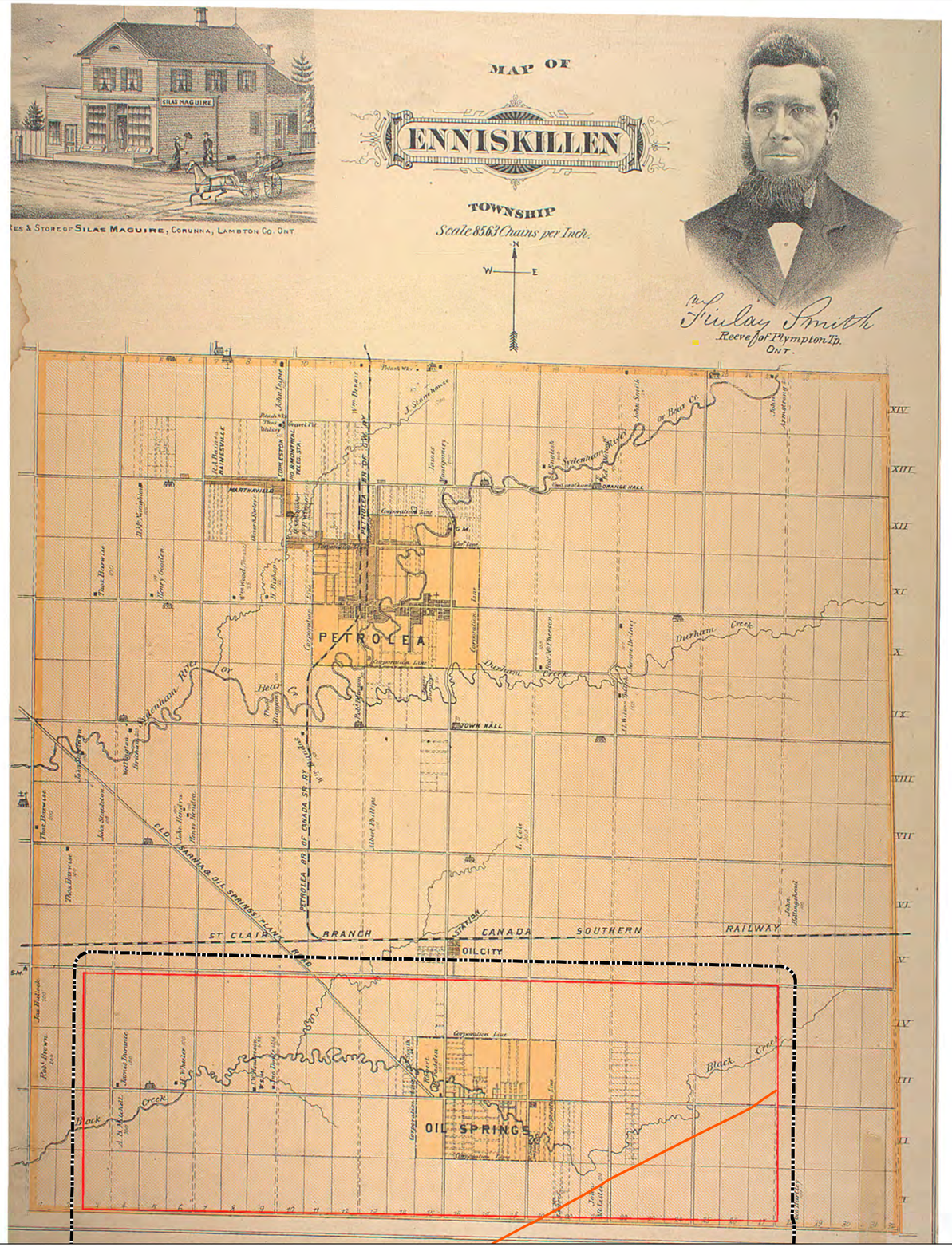
Figure No.

8

Title

The 1833 Surveyor's Map of the Township of Enniskillen

\\Cd1220-f02\01609\active\160960981\drawing\MXD\Archaeology\ReportFigures\Stage_1\160960981_ArchStg1_Fig08_1833_Enniskillen_Township_Survey.mxd
Revised: 2016-07-08 By: pworsell



N

Stantec

Legend
- Study Area
- Preferred Route

Notes
1. Map is not to scale.
2. Government of Ontario. n.d.a. Crown Land Surveys. Personal communication: Lisa Casselman, Survey Records Clerk, Ministry of Natural Resources and Forestry.

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Figure No.
9

Title
The 1880 Historical Atlas Map of Enniskillen Township

\\Cd1220-f02\01609\active\160960981\drawing\MXD\Archaeology\ReportFigures\Stage_1\160960981_ArchStg1_Fig09_1880_Enniskillen_Historic_Atlas.mxd
Revised: 2016-07-08 By: pworsell



\\Cd1220-f02\101609\active\160960981\drawing\MXD\Archaeology\ReportFigures\Stage_1\160960981_ArchStg1_Fig10_Arch_Potential_Study_Area_Overview.mxd
Revised: 2017-02-02 By: pworsell

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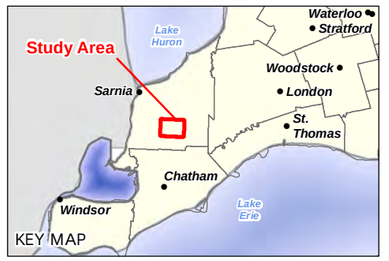
Notes
1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2017.
3. Orthoimagery © Mapcon, 2017. Imagery taken in 2010.

Legend
- Study Area
- Enniskillen Station
- Cuthbert Station
- Dawn Compressor Station
- Preferred Route
- Existing Dawn-Parkway System
- Road
- Municipal Boundary - Lower Tier

Archaeological Potential
- Stage 2 Archaeological Assessment Recommended
- Disturbed Municipal Drain, Low to No Archaeological Potential
- Existing Union Gas Infrastructure, Low to No Archaeological Potential
- Area of Modern Disturbance - Archaeological Potential to be Confirmed During Stage 2 Assessment
- Low and Permanently Wet Areas, Low to No Archaeological Potential



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Union Gas Limited
Dawn-Enniskillen Pipeline Project

Figure No.
10

Title
Archaeological Potential of Study Area Overview



\\ Cd1220-f02\101609\active\160960981\drawing\MXD\Archaeology\ReportFigures\Stage_1\160960981_ArchStg1_Fig11_Arch_Potential_Study_Area_Mapbook.mxd
Revised: 2017-02-02 By: pworsell

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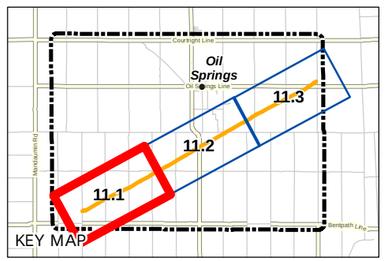
Notes
1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2016.
3. Orthoimagery © Mapcon, 2016. Imagery taken in 2010.

Legend
- Study Area
- Cuthbert Station
- Dawn Compressor Station
- Preferred Route
- Pipeline Easement
- Existing Dawn-Parkway System
- Road
- Municipal Boundary - Lower Tier
- Photo Location

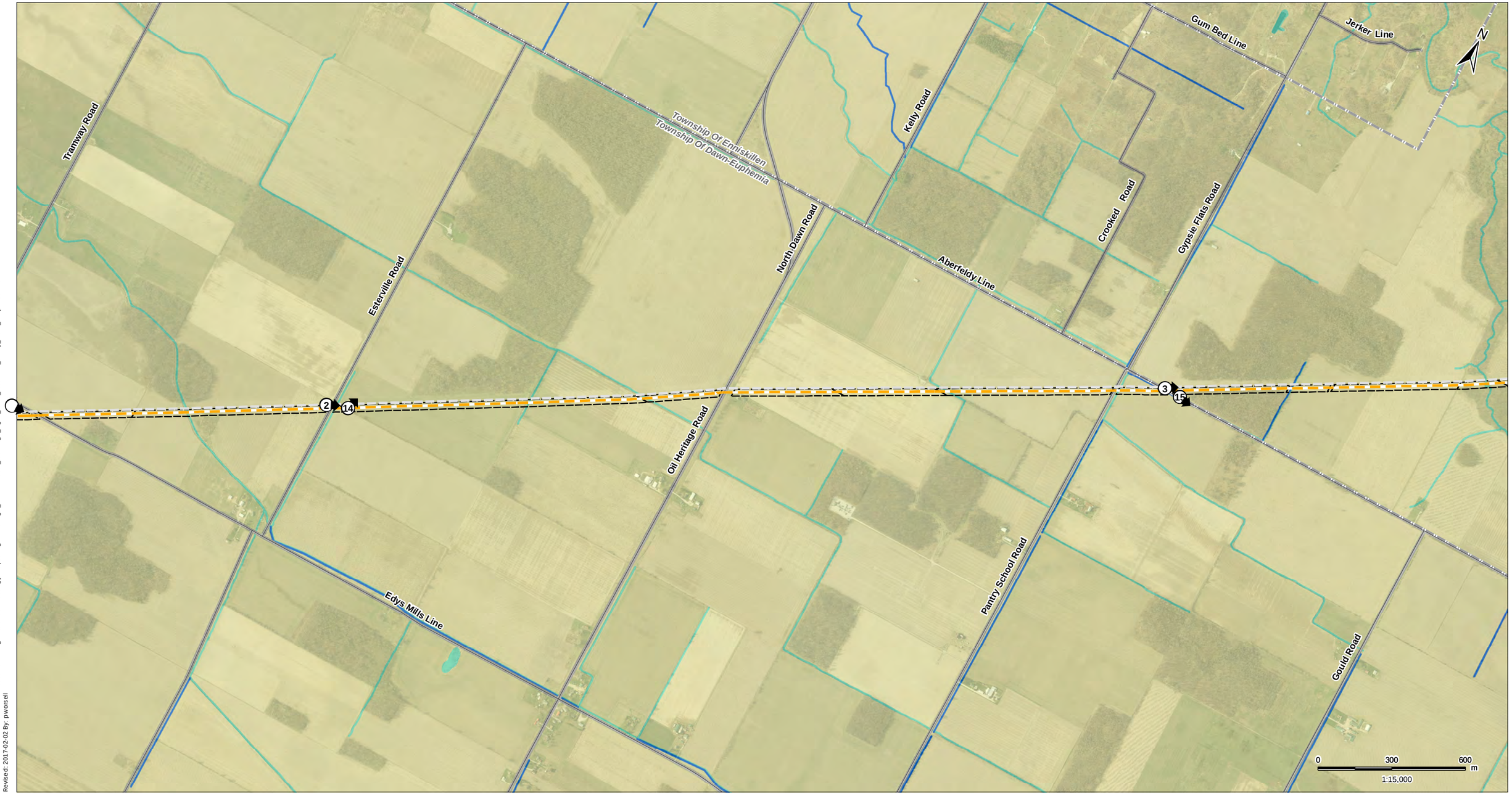
Archaeological Potential
- Stage 2 Archaeological Assessment Recommended
- Disturbed Municipal Drain, Low to No Archaeological Potential
- Existing Union Gas Infrastructure, Low to No Archaeological Potential
- Area of Modern Disturbance - Archaeological Potential to be Confirmed During Stage 2 Assessment
- Low and Permanently Wet Areas, Low to No Archaeological Potential



Client/Project
Union Gas Limited
Dawn-Enniskillen Pipeline Project

Figure No.
11.1

Title
Archaeological Potential of Study Area



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Revised: 2017-02-02 By: pworsell

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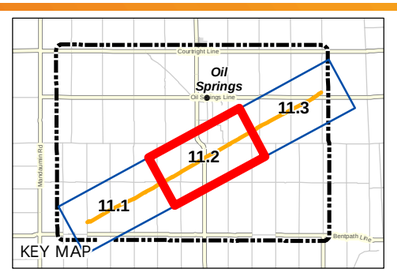
Notes
1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2016.
3. Orthoimagery © Mapcon, 2016. Imagery taken in 2010.

Legend
- Study Area
- Preferred Route
- Pipeline Easement
- Existing Dawn-Parkway System
- Road
- Municipal Boundary - Lower Tier
- Photo Location

Archaeological Potential
- Stage 2 Archaeological Assessment Recommended
- Disturbed Municipal Drain, Low to No Archaeological Potential
- Area of Modern Disturbance - Archaeological Potential to be Confirmed During Stage 2 Assessment
- Low and Permanently Wet Areas, Low to No Archaeological Potential



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Dawn-Enniskillen Pipeline Project

Figure No.
11.2

Title
Archaeological Potential of Study Area



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Revised: 2017-02-02 By: pworsell

February 2017
160960981

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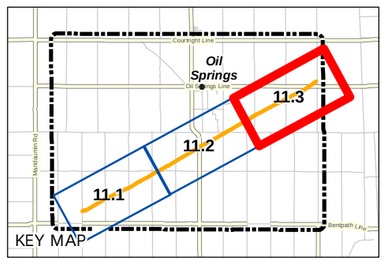
Notes
1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2016.
3. Orthoimagery © Mapcon, 2016. Imagery taken in 2010.

Legend
- Study Area
- Enniskillen Station
- Preferred Route
- Pipeline Easement
- Existing Dawn-Parkway System
- Road
- Municipal Boundary - Lower Tier
- Photo Location

Archaeological Potential
- Stage 2 Archaeological Assessment Recommended
- Disturbed Municipal Drain, Low to No Archaeological Potential
- Existing Union Gas Infrastructure, Low to No Archaeological Potential
- Area of Modern Disturbance - Archaeological Potential to be Confirmed During Stage 2 Assessment
- Low and Permanently Wet Areas, Low to No Archaeological Potential



Client/Project
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Figure No.
11.3

Title
Archaeological Potential of Study Area

9.0 CLOSURE

This report documents work that was performed in accordance with generally accepted professional standards at the time and location in which the services were provided. No other representations, warranties or guarantees are made concerning the accuracy or completeness of the data or conclusions contained within this report, including no assurance that this work has uncovered all potential archaeological resources associated with the identified property.

All information received from the client or third parties in the preparation of this report has been assumed by Stantec to be correct. Stantec assumes no responsibility for any deficiency or inaccuracy in information received from others.

Conclusions made within this report consist of Stantec's professional opinion as of the time of the writing of this report, and are based solely on the scope of work described in the report, the limited data available and the results of the work. The conclusions are based on the conditions encountered by Stantec at the time the work was performed. Due to the nature of archaeological assessment, which consists of systematic sampling, Stantec does not warrant against undiscovered environmental liabilities nor that the sampling results are indicative of the condition of the entire property.

This report has been prepared for the exclusive use of the client identified herein and any use by any third party is prohibited. Stantec assumes no responsibility for losses, damages, liabilities or claims, howsoever arising, from third party use of this report. We trust this report meets your current requirements. Please do not hesitate to contact us should you require further information or have additional questions about any facet of this report.

Quality Review 

(signature)

Jeffrey Muir, BA Jeffrey Muir, BA

Independent Review 

(signature)

Tracie Carmichael, BA, B.Ed.

Appendix B DFO and Enbridge Gas Inc. Drawings

Related to Watercourse Crossings for Pipeline Construction and Maintenance in Ontario (2022)

Disclaimer: The following Appendix falls under the category of exceptions as the information came from another organization, not Stantec. Therefore, this appendix is not accessible as per Accessibility for Ontarians with Disabilities Act, 2005 (AODA).

Generic Sediment Control Plan – Horizontal Directional Drill

This Plan is applicable to Enbridge Gas Inc. (EGI) workers and Contractors involved in HDD activities. It establishes best management practices to prevent and/or mitigate an unauthorized death of fish or harmful alteration, disruption or destruction (HADD) of fish and fish habitat or the impairment of water quality from an inadvertent release of drilling fluid or sedimentation in the vicinity of, or beneath, watercourses. **NOTE:** There is a Duty to Notify and Duty to Take Corrective Measures to report death of fish or a HADD of fish habitat to DFO.

Drilling fluid is typically composed of bentonite clay-water mixture, which is considered non-toxic/hazardous, however, if it is released to a watercourse, there is the potential for the drilling fluid to adversely impact fish and invertebrates. EGI recognizes the need to protect downstream water users, as well as aquatic species and their habitat, from sedimentation. As such, extensive planning prior to, and constant vigilance during, construction operations are essential.

Conditions for use

- Work is taking place outside of Critical Habitat including any identified riparian areas
- Work is taking place at least 30m from any watercourse that has aquatic species at risk
- Work is taking place at least 15m from any watercourse

Planning and Pre-Construction

The following precautionary measures should be implemented to minimize the risk of an inadvertent release or sedimentation during HDD activities:

- Select a pipeline route to minimize the number of watercourse crossings;
- If possible, schedule HDD activities during low flow times;
- Ensure watercourse crossing permits and approvals are obtained, reviewed and remain on-site throughout the duration of the project;
- Where necessary, EGI will notify the required regulatory authorities (i.e. Conservation Authority) prior to the watercourse crossing;
- Ensure that all construction personnel are aware of this contingency plan prior to the commencement of drilling activity;
- Conduct a feasibility assessment (i.e. geotechnical assessment) to assess the suitability of subsurface conditions (if required);
- Maximize distance of HDD entry and exit points from the watercourse and ensure they are at least 10 m from a watercourse if aquatic species at risk are not present in 30 m if present; and
- Maximize depth of the drill path beneath the watercourse.

Construction Mitigation Measures

The steps and precautions that follow should be completed when conducting HDD activities beneath, or in the vicinity of, a watercourse:

- Clearly flag the expected drill path prior to commencing any drilling operations, to facilitate monitoring for potential drilling fluid releases.
- Assign personnel to monitor the drill path for inadvertent returns of drilling fluid or sedimentation.
- Fluid volumes, annular pressure and cutting returns will be continuously monitored to ensure potential drilling fluid losses are detected and addressed immediately. Dedicated personnel should be assigned to continuously monitor drilling pressure and fluid volumes.
- Ensure an approved spill kit is on site and readily available, as per the Spill Response Procedure.
- Sediment control measures (i.e. silt fencing, SiltSoxx™, etc.) should be set-up prior to initiating HDD operations to contain potential releases of drilling fluid, sediment-laden groundwater or run-off along the proposed drill path. Sediment control measures shall be installed:
- Around entry and exit pits;
- Around drilling fluid containment pits;
- Surrounding spoil piles;
- Between all HDD operations and watercourse as identified on this drawing;
- Over-excavate the entry and exit pits to create drilling fluid sump pits;
- Drilling fluid must be contained in entry and exit pits (sump pits) and as they are filled, drilling fluids should be promptly removed and/or removed at the completion of HDD operations at an approved location;
- All vehicles, machinery and other equipment shall not enter the water. There must be no fording of any watercourse;
- If possible, refueling of equipment should not occur within a minimum of 30 m from a watercourse, however, if required, secondary containment must be used around the refuelling area to prevent entry into the watercourse; and
- If necessary, ensure dewatering occurs through a 'sediment-bag' and utilizes other erosion and sediment control (ESC) measures, as required, and is released greater than 30 m from the top-of-bank into a vegetated area.

During HDD operations, workers should keep enough spill response material on-site and readily available to contain any inadvertent releases of drilling fluid or release of sediment-laden groundwater, including (but not limited to):

- Sandbags
- Filter cloth (i.e. silt fence)
- T-Posts
- Corrugated culverts
- Numerous 5-gallon pails
- Vacuum trucks
- Straw bales
- Snow fencing
- Sediment control lots (i.e. SiltSoxx™) or equivalent
- Polyethylene sheets
- Shovels

In addition to the above, for larger watercourse crossings, the following materials should also be kept on-site:

- Turbidity curtains
- Floating sediment boom
- Trash pumps complete with sufficient lengths of leak-free hose, suction heads, and fish screens

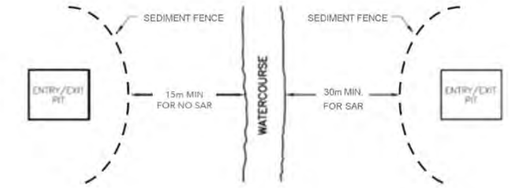
Contingency Plan for Inadvertent Release

Bank and Riparian Zone Areas

The steps that follow should be completed when pipeline installation by HDD is occurring adjacent to a watercourse bank or riparian zone and drilling fluid is identified along the drill path.

- HDD operations should stop immediately and spill containment be established using EGI's approved methods including, but not limited to:
- Straw bales and sediment control fencing;
- Sandbags and polyethylene sheets;
- Containment pits, rings and/or absorbent booms;
- Vacuum trucks; and,
- Site re-grading (berms).
- The EGI Supervisor and Environmental Inspector (if applicable) must be notified of the inadvertent release of drilling fluid or sedimentation.
- The EGI Supervisor must follow the reporting requirements outlined in the Spill Response Procedure and at a minimum, contact, the Environmental Advisor at **1-855-336-2056** to ensure regulatory reporting requirements are met and to ensure clean-up operations are completed.
- If in doubt, report the spill. At a minimum, the following information will be required when reporting to the Environmental Advisor:
  1. Date and time of spill
  2. How the spill occurred
  3. Location of spill
  4. Type of material spilled
  5. Volume of material spilled
  6. Any impacts from the spill
  7. Immediate spill response actions
  8. Photographs
- Contact an approved environmental consultant to support spill cleanup and restoration, if deemed necessary based on the extent and impacts of the release.
- Workers including the EGI Inspector, Environmental Advisor and Contractor and Environmental Inspector (if used) should check for the root cause of release and identify potential solutions including (but not limited to):
- Reducing the pressure of slurry flow (i.e. excavate pressure relief pits);
- Reducing the speed of drill rotation;
- Reducing the speed of drill rod advancement;
- Moving the drill location (laterally, depth, etc.); and,
- Utilizing water to replace the bentonite drilling fluid, if site conditions allow.
- Any substantial deviation (i.e. installation method, crossing location/depth) from approved pipeline construction drawings must be resubmitted to the respective regulatory agencies (i.e. Conservation Authority) prior to resuming work.
- Residual drilling fluid must be removed by shovel or vacuum truck. Clean-up activities must minimize further disruption to the bank and riparian zone area.
- Any damage must be repaired, such as settlement and/or heaving.
- HDD activities may resume when preventative actions have been implemented and all parties are satisfied with the approach (i.e. EGI Supervisor, Environmental Advisor, Environmental Inspector and regulatory authorities [if involved]).

Minimum Horizontal Directional Drill Setback and Depth



PLAN

NOTES

- SEDIMENT FENCE TO BE SET UP A MINIMUM OF 15m FROM A NO SPECIES AT RISK WATERCOURSE AND 30m FOR A SPECIES AT RISK WATERCOURSE.
- HORIZONTAL DIRECTIONAL DRILL TO BE SET UP BEHIND SEDIMENT FENCE.
- MINIMUM OF 1.5m COVER FROM TOP OF PIPE TO BED OF WATERCOURSE.
- ALL DISTURBED AREAS TO BE RESTORED TO PRE-CONSTRUCTION CONDITIONS OR AS CLOSE AS POSSIBLE.



PROFILE

Watercourses

In addition to the above steps and precautions for bank and riparian zone areas, the following should be completed when pipeline installation by HDD is occurring beneath a watercourse and drilling fluid is identified or suspected in the watercourse itself:

- Where leakage of drilling fluids is suspected in a watercourse (i.e. sediment plume) operations should stop immediately and a visual inspection be conducted to verify the presence and extent. All necessary steps should be taken to minimize the impacts.
- Containment and clean-up activities must be initiated as soon as possible, where appropriate.
- Where the release is small with no visible sediment plume it should be allowed to dissipate naturally. Clean-up efforts within the watercourse may potentially be disruptive and cause further suspension of sediment in the water column than if the release were left to dissipate.
- Where the release is large with a visible sediment plume extending beyond the drilling site, the Environmental Advisor must be contacted to retain an environmental consultant to monitor the turbidity levels of the plume and associated potential impacts. In addition, the location of the inadvertent release should be isolated from the watercourse by installing a cofferdam or other containment system by utilizing the following materials:
  - Sandbags and polyethylene sheets;
  - Siltsoxx™, filter cloth (silt fence), straw bales;
  - Corrugated culverts; and/or,
  - Turbidity curtains.
  - The following materials can be used to control and clean up the release:
  - Shovels and 5-gallon pails (if conditions are dry)
  - Trash pumps with hose, suction head and fish screens; and/or
  - Vacuum trucks.
- If subsequent drilling attempts result in additional inadvertent returns of drilling fluid, the crossing should be halted, the Supervisor contact the Environment Department at **1-855-336-2056** and refer to the Contingency Plan for Installation Alternatives below.

Contingency Plan for Installation Alternatives

If EGI is unable to use HDD methodology to install the pipeline even with the mitigation implemented above, construction activities must be suspended, and the Environmental and/or Permit Advisor must be contacted to discuss alternate crossing methods. Any changes to the permitted crossing method may require permit amendments or government agency approval.

EGI should consider the following (from most to least preferred):

- Further geotechnical investigations to revise the pipeline alignment or depth
- Implement another crossing method as outlined in the Enbridge Gas Inc. and Department of Fisheries and Oceans Agreement Related to Watercourse Crossings for Pipeline Construction and Maintenance in Ontario (EGI DFO Agreement)
- Implement another crossing method such as a Non-Isolated Trench/Wet Open Cut method (work area is not isolated from flowing water)

Once the crossing method is reviewed by all internal parties and has been revised, the revised crossing method must be resubmitted for review and approval to the respective regulatory agencies (i.e. Conservation Authority, DFO [if required]) prior to resuming work.

Death of Fish or Harmful Alteration, Disruption or Destruction of Fish Habitat (HADD)

- If death of fish or HADD has occurred due to failure of this plan, a restoration plan should be developed and implemented by the company in consultation with and upon receipt of approval from the respected Conservation Authority and the DFO.

If a HADD occurs, notification are required as per the Contingency Plan for Inadvertent Release section above. **NOTE:** There is a Duty to Notify and Duty to Take Corrective Measures to report death of fish or a HADD to DFO.

Restoration

The following conditions should be considered when restoring any areas impacted by an inadvertent release of drilling fluid:

- Ensure the drilling exit and entry pits are cleaned of drilling fluid and the fluids are disposed of at an approved location.
- Any disturbed areas adjacent to the watercourse should be seeded, covered with erosion control matting (or equivalent) and restored as close as possible to pre-construction condition.
- All seeding and vegetation replacement will be with native species and as directed by the landowner or regulator (as required).
- If post-construction monitoring reveals erosion, remedial work will be taken as quickly as possible.
- If there is insufficient time in the growing season, the site should be stabilized (i.e. cover exposed soils with erosion control matting) and seeded the following spring.
- Maintain effective erosion and sediment controls until revegetation of disturbed areas is achieved, then remove the control measures.
- All debris and garbage shall be removed from the construction site to an approved location.

NOTES

ENBRIDGE

LOCATION

ALL HORIZONTAL DIRECTIONAL DRILL CROSSINGS IN ONTARIO

DRAWING TITLE

GENERIC SEDIMENT CONTROL PLAN HORIZONTAL DIRECTIONAL DRILL

SCALE	DATE
NTS	DECEMBER 2021
FILE No.	PROJECT No.

DRAWN	CHECKED	DRAWING	REV
GTH			0

APPROVED

Generic Sediment Control Plan - Temporary Vehicle Crossings

This plan sets out the measures that will be taken by Enbridge Gas Inc. (EGI) and its contractors to control downstream sediment to the lowest level practically achievable during the construction, use and removal of temporary vehicle water crossing at any watercourse (e.g., streams, rivers and ponds). The conditions and techniques set out on this plan are to be followed unless approved otherwise by the Department of Fisheries and Oceans (DFO).

General Measures

EGI must use materials, construction practices, mitigation techniques and monitoring of operations at every water crossing in order to prevent the unauthorized harmful alteration, disruption or destruction of fish habitat or the impairment of water quality. General measures are available at https://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures-eng.html. Vehicle crossings typically include temporary bridges (e.g., Bailey bridges, log stringer bridges) and winter crossings such as ice bridges and snow fills. The following requirements apply to any watercourse and areas adjacent to it:

- Temporary vehicle crossings to be in place no longer than a single restricted activity timing window.
- Use existing vehicle access across watercourses wherever possible.
- Prior to removal of the low vegetative cover, effective mitigation techniques for erosion and sediment control must be in place to protect water quality. Limit the areal extent of disturbance to the minimum needed for construction and delay grubbing to immediately prior to grading operations.
- Prior to commencing the installation of temporary vehicle crossings, local weather stations will be monitored to determine whether any precipitation is forecasted. If practical work will be delayed until weather conditions are favourable. If necessary, to proceed with work under unfavourable conditions, EGI will exercise due diligent.
- Vehicle crossing structures capable of handling anticipated high water flows during the construction period will be used. See guidelines below on sizing of water opening.
- Coarse cobbles, sandbags, geotextile liners and/or curb stringers will be used to protect culvert and ramp approach fills from erosion and to prevent sediment from entering a watercourse.
- On the approaches to vehicle crossing structures, road ditches constructed for drainage control will incorporate the necessary erosion and sedimentation control measures (e.g., silt fence, check dams) to prevent sediment from entering a watercourse.
- Except during construction of the crossing, EGI will not obstruct any watercourse so as to impede the free movement of water and fish.
- All exposed mineral soil must be graded to a stable slope and treated as quickly as possible to prevent erosion and sediment from entering a watercourse.
- All temporary vehicle crossing structures will be removed upon completion of construction. Banks and approaches will be restored and stabilized immediately upon removal of a vehicle crossing structure.
- The area around water crossings is to be regularly monitored and if erosion problems develop, immediate action is to be taken with appropriate treatments and completed as quickly as possible. Accumulated sediment is to be removed regularly from sediment control mitigations.
- Equipment fording will only be allowed if the Code of Practice can be met. It is available at https://www.dfo-mpo.gc.ca/pnw-ppe/codes/temporary-crossings-traversees-temporaires-eng.html.
- The Company will be held responsible for implementation of this plan. Any questions regarding the implementation of this plan should be directed towards the Environmental Advisor assigned to the project.

Sizing of Water Opening

It is important that the size of the water opening be selected so the structure can safely pass flood flows that can reasonably be expected to occur during the life of the crossing. **These structures must also allow for fish passage at all times except during the pipeline installation.** Any one of the following methods can be followed:

- Install a bridge that clear spans the watercourse from top of bank to top of bank where banks are defined (i.e. ordinary high water mark), and ensure adequate freeboard to allow for anticipated increase in stream discharge and passage of debris. In cases where banks are undefined: use cribbing or other footing material to hold the bridge and ensure adequate freeboard to allow for anticipated increase in steam discharge and passage of debris.
- Maximum culvert length will be 12.2 m (40 ft).
- Conduct a hydrology and hydraulics analysis to determine theoretical opening size. The design flow will be the two year flood (Q2), unless the culvert is to be left in place through the spring freshet, in which case the theoretical opening size will be based on the five year flood (Q5).
- Culvert sizes may also be selected to be the same as nearby culverts that have been in place for many years and have performed satisfactorily.
- If culverts are used, the approved size or equivalent multiple culverts must be installed. If multiple culverts are used a low-flow channel through one culvert must be established.

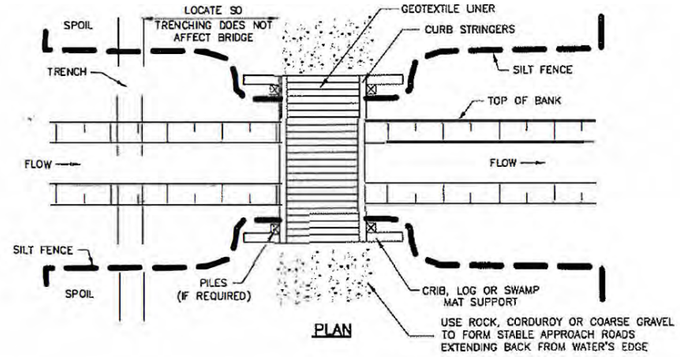
Detailed Construction Sequence - Temporary Bridges

In general terms, the following sequence of construction and mitigation measures will be followed at all temporary bridges.

Conditions for use

- The temporary bridge is no greater than one lane wide.
- The crib, log or swamp mat support is above the ordinary high water mark.

1. Generally, there are no restrictions on timing for the construction of clear-span structures as they do not involve in-water work. However, if there are any activities with the potential to disrupt fish or fish habitat (e.g., in-water crossing of watercourse by machinery), these should be undertaken outside of the restricted activity timing windows.
2. Install the bridge in a manner that will minimize sediment entering the watercourse. Stringers must be engineered to support the loads expected on the bridge. Curbs at least 150 mm high must be installed along the edge of the deck and if necessary, the deck lined with geotextile to contain mud on the bridge. Fasteners connecting components must be strong enough to hold them in position during the life of the bridge.
3. Road approaches leading to the bridges must be raised and stable, so equipment loads are supported a sufficient distance back from the watercourse to reduce sediment entering the watercourse from equipment. This may require using materials such as gravel, rock or corduroy. If cuts are needed to obtain a satisfactory grade, they are to be dug with side ditches and stable slopes. Erosion and sediment control measures are to be installed to keep sediment from entering the watercourse (e.g., check dams, filler cloth, rip rap, seed and mulch, sediment traps, etc.)
4. While the bridge is in use, any buildup of sediment on the bridge deck or approaches that has the potential to enter the watercourse is to be scraped off and disposed of in an approved location.
5. Temporary crossings will be removed as quickly as possible when no longer required. Surplus gravel and bridge materials are to be removed from the crossing area and stabilized above the floodplain in an approved location. The watercourse bed and banks are to be restored to a stable angle and protected with erosion resistant material compatible with flow velocity (e.g., coarse gravel or rip rap). Measures such as berms or logs may be needed to prevent sediment laden water from entering the watercourse.
6. Vegetate any disturbed areas by planting and seeding native trees, shrubs or grasses and cover such areas with mulch or erosion control matting to prevent soil erosion and to help seeds germinate.



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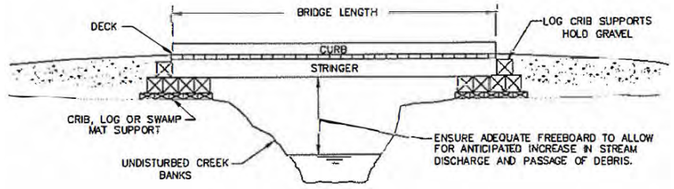
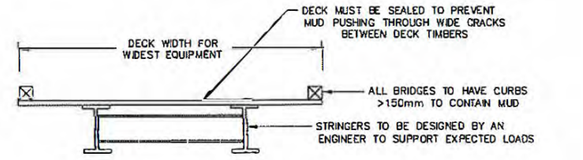


BRIDGE PROFILE



TYPICAL STEEL BRIDGE SECTION

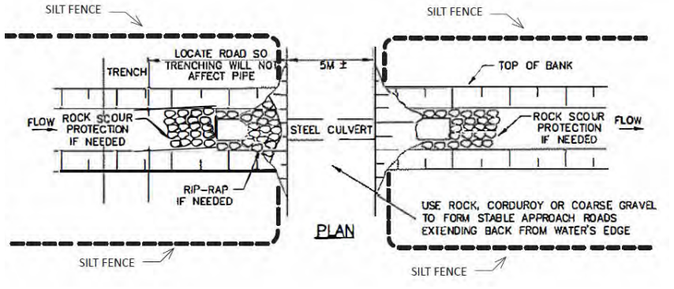
Detailed Construction Sequence - Temporary Culverts

Conditions for use

- The use of explosives is not required to complete the works, undertakings and activities
- Fish passage is maintained during the works, undertakings and activities
- No sensitive habitat exists at the crossing location
- The temporary culvert does not result in the draining of upland ponded or wetland features
- The culverts have a maximum length of no longer than 12.2m (40ft)
- The installation and removal of culverts must occur within a single allowable activity timing window

In general terms, the following sequence of construction and mitigation measures will be followed at all temporary culverts. Pre-, during-, and post-construction photographs showing the culvert location will be taken.

1. Install culvert pipe of diameter and length as per the Sizing of Water Opening requirements to ensure for stable fill slopes and safe vehicle/equipment passage. Culvert invert is to be set to allow a minimum of 10cm water depth for fish passage. Culvert installation can be done in flowing water as long as the installation occurs outside the restricted activity timing window. Culvert backfill and fill for the road is to be course granular or rock fill material. Erosion protection may be needed on the upstream road fill slope and if scour is possible, rip rap is to be placed in the watercourse upstream and downstream of the culvert outlet.
2. Road approaches leading to the culvert crossing must be raised and stable, so equipment loads are supported a sufficient distance back from the watercourse to reduce sediment entering the watercourse from equipment. This may require using materials such as gravel, rock, or corduroy. If cuts are needed to obtain a satisfactory grade, they are to be dug with side ditches and stable slopes. Erosion and sediment control measures are to be installed to keep sediment from entering the watercourse (e.g., check dams, filter cloth, rip rap, seed and mulch, sediment traps, etc.).
3. While the culvert is in use, any build-up of sediment on the road surface or approaches that has the potential to enter the watercourse is to be scraped off and disposed of in an approved location.
4. Temporary crossings will be removed as quickly as possible when no longer required. Removal must occur outside the restricted activity timing window. Surplus gravel and culvert materials are to be removed from the crossing area and stabilized above the floodplain in an approved location. The watercourse bed and banks are to be restored to a stable angle and protected with erosion resistant material compatible with flow velocity (e.g., coarse gravel or rip rap). Measures such as berms or logs may be needed to prevent sediment laden water from entering the watercourse.
5. Vegetate any disturbed areas by planting and seeding native trees, shrubs or grasses and cover such areas with mulch or erosion control matting to prevent soil erosion and to help seeds germinate.



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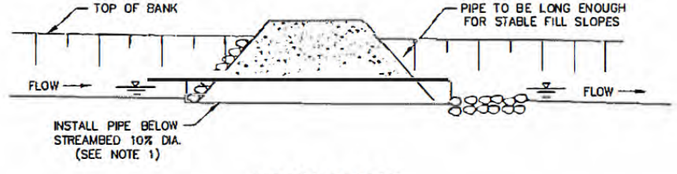

STREAM PROFILE

NOTES

ENBRIDGE

LOCATION

ALL TEMPORARY VEHICLE CROSSINGS (BRIDGES & CULVERTS) IN ONTARIO

DRAWING TITLE

GENERIC SEDIMENT CONTROL PLAN TEMPORARY VEHICLE CROSSINGS

SCALE		DATE
NTS		DECEMBER 2021
FILE No.		PROJECT No.
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APPROVED

Generic Sediment Control Plan - Dry Flume Water Crossings

This plan sets out the measures that will be taken by Enbridge Gas Inc. (EGI) and its contractors to control downstream sediment to the lowest level practically achievable during the construction, use and removal of dry flume type crossings. The conditions and techniques set out on this plan are to be followed unless approved otherwise by the Department of Fisheries and Oceans (DFO).

Conditions for using the Standard

- The crossing can be completed in 7 calendar days or less avoiding the restricted activity timing window
- The watercourse is 15 m or less wide (current water level) AND flow conditions are 1.5m^3/sec or less
- The in-water work site disturbs a maximum of 50 linear m or less of the watercourse

Note: fish passage in a dry flume is not required

General Measures

EGI must use materials, construction practices, mitigation techniques and monitoring of operations at every water crossing in order to prevent the death of fish, unauthorized harmful alteration, disruption or destruction of fish habitat or the impairment of water quality. General measures are available at https://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures-eng.html. The following requirements apply to any permanent or intermittent watercourse (stream, river, pond) and areas adjacent to it.

- EGI will adhere to all permits and approvals of federal and provincial agencies related to watercourse crossings.
- EGI will notify the appropriate federal or provincial agencies prior to commencement of a watercourse crossing in accordance with regulatory permit conditions.
- In-stream work will occur outside of the restricted activity timing windows for the geographic region and for the fish species present unless otherwise permitted by the appropriate agencies.
- Prior to removal of the low vegetative cover, effective mitigation techniques for erosion and sediment control must be in place to protect water quality. Limit the areal extent of disturbance to the minimum needed for construction and delay grubbing to immediately prior to grading operations.
- All watercourses will require a minimal disturbance zone (MDZ) to be clearly marked with flagging prior to the commencement of clearing activities or any construction activity near the watercourse. This flagging will be set back a minimum of 5m from the watercourse and will be based on site specific conditions. Extra work area required at watercourse crossings will be situated away from the watercourse outside of the MDZ.
- Materials removed or stockpiled during construction (e.g., excavated soil, backfill material) must be deposited in a manner to ensure sediment does not enter a watercourse. Appropriate erosion and sediment controls (e.g. revegetation, vegetated buffer strips, drainage control, sediment settling devices, and sediment fence or other appropriate mitigation measures) will be installed around spoil or stockpiles to prevent sediment from stockpile runoff from entering a watercourse.
- All vehicles, machinery and other construction equipment should not enter the water. There should be no fording of any stream.
- Except during construction of the crossing, EGI will not obstruct any watercourse so as to impede the free movement of fish.
- Flow will be maintained at all times downstream of the water crossing.
- All exposed soil must be stabilized (e.g. graded to a stable slope and erosion control measures implemented) as quickly as possible to prevent erosion.
- EGI is to adhere to the Generic Sediment Control Plan For Temporary Vehicle Crossings.
- All required materials (e.g., silt fencing, filter cloth, polyethylene liners, granular material, rip rap, dam materials) and installation equipment (e.g., pipe, flumes, pumps, pump hoses, generators, spores, energy dissipaters) will be on-site and in good working order prior to construction.
- Prior to commencing watercourse crossings, local weather stations will be monitored to determine whether any precipitation is forecasted. In-stream activity will be delayed if flows are in flood stage and until weather conditions are favourable. If practical work will be delayed until weather conditions are favourable. If necessary, to proceed with work under unfavourable conditions, EGI will exercise due diligence
- Water intakes used in fish bearing waters will be screened in accordance with current DFO Code of Practice for end-of-pipe fish protection screens for small water intakes in freshwater https://www.dfo-mpo.gc.ca/pnw-ppe/codes/screen-ecran-eng.html.
- Fish recovery and transfer will be conducted prior to and during the isolation of flow and in accordance with permit regulations. See detailed construction sequence for timing of fish recovery operations.
- In-stream activities in all watercourses (e.g., trenching, pipe installation, backfilling) will be completed in as short a time as possible to minimize disturbance to water quality, fish and fish habitat.
- In situations where the crossing can be completed in one day, in-stream excavation will begin in the early morning to allow for same day installation.
- Refueling and lubrication of equipment will be conducted in areas that will allow any accidental spill of deleterious substance to be disposed of in an approved location before it reaches any watercourse. Appropriate spill prevention kits will be readily available on site.
- The area around water crossings is to be regularly monitored and if erosion problems develop, immediate action is to be token with appropriate treatments and completed as quickly as possible. Accumulated sediment is to be removed regularly.
- Revegetation must be completed as quickly as possible. Revegetate any disturbed areas by planting and seeding native trees, shrubs or grasses and cover such areas with mulch or erosion control matting to prevent soil erosion and to help seeds germinate.
- All use of silt fence, rock check dams and dewatering traps shall be constructed/installed in accordance to the most up to date Company specifications and drawings. Where these mitigation measures are not sufficient to prevent sediment from entering the watercourse, additional mitigation measures will be implemented to prevent sediment from entering the watercourse.
- EGI will be held responsible for implementation of this plan. Any questions regarding the implementation of this plan should be directed towards the Environmental Advisor assigned to the project.

Contingency Plan

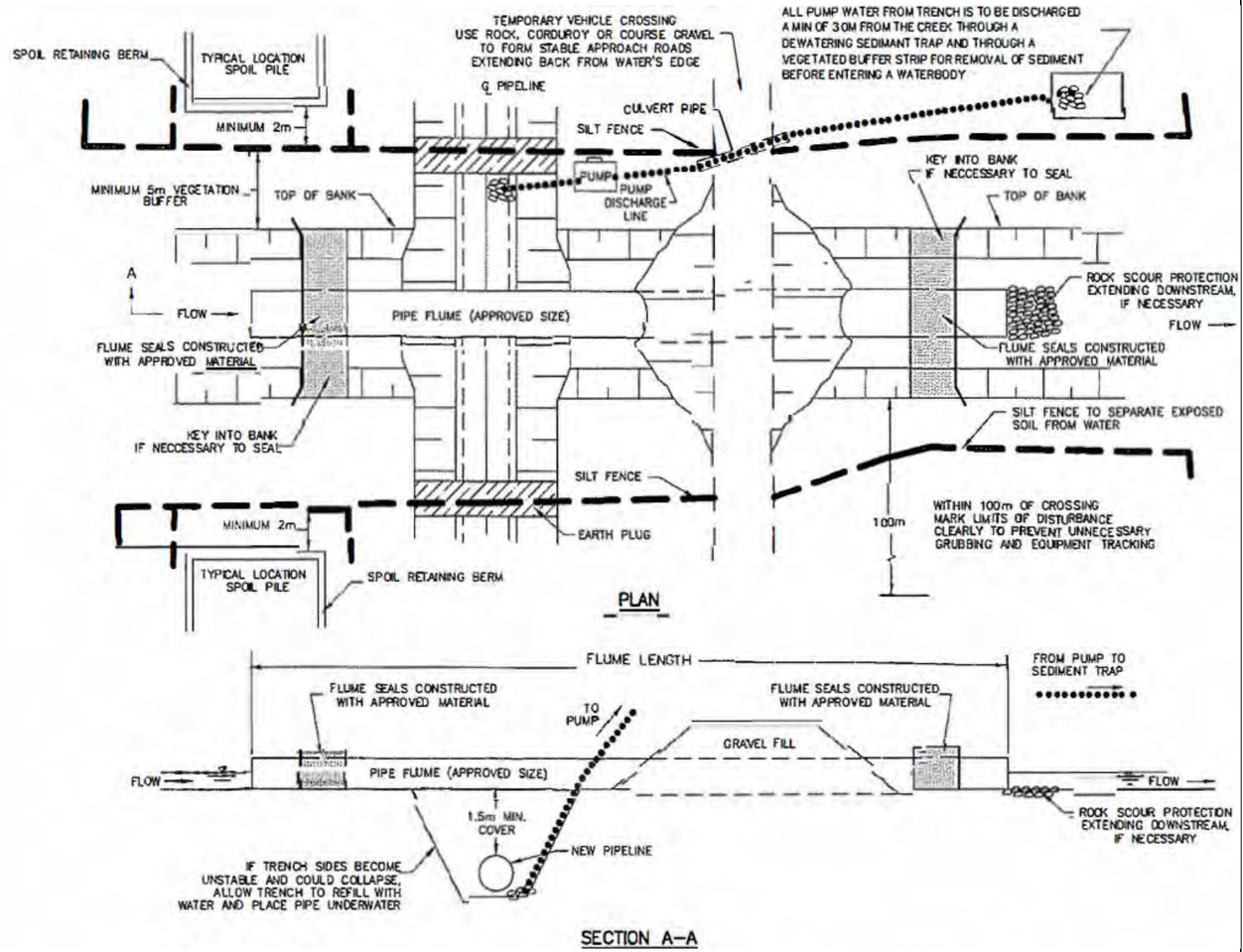
If unforeseen events (e.g. bedrock in trench, flume washout) cause the strategies set out in this pion to be insufficient or inappropriate to meet the objective, EGI is expected to respond in a timely manner with all reasonable measures consistent with safety, to prevent, counteract or remedy any effects on fish or fish habitat that may result. DFO is to be notified as soon as practical. **NOTE:** There is a Duty to Notify and Duty to Take Corrective Measures to report death of fish or a HADD of fish habitat to DFO.

Spill reporting procedures established by EGI will be used to report any unexpected discharge of silt or sediment or other deleterious substance of the water crossing. At a minimum contact the Environmental Advisor at **1-855-336-2056.**

If DFO determines that tong term damage to fish habitat has occurred due to failure of this plan to control sediment, a restoration plan will be developed by EGI, in consultation with and approval from DFO for implementation by EGI.

Flume Sizing

- Flumes will be sized initially based on hydrology and hydraulic analysis to determine theoretical opening size. The capacity of the flumes will be sized to handle 150% of the anticipated flow.
- The approved size or equivalent multiple flumes must be installed.
- Flume sizes may also be selected to be the same as existing nearby culverts that have been in place for many years and have performed satisfactorily.



Detailed Construction Sequence - Dry Flume Crossings

In general terms, the following sequence of construction and mitigation measures will be followed at all "dry flume" type water crossings.

1. Mark out and maintain limits of authorized work areas with fencing or flagging tape to avoid unnecessary disturbance of vegetation. Ensure equipment operators working on the crossing have been briefed about this plan and the measures needed to protect water quality. Install pre-work sediment control measures, including silt fences and measures to contain excavated spoil and backfill. All necessary equipment and materials to build the flume must be on site or readily available prior to commencing in-water construction. Pipe shall be strung, welded and coated ready for installation prior to watercourse trenching.
2. Install flumes equal to or larger than the diameter determined by the methods described above. Place impervious dams at each end of the flume, upstream first then downstream. Alternative dam materials include coarse gravel with rip rap protection, pea stone bags, steel plate and metre bags. During placement, install an impervious membrane, if necessary, to prevent leakage. Dams may need keying into the bank and streambed. Once the area is isolated, conduct fish recovery and transfer operations and dewater the area between the dams. All pump water is to be discharged well away (minimum 30 m) from the watercourse and through a sediment trap to prevent reentry of sediment into the watercourse. Pump discharge lines will be installed to keep pumped water from coming into contact with soil on the construction site.
3. Excavate trench through plugs and under flume, then dewater. Work area dewatering will be filtered to remove suspended solids. Lower in pipe by passing under flume and backfill immediately. The top 300 mm of trench backfill is to be clean rock, cobble material or native streambed material. EGI is to use granular backfill if the native material is not suitable. Any excess material is to be disposed of in an approved location and stabilized to prevent reentry into the watercourse. Work is to be completed as quickly as possible.
4. Once the pipe installation is complete and the flume(s) are no longer necessary, they will be removed as quickly as possible and in the following manner: remove the downstream dam; remove the upstream dam; remove flume(s).
5. Restore, stabilize and reclaim bed and banks of watercourse to preconstruction profiles and protected with erosion resistant material compatible with flow velocity (e.g., do not use erosion control matting in the bankfull channel coarse gravel or rip rap) to the maximum extent possible between dams. All construction material (e.g. dams, rip rap) not required to return the watercourse to preconstruction condition will be removed from the site and stabilized above the high-water mark in an approved location. Removal of all materials will be done in a manner that will not introduce sediment to the watercourse.
6. Site stabilization, which includes control of stormwater drainage using a combination of methods such as silt fences, erosion blankets, diversion berms and check dams etc., is to be completed immediately upon removal of the flume or as directed by the Environmental Advisor. If stabilization is delayed, short term erosion control measures will be used to prevent sediment entering the watercourse. Material accumulated at silt fences is to be removed or stabilized in place. Silt fences are to be removed when the site is permanently stabilized.
7. Vegetate any disturbed areas by planting and seeding native trees, shrubs or grasses and cover such areas with mulch or erosion control matting to prevent soil erosion and to help seeds germinate.
8. If post-construction monitoring reveals erosion problems, remedial work is to be undertaken as quickly as possible.

NOTES

ENBRIDGE

LOCATION

ALL DRY FLUME WATER CROSSINGS IN ONTARIO

DRAWING TITLE

GENERIC SEDIMENT CONTROL PLAN DRY FLUME WATER CROSSINGS

SCALE	DATE
NTS	DECEMBER 2021
FILE No.	PROJECT No.

DRAWN	CHECKED	DRAWING	REV
GTH			0

APPROVED

Generic Sediment Control Plan Dam and Pump Water Crossings

This plan sets out the measures that will be taken by Enbridge Gas Inc. (EGI) and its contractors to control downstream sediment to the lowest level practically achievable during the construction, use and removal of dam and pump type crossings. The conditions and techniques set out on this plan are to be followed unless approved otherwise by the Department of Fisheries and Oceans (DFO). This includes the current DFO Code of Practice for temporary cofferdams and diversion channels available at https://www.dfo-mpo.gc.ca/pnw-ppe/codes/cofferdams-batardeaux-eng.html

Conditions for using the Standard

- The crossing can be completed in 7 calendar days or less avoiding the restricted activity timing window
- The watercourse is 15 m or less wide (current water level) AND flow conditions are 1.5m^3/sec or less
- The in-water work site disturbs a maximum of 50 linear m or less of the watercourse

Note: fish passage in a dam and pump crossing is not required

General Measures

EGI must use materials, construction practices, mitigation techniques and monitoring of operations at every water crossing in order to prevent the death of fish, unauthorized harmful alteration, disruption or destruction of fish habitat or the impairment of water quality. General measures are available at https://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures-eng.html. The following requirements apply to any permanent or intermittent watercourse (stream, river, pond) and areas adjacent to it.

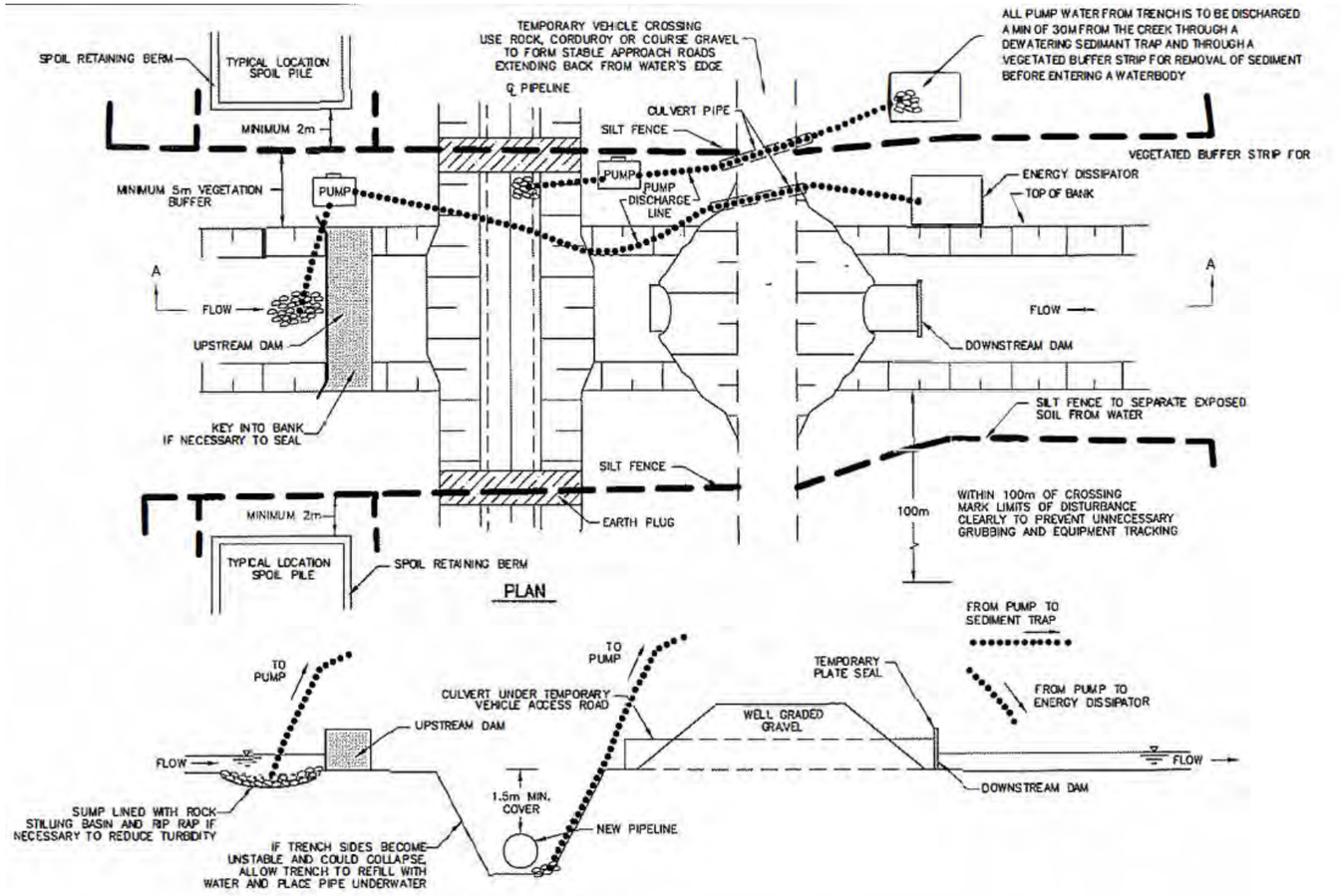
- EGI will adhere to all permits and approvals of federal and provincial agencies related to watercourse crossings.
- EGI will notify the appropriate federal or provincial agencies prior to commencement of a watercourse crossing in accordance with regulatory permit conditions.
- In-stream work will occur during the appropriate time windows for the geographic region and for the fish species present unless otherwise permitted by the appropriate agencies.
- Prior to removal of the low vegetative cover, effective mitigation techniques for erosion and sediment control must be in place to protect water quality. Limit the areal extent of disturbance to the minimum needed for construction and delay grubbing to immediately prior to grading operations.
- All watercourses will require a minimal disturbance zone (MDZ) to be clearly marked with flagging prior to the commencement of clearing activities or any construction activity near the watercourse. This flagging will be set back a minimum of 5m from the watercourse and will be based on site specific conditions. Extra work area required at watercourse crossing will be situated away from the watercourse outside of the MDZ.
- Materials removed or stockpiled during construction (e.g., excavated soil, backfill material) must be deposited in a manner to ensure sediment does not enter a watercourse. Appropriate erosion and sediment controls (e.g. revegetation, vegetated buffer strips, drainage control, sediment settling devices, and sediment fence or other appropriate mitigation measures) will be installed around spoil or stockpiles, to prevent sediment from stockpile runoff from entering a watercourse.
- All vehicles, machinery and other construction equipment shall not enter the water. There must be no fording of any stream.
- Except during construction of the crossing, EGI will not obstruct any watercourse so as to impede the free movement of fish.
- Flow will be maintained at all times downstream of the watercrossing.
- All exposed soil must be stabilized (e.g. graded to a stable slope and erosion control measures implemented) as quickly as possible to prevent erosion.
- EGI is to adhere to the Generic Sediment Control Plan For Temporary Vehicle Crossings.
- All required materials (e.g., silt fencing, filter cloth, polyethylene liners, granular material, rip rap, dam materials) and installation equipment (e.g., pipe, flumes, pumps, pump hoses, generators, spores, energy dissipaters) will be on-site and in good working order prior to construction.
- Prior to commencing watercourse crossings, local weather stations will be monitored to determine whether any precipitation is forecasted. In-stream activity will be delayed if flows are in flood stage and until weather conditions are favourable. If practical work will be delayed until weather conditions are favourable. If necessary, to proceed with work under unfavourable conditions, EGI will exercise due diligence.
- If there is any flow in the watercourse, EGI is to install pumps to maintain streamflow around the blocked off section of channel. An energy dissipater is to be built to accept pump discharge and prevent watercourse erosion.
- Adequate pump capacity will be on site to handle anticipated water flows and any potential increases in flow during the construction period. Backup pumps with adequate capacity to handle 100% of the downstream flow must be on site and ready for immediate replacement, should the primary operating pump(s) fail.
- Water intakes used in fish bearing waters will be screened in accordance with current DFO Code of Practice for end-of-pipe fish protection screens for small water intakes in freshwater https://www.dfo-mpo.gc.ca/pnw-ppe/codes/screen-ecran-eng.html.
- Fish recovery and transfer will be conducted prior to and during the isolation of flow and in accordance with permit regulations. See detailed construction sequence for timing of fish recovery operations.
- Instream activities in all watercourses (e.g., trenching, pipe installation, backfilling) will be completed in as short a time as possible to minimize disturbance to water quality, fish and fish habitat.
- In situations where the crossing can be completed in one day, in-stream excavation will begin in the early morning to allow for same day installation.
- Refueling and lubrication of equipment will be conducted in areas that will allow any accidental spill of deleterious substance to be disposed of in an approved location before it reaches any watercourse. Appropriate spill prevention kits will be readily available on site.
- The area around water crossings is to be regularly monitored and if erosion problems develop, immediate action is to be taken with appropriate treatments and completed as quickly as possible. Accumulated sediment is to be removed regularly.
- Revegetation must be completed as quickly as possible. Revegetate any disturbed areas by planting and seeding native trees, shrubs or grasses and cover such areas with mulch or erosion control matting to prevent soil erosion and to help seeds germinate.
- All use of silt fence, rock check dams and dewatering traps shall be constructed/installed in accordance to the most up to date EGI specifications and drawings. Where these mitigation measures are not sufficient to prevent sediment from entering the watercourse, additional mitigation measures will be implemented to prevent sediment from entering the watercourse.
- EGI will be held responsible for implementation of this plan. Any questions regarding the implementation of this plan should be directed towards the Environmental Advisor assigned to the project.

Contingency Plan

If unforeseen events (e.g., bedrock in trench, dam washout) cause the strategies set out in this plan to be insufficient or inappropriate to meet the objective, EGI is expected to respond in a timely manner with all reasonable measures consistent with safety, to prevent, counteract or remedy any effects on fish or fish habitat that may result. DFO is to be notified as soon as practical. **NOTE:** There is a Duty to Notify and Duty to Take Corrective Measures to report death of fish or a HADD of fish habitat to DFO.

Spill reporting procedures established by EGI shall be used to report any unexpected discharge of silt or sediment or other deleterious substance at the water crossing. At a minimum contact the Environmental Advisor at **1-855-336-2056.**

If DFO determines that long term damage to fish habitat has occurred due to failure of this plan to control sediment, a restoration plan will be developed by EGI, in consultation with and approval from DFO for implementation by EGI.



Detailed Construction Sequence - Dam and Pump Crossings

In general terms, the following sequence of construction and mitigation measures will be followed at all "dam and pump" type water crossings.

1. Mark out and maintain limits of authorized work areas with fencing or flagging tape to avoid unnecessary disturbance of vegetation. Ensure equipment operators working on the crossing have been briefed about this plan and the measures needed to protect water quality. Install pre-work sediment control measures, including silt fences and measures to contain excavated spoil and backfill. All necessary equipment and materials to build the dams and to pump water must be on site or readily available prior to commencing in-water construction. Pipe shall be strung, welded and coated ready for installation prior to watercourse trenching.
2. If possible, install pumps in a natural pool upstream of the excavation. Excavate temporary sump within right-of-way if no natural pool exists. Check pump operation to equalize flow and ensure water intakes used in fish bearing waters are screened in accordance with DFO Code of Practice. Rip rap, stilling wells, filter cloth, gravel filters or other mitigation measures will be used at the upstream inlet of the pump to prevent suspension of sediment from pumping when necessary. Rip rap and rock check dams will be used when necessary to prevent scouring and erosion at the pump outlet. Pump discharge lines shall be installed to keep pumped water from coming into contact with soil on the construction site.
3. Dams are to be made of steel plate, inflatable rubber dam (aquadam), pea stone bags, or metre bags and constructed so that sediment is not introduced to the watercourse. An impervious membrane is to be incorporated into the dam if necessary, to control seepage flow. Dams may need keying into the banks and streambed. Install downstream dam only if needed to keep the trench area dry. Dewater the area between dams and for fish bearing streams, conduct fish recovery operations. All pump water is to be discharged well away (minimum 30 m) from the creek and through a sediment trap to prevent reentry of sediment into the watercourse.
4. Excavate trench through plugs and streambed as quickly as possible, re-positioning discharge hose as necessary. Lower the pipe in the trench and backfill immediately. During pumping activities, monitor flow upstream and downstream to ensure normal flow levels. The top 300 mm of trench backfill is to be clean rock, cobble material or native streambed material. EGI is to use granular backfill if the native material is not suitable. Any excess material is to be disposed of above the high-water mark in an approved location and stabilized to prevent reentry into the watercourse. Work is to be completed as quickly as possible.
5. Restore, stabilize and reclaim bed and banks of watercourse to preconstruction profiles and protected with erosion resistant material compatible with flow velocity (e.g., coarse gravel or rip rap) to the maximum extent possible between dams. Do not use erosion control matting in the bankfull channel. All construction material (e.g. dams, rip rap, pea stone bags) will be removed from the site to an approved location. Removal of all materials will be done in a manner to prevent entry of sediment to the watercourse. The downstream dam will be removed first. Keep pump running until normal flow is resumed. Complete bank trimming and erosion protection. If pea stone bags are used for the dams, place and remove by hand to avoid equipment breaking bags.
6. Site stabilization, which includes control of stormwater drainage using a combination of methods such as silt fences, erosion blankets, diversion berms and check dams etc. is to be completed immediately upon trench backfilling or as directed by the Environmental Advisor. If stabilization is delayed, short term erosion control measures will be used to prevent sediment entering the watercourse. Material accumulated at silt fences is to be removed or stabilized in place. Silt fences are to be removed when the site is permanently stabilized.
7. Vegetate any disturbed areas by planting and seeding native trees, shrubs or grasses and cover such areas with mulch or erosion control matting to prevent soil erosion and to help seeds germinate.
8. If post-construction monitoring reveals erosion problems, remedial work is to be undertaken as quickly as possible.

NOTES

ENBRIDGE

LOCATION

All DAM AND PUMP WATER CROSSINGS IN ONTARIO

DRAWING TITLE

GENERIC SEDIMENT CONTROL PLAN DAM AND PUMP WATER CROSSINGS

SCALE NTS	**DATE** DECEMBER 2021
FILE No.	**PROJECT No.**

DRAWN GTH	**CHECKED**	**DRAWING**	**REV** 0

APPROVED

C.4 Notice of Environmental Study Commencement and Information Sessions Letters

DRAFT

Enbridge Gas Inc.
Notice of Environmental Study Commencement and Information Session
Dawn Parkway System Renewal Project: Dawn to Enniskillen

Enbridge Gas Inc. (Enbridge Gas) will be conducting an Environmental Study for the Dawn Parkway System Renewal Project. Through its integrity management program, Enbridge Gas identified several proactive measures to maintain capacity, safety, and reliability along the Dawn Parkway Transmission System, ranging from targeted segment replacements to broader line upgrades.



For the Environmental Study, Enbridge Gas is considering the abandonment, removal, and replacement, where practicable of approximately 16.7 km of NPS 26-inch diameter natural gas pipeline between its existing Dawn Natural Gas Storage and Transportation Facility (the Dawn Hub) located at Bentpath Line and Dawn Valley Road in the Township of Dawn-Euphemia, and the existing Enniskillen Station located north of Oil Springs Line on Oakdale Road in the Township of Enniskillen. The removed pipeline would be replaced with a new NPS 48-inch diameter natural gas pipeline.

Consultation and engagement with Indigenous communities, landowners, government agencies, and other interested persons is an integral component of the Project's planning process. As such, an Information Session will be held:

In-Person Information Session:
Oil Springs Youth Centre
August 27, 5:00 PM to 8:00 PM
4517 Victoria Street
Oil Springs, ON N0N 1P0

Virtual Information Session (Online):
August 17 to August 31, 2026
https://www.solutions.com/Dawn-EnniskillenES

A copy of the consultation materials from the In-Person Information Session will be available for viewing on the Enbridge Gas project webpage provided below. A questionnaire will also be available as part of the Information Session, and you will have the opportunity to provide comments or ask questions about the proposed Project. Input received may be used to develop site-specific environmental protection and mitigation measures for the Project. Input and comments about the Project are requested by September 15, 2026.

Enbridge Gas has retained Stantec Consulting Ltd. (Stantec) to undertake the Environmental Study for the Project. The Environmental Study will fulfill the requirements of the Ontario Energy Board's (OEB) *"Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023)"*. It is anticipated that an Environmental Report for the Project will be completed in Q1 2027, after which Enbridge Gas plans to file a Leave to Construct application for the Project with the OEB. The OEB's approval would be required before construction of the proposed Project can proceed. If approved, construction is anticipated to begin in the spring of 2028.

For any questions, comments, or input regarding the Environmental Study, please contact:

Mark Knight
Environmental Planner
Stantec Consulting Ltd.
Telephone: (519) 585-7430
Email: Dawn-EnniskillenES@stantec.com
Project Webpage: Enbridgegas.com/dawnparkwayrenewal

Stantec

ENBRIDGE
Life Takes Energy®

Stantec Consulting Ltd.
100-300 Hagey Boulevard
Waterloo, ON N2L 0A4

August 4, 2026

«Attention1»
«Landowner11», «Landowner22», «Landowner33», «Landowner44»
«Mailing_Address1»
«Town1» «Prov» «Postal_Code»

Dear «Attention1», «Landowner11», «Landowner22», «Landowner_3», «Landowner_4»

Reference: Enbridge Gas Inc. – Dawn Parkway System Renewal Project: Dawn to Enniskillen Notice of Environmental Study Commencement and Information Sessions

Enbridge Gas Inc. (Enbridge Gas) will be conducting an Environmental Study for the Dawn Parkway System Renewal Project: Dawn to Enniskillen. Through its integrity management program, Enbridge Gas identified several proactive measures to maintain capacity, safety, and reliability along the Dawn Parkway Transmission System, ranging from targeted segment replacements to broader line upgrades.

For the Environmental Study, Enbridge Gas is considering the abandonment, removal, and replacement, where practicable of approximately 16.7 km of Nominal Pipeline Size (NPS) 26-inch diameter natural gas pipeline between its existing Dawn Natural Gas Storage and Transportation Facility (the Dawn Hub) located at Bentpath Line and Dawn Valley Road in the Township of Dawn-Euphemia, and the existing Enniskillen Station located north of Oil Springs Line on Oakdale Road in the Township of Enniskillen. The removed pipeline would be replaced with a new NPS 48-inch diameter natural gas pipeline.

Enbridge Gas has retained Stantec Consulting Ltd. (Stantec) to undertake the Environmental Study for the Project. The Environmental Study will fulfill the requirements of the Ontario Energy Board's (OEB) *"Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Projects and Facilities in Ontario, 8th Edition (2023)"*. It is anticipated that an Environmental Report for the Project will be completed in Q1 2027, after which Enbridge Gas plans to file a Leave to Construct application for the Project with the OEB. Following the OEB's approval, construction of the proposed Project, could proceed as early as spring of 2028.

You are receiving this letter because the pipeline route is located on or in proximity to your property and you are invited to provide comments regarding the proposed Project. Your comments will be incorporated into the Environmental Study and related report. An Environmental Report, summarizing the results of the Environmental Study, will accompany Enbridge Gas' application to the OEB. The Environmental Report for the proposed Project is anticipated to be completed and submitted to the OEB as early as Q1 2027 as part of the overall Project application.

Reference: **Enbridge Gas Inc. – Dawn Parkway System Renewal Project: Dawn to Enniskillen Notice of Environmental Study Commencement and Information Sessions**

Engagement with Indigenous communities, landowners, government agencies, the local municipality, members of the public, and other interested persons is an integral component of the planning process. For this Project, both an In-Person Information Session and Virtual Information Session will be held. Input received will be used to confirm the Preferred Route and to develop site-specific environmental protection or mitigation measures for this Project. A questionnaire will be available as part of the Information Sessions, and you will have the ability to submit comments and/or questions about the proposed Project.

In-Person Information Session:
Oil Springs Youth Centre
August 27, 5:00 PM to 8:00 PM
4517 Victoria Street
Oil Springs, Ontario N0N 1P0

Virtual Information Session (online):
August 17- August 31, 2026
https://www.solutions.com/Dawn-EnniskillenES

We kindly request that you provide any initial input and comments regarding the Project by September 15, 2026. Please let us know if you are unable to respond by this date but are interested in participating in the consultation process for the Project.

If you have questions or concerns regarding the Project, please do not hesitate to email the Project team at **Dawn-EnniskillenES@stantec.com** or contact the undersigned.

Regards,

Stantec Consulting Ltd.



Mark Knight, M.A., RPP, MCIP
Stantec Consulting Ltd.
Principal, Environmental Planner
Assessment and Permitting
Phone: (519) 585-7430

Attachment: Notice of Environmental Study Commencement

Cc: Ryan Park, Specialist, Environment, Enbridge Gas Inc.

Enbridge Gas Inc.
50 Keil Drive North
Chatham, ON N7M 5M1

August 6, 2026

Dear Neighbour,

Re: Enbridge Gas Inc. (Enbridge Gas) – Dawn Parkway System Renewal Project: Dawn to Enniskillen

Enbridge Gas is writing to inform you that we will be conducting an Environmental Study for the Dawn Parkway System Renewal Project. Enbridge Gas is considering the replacement of the existing NPS 26 inch diameter natural gas pipeline between the existing Enbridge Gas Dawn Natural Gas Storage and Transportation Facility (the Dawn Hub) located at Bentpath Line and Dawn Valley Road in the Township of Dawn-Euphemia, and the existing Enbridge Gas Enniskillen Station located north of Oil Springs Line on Oakdale Road in the Township of Enniskillen (Dawn-Enniskillen) with the construction of a new NPS 48 inch diameter natural gas pipeline.

The Dawn Parkway Transmission System is a critical component of Enbridge Gas's existing natural gas transmission network and one of the most important natural gas transportation routes in Ontario. Its continued operation helps ensure a steady and reliable supply of natural gas for homes, businesses, and industry. The system connects the Dawn Operations Centre in St. Clair Township, the Parkway Compressor Station in the City of Mississauga, and the Kirkwall Valve Site in the City of Hamilton, and forms part of the broader transmission network serving Ontario.

This potential project is in the early stages of development, and the exact routing and footprint will be determined as the detailed design and Environmental Study progresses. As the field studies commence, you may notice an increased presence of field representatives in your community.

We are committed to engaging openly and respectfully with landowners and stakeholders within the communities we operate. Where potential land access or routing of the pipeline is proposed, we will be reaching out to you in the near future. A land representative will be in contact with you regarding land access if required for upcoming survey work and environmental studies prior to their commencement. Their contact details are also provided in this letter for your reference.

The details for the upcoming Information Session are provided below:

In-Person Information Session:

Oil Springs Youth Centre

August 27, 5:00 PM to 8:00 PM

4517 Victoria St

Oil Springs, ON N0N 1P0

Virtual Information Session (Online):

August 17 to August 31, 2026

https://www.solutions.ca/Dawn-EnniskillenES

Should you have any questions regarding this letter or about the Dawn Parkway System Renewal Project, please contact:

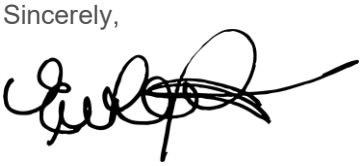
Rick Plant - Field Land Agent, Vertex Professional Services Ltd.

Phone Number: 226-868-9810

Email: rplant@vertex.ca

For more information, please refer to the 'Notice of Environmental Study Commencement and Information Session' enclosed with this letter, or visit our Project Website at https://www.enbridgegas.com/about-enbridge-gas/projects..

Sincerely,



Erin Whillans

Sr Advisor, Lands and Right of Way

Enbridge Gas Inc.
Notice of Environmental Study Commencement and Information Session
Dawn Parkway System Renewal Project: Dawn to Enniskillen

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Consultation and engagement with Indigenous communities, landowners, government agencies, and other interested persons is an integral component of the Project's planning process. As such, an Information Session will be held:

In-Person Information Session:
Oil Springs Youth Centre
August 27, 2026, 5:00 PM to 8:00 PM
4517 Victoria Street
Oil Springs, ON N0N 1P0

Virtual Information Session (Online):
August 17 to August 31, 2026
https://www.solutions.ca/Dawn-EnniskillenES

A copy of the consultation materials from the In-Person Information Session will be available for viewing on the Enbridge Gas project webpage provided below. A questionnaire will also be available as part of the Information Session, and you will have the opportunity to provide comments or ask questions about the proposed Project. Input received may be used to develop site-specific environmental protection and mitigation measures for the Project. Input and comments about the Project are requested by September 15, 2026.

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For any questions, comments, or input regarding the Environmental Study, please contact:

Mark Knight
Environmental Planner
Stantec Consulting Ltd.
Telephone: (519) 585-7430
Email: Dawn-EnniskillenES@stantec.com
Project Webpage: Enbridgegas.com/dawnparkwayrenewal

Stantec

ENBRIDGE
Life Takes Energy

Stantec Consulting Ltd.
100-300 Hagey Boulevard
Waterloo, ON N2L 0A4

August 10, 2026

«NAMES»
«MAILING_ADDRESS»
«TOWN» «PROV» «POSTAL_CODE»

CORRECTION

Dear «TITLE» «NAMES»,

Reference: Enbridge Gas Inc. – Dawn Parkway System Renewal Project: Dawn to Enniskillen Notice of Environmental Study Commencement and Information Sessions

Please note that materials dated August 4, 2026 were previously distributed that included the incorrect web address to access the Virtual Information Session. **Please disregard the previous Notice and Letter and use the attached corrected materials.** The correct web address is https://www.solutions.ca/Dawn-EnniskillenES, which can be used to access the online materials from August 17, 2026 to August 31, 2026.

If you have questions or concerns regarding the Project, please do not hesitate to email the Project team at **Dawn-EnniskillenES@stantec.com** or contact the undersigned. Thank you for your understanding.

Sincerely,

Stantec Consulting Ltd.

Mark Knight, M.A., RPP, MCIP
Stantec Consulting Ltd.
Principal, Environmental Planner
Assessment and Permitting
Phone: (519) 585-7430

Attachment: **CORRECTED Notice of Environmental Study Commencement**
CORRECTED Enbridge Gas Inc. Landowner Letter

Cc: Ryan Park, Specialist, Environment, Enbridge Gas Inc.

C.5 Newspaper Notices

DRAFT



Lawrence House Centre for the Arts in Sarnia. *OBSERVER FILE PHOTO*

Lawrence House literary blog seeks Indigenous contributors

PAUL MORDEN

An upcoming edition of Uproar, the Lawrence House Centre for the Arts online literary blog, is seeking submissions by Indigenous writers and artists.

The edition, set for release Sept. 30, celebrates Indigenous writers and artists of all ages with an emphasis on local residents.

"We're trying to get a voice back for Indigenous people," and literature and the arts are among the best places for that to happen, said Rhonda Melanson, a member of the literary committee at the Lawrence House in Sarnia.

"They've been silenced in the past and now there's a need to have those voices come forth," she said.

Aug. 30 is the deadline for submissions. Information can be found online at lawrencehouse.ca/uproar.

"We're hoping to get as many local (contributors) as we can," Melanson said.

"We're really open to the types of submissions . . . basically anything that's telling the story," she said. "Whether that's through a poem, short story or through a recollection."

The title of the upcoming blog edition is Sometimes Hollowed Bones Do Creator's Work: A Gathering of Voices.

"It's a great title," Melanson said. "Stacey Nahdee came up with that."

Nahdee, a cultural practitioner from Bkejwanong territory, is a special facilitator for the project and Michael Eshkibok is guest editor.

"This edition of Uproar highlights the necessity of becoming hollow bones so Creator can work through us, as expressed through family and community history, written and oral tradition, culture and ceremony, language and art, song and dance; while honoring grief, loss, resiliency, wisdom, laughter, peace and harmony," Nahdee said in a statement.

"We're really willing to work with people and make sure their voices get heard," Melanson said.

The edition is being released on the National Day for Truth and Reconciliation in Canada.

Following release of the edition, an open mic event is planned for Oct. 4 in the Turret Room at the Lawrence House hosted by its literary committee.

"We want people who contributed to the edition to come out and share their works, and also anyone else in the audience who is Indigenous and would like to add their voices," Melanson said.

Uproar was launched in 2020 and has gone through a few variations since then, settling recently on two editions a year reflecting issues impacting the community.

"We really want to create conversation," Melanson said.

pmorden@postmedia.com

Applications accepted for Lambton IPM 91 scholarships

PAUL MORDEN

A Lambton County scholarship created with local proceeds from the 1991 International Plowing Match is helping keep the spirit of community involvement alive and well.

While the scholarship created 34 years ago by local organizers of the farm event held near Petrolia takes into account marks and financial need, volunteering and community involvement are half of the scoring criteria trustees use to select three annual recipients of the $2,000 awards.

"The ideal applicant is very involved in their community," said Bryan Boyle, the sole remaining original trustee for the scholarship fund that began operating a year after the 1991 plowing match was held in Enniskillen Township.

"Historically, they've also been strong academically, almost without exception . . . but high marks will not do it on its own," he said.

Applicants able to demonstrate a variety of community involvement, volunteering and charity work tend to carry the day, Boyle said.

Sept. 15 is the deadline to apply for the scholarship this year. Information is available by contacting Boyle by email at bryan@bryanboyle.ca.

"Typically, we'd have 10 good ones to pick from," he said.

The scholarships are available for students from Lambton County entering their second year of college, university or other post-secondary training.

About $172,000 has been awarded since the scholarships began in 1992.

"Any time you can keep something going like that, it says something good," Boyle said.

Early recipients of the scholarship are now entering middle age, he said.

"There were identified as leading members of their community then and they've sure lived up to it," Boyle said about past recipients.

They include farmers, engineers, veterinarians, doctors, scientists, and other occupations, Boyle said.

"We never limited it to agriculture only," he said.

Individual scholarships began at $1,000 but several years ago the fund's trustees increased the amount to $2,000.

Currently, the fund has four trustees who include Barbara McNeil, daughter of Leonard McNeil, who was chairperson of the local plowing match committee in 1991.

Boyle said he and Leonard McNeil promoted the idea of establishing a scholarship with about $125,000 in profit from the 1991 event that came to the local volunteers.

That was instead of the tradition of awarding honorariums to some volunteers and donating the rest to charity, Boyles said.

"Our thought was what better way to keep a lasting legacy that to give it each year to deserving young people," he said.

Three decades later, the scholarship fund has about $100,000 invested to generate income for the annual awards.

"We have no signs of running out of money, at this rate," Boyle said. "We hope it will continue on."

The decision made following the 1991 match to create the scholarship fund meant its local committee members "were truly volunteers," although some of the profits were used for a large dinner and celebration for several hundred local residents involved in hosting the event, he said.

This year's recipients are expected to be announced in October.

Lambton County was awarded the 2027 International Plowing Match and Farm Expo in April 2025 by the Ontario Plowmen's Association with plans for the event to be held at Bridgen Fairgrounds, but in early July, some members of a local committee that has been putting plans in place and recruiting volunteers said they were withdrawing.

Following that, the OPA said it was committed to holding the match in Lambton in 2027 and planned to meet with stakeholders in the 2027 event, including the local committee, sponsors, partners, and the broader community.

The association didn't respond immediately to a request Wednesday for comment about its plans for 2027.

pmorden@postmedia.com

Enbridge Gas Inc.
Notice of Environmental Study Commencement and Information Session
Dawn Parkway System Renewal Project: Dawn to Enniskillen

Enbridge Gas Inc. (Enbridge Gas) will be conducting an Environmental Study for the Dawn Parkway System Renewal Project. Through its integrity management program, Enbridge Gas identified several proactive measures to maintain capacity, safety, and reliability along the Dawn Parkway Transmission System, ranging from targeted segment replacements to broader line upgrades.

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Consultation and engagement with Indigenous communities, landowners, government agencies, and other interested persons is an integral component of the Project's planning process. As such, an Information Session will be held:

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For any questions, comments, or input regarding the Environmental Study, please contact:

Mark Knight
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Telephone: (519) 585-7430
Email: Dawn-EnniskillenES@stantec.com
Project Webpage: Enbridgegas.com/dawnparkwayrenewal

Stantec

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Life Takes Energy

LISTEN



A map of the existing and proposed Dawn Parkway System. Map courtesy of Enbridge Gas.

SARNIA | NEWS

Enbridge Gas launches public consultations for Dawn Parkway System Renewal Project

BY MELANIE IRWIN

AUGUST 27, 2026 - 6:05AM

Enbridge Gas wants your feedback on a new natural gas pipeline being considered as part of the Dawn Parkway System Renewal Project.

The proposed project would involve the removal of nearly 17 kilometres of pipeline between the existing Enbridge Gas Dawn Natural Gas Storage and Transportation Facility (the Dawn Hub) located at Bentpath Line and Dawn Valley Road in the Township of Dawn-Euphemia, and the existing Enbridge Gas

The current 26-inch pipeline would be replaced in the existing easement with a 48-inch pipeline; although new permanent easement may be required.

Enbridge said the replacement will help maintain capacity, safety, and reliability.

Public consultations are underway as part of the Environmental Study process and feedback is being sought from Indigenous communities, landowners, government agencies, and other interested persons.

An in person information session is being held on Thursday, August 27 at the Oil Springs Youth Centre from 5 p.m. to 8 p.m.

Virtual sessions are also being offered until August 31.

Enbridge asks that input and comments be made by September 15, 2026.

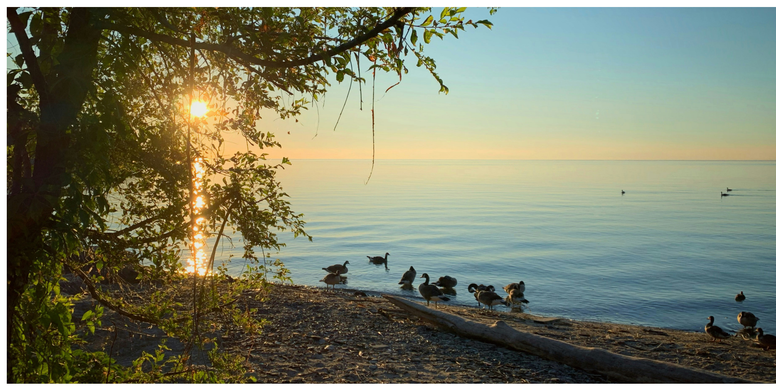
The company anticipates an environmental report will be completed in the first quarter of 2027, followed by a regulatory review by the Ontario Energy Board.

If approved, construction is anticipated to begin in the spring of 2028.

ADVERTISEMENT

C.6 Information Session Display Boards and Exit Questionnaire

DRAFT



Dawn Parkway System Renewal Project: Dawn to Enniskillen

Information Session: Thursday, August 27, 2026

Location: Oil Springs Youth Centre
4517 Victoria St, Oil Springs, ON N0N 1P0

Time: 5:00 PM to 8:00 PM

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Dawn Parkway System Renewal Project: Dawn to Enniskillen Information Session



Enbridge Gas' Commitment

Enbridge Gas is dedicated to engaging with Indigenous communities, landowners, agencies, interest groups, and community members. They commit to providing up-to-date information in an open, honest, and respectful manner while carefully considering your 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.

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Dawn Parkway System Renewal Project: Dawn to Enniskillen Information Session



Purpose of the Information Session

- Consult with Indigenous communities and engage with landowners, members of the public, and regulatory authorities regarding the proposed pipeline route, potential impacts, and proposed mitigation measures.
- Provide an opportunity for these individuals and the public to review the proposed Project, ask any questions, and/or provide comments to representatives from Enbridge Gas and Stantec.

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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 are focused on finding common goals through open dialogue.

The Indigenous engagement program is based on adherence to the OEB's 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; and
- Aligning Enbridge's interests with those of Indigenous peoples through meaningful, direct Indigenous economic activity in projects corresponding to community capacity and project needs, where possible.

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Dawn Parkway System Renewal Project: Dawn to Enniskillen Information Session



Project Overview

- Enbridge Gas is considering the abandonment, removal, and replacement, where practicable of approximately 16.7 km of NPS 26-inch diameter natural gas pipeline between its existing Dawn Natural Gas Storage and Transportation Facility (the Dawn Hub) located at Bentpath Line and Dawn Valley Road in the Township of Dawn-Euphemia, and the existing Enniskillen Station located north of Oil Springs Line on Oakdale Road in the Township of Enniskillen. The removed pipeline would be replaced with a new NPS 48-inch diameter natural gas pipeline.
- The Project is driven by the need to restore capacity, due to identified integrity features, and to ensure the continued safe and reliable operation of the existing system.
- The proposed construction activities follow the existing Dawn Parkway Transmission System, therefore, there are no alternative routes for the Project.

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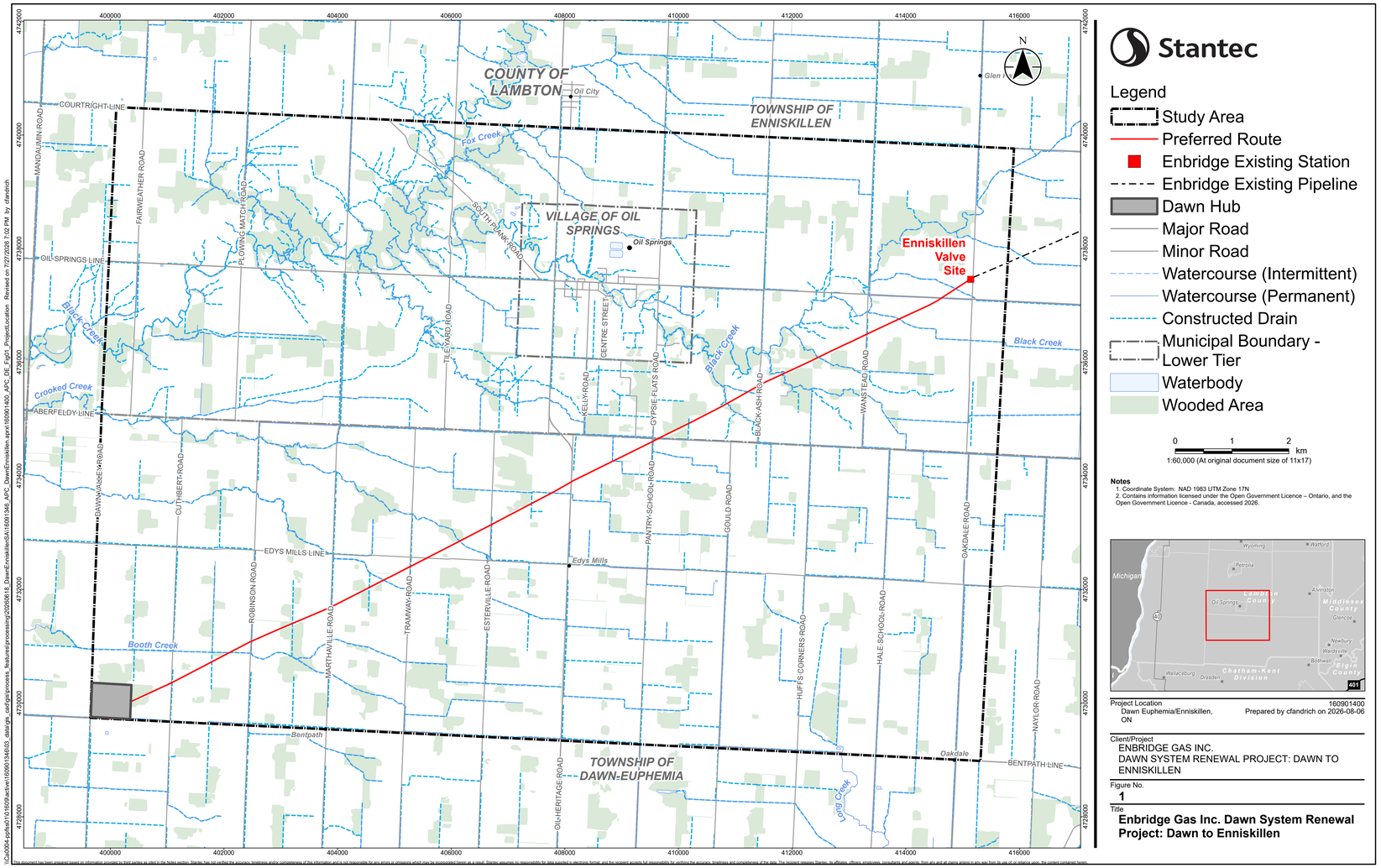
Pipeline Route

- This map does not represent the final Project scope/design. Enbridge Gas will undertake detailed design to determine the exact location of the running line, permanent easement, temporary land use requirements and road/ watercourse crossing methods. Detailed design will also be influenced by supplemental studies (including environmental studies) and site-specific requests from Indigenous communities, landowners and agencies.
- An interactive map of the pipeline route can be accessed at: https://www.solutions.ca/Dawn-EnniskillenES



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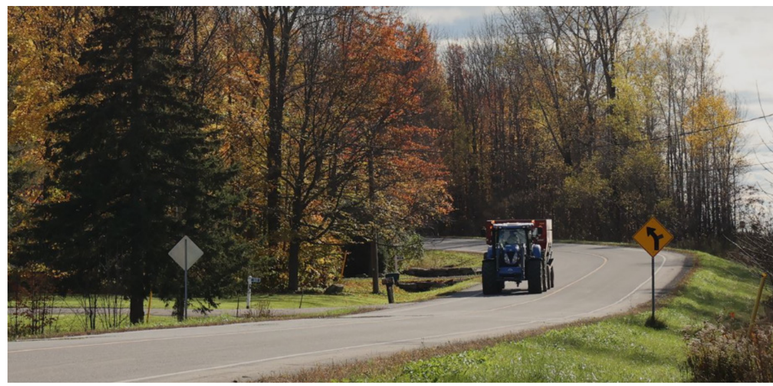

Environmental Study Process

As part of the planning process, Enbridge Gas has retained Stantec to undertake an Environmental Study for the project. The Environmental Study will fulfill the requirements of the Ontario Energy Board's (OEB) "*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.

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OEB Review and Approval Process

The Environmental Report (ER) for the study is scheduled to be completed in Q1 2027. Once complete, Enbridge Gas plans to file a Leave to Construct (LTC) application with the Ontario Energy Board (OEB) regarding the Project. The LTC application will include the following information about the Project:

- The need for the project
- Environmental Report and mitigation measures
- Project costs and economics
- Pipeline design and construction
- Land requirements
- Consultation with Indigenous communities

The OEB's approval is required before construction of the proposed Project can proceed. If approved, construction could begin in spring 2028.

Additional information about the OEB process can be found online at: www.oeb.ca

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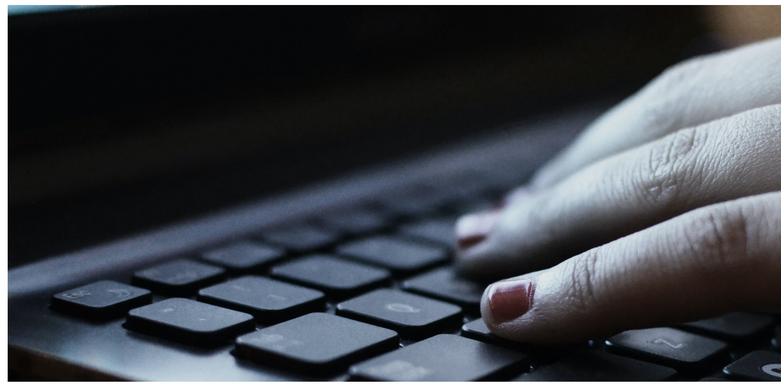

Consultation and Engagement

- Consultation and engagement are key components of the ER.
- At the outset of the Project, Enbridge Gas submits a Project Description to the Ministry of Energy and Mines (MEM). Upon review, the MEM determines the 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 to identify and address Indigenous communities' and stakeholders' concerns, provides information about the Project to the stakeholders, and allows participation in the Project's review and development process.
- Input from consultation and engagement will help to finalize the pipeline route and mitigation plans for the Project.
- Once the LTC application is made to the OEB, any party with an interest in the Project, including members of the public, can participate in the process.

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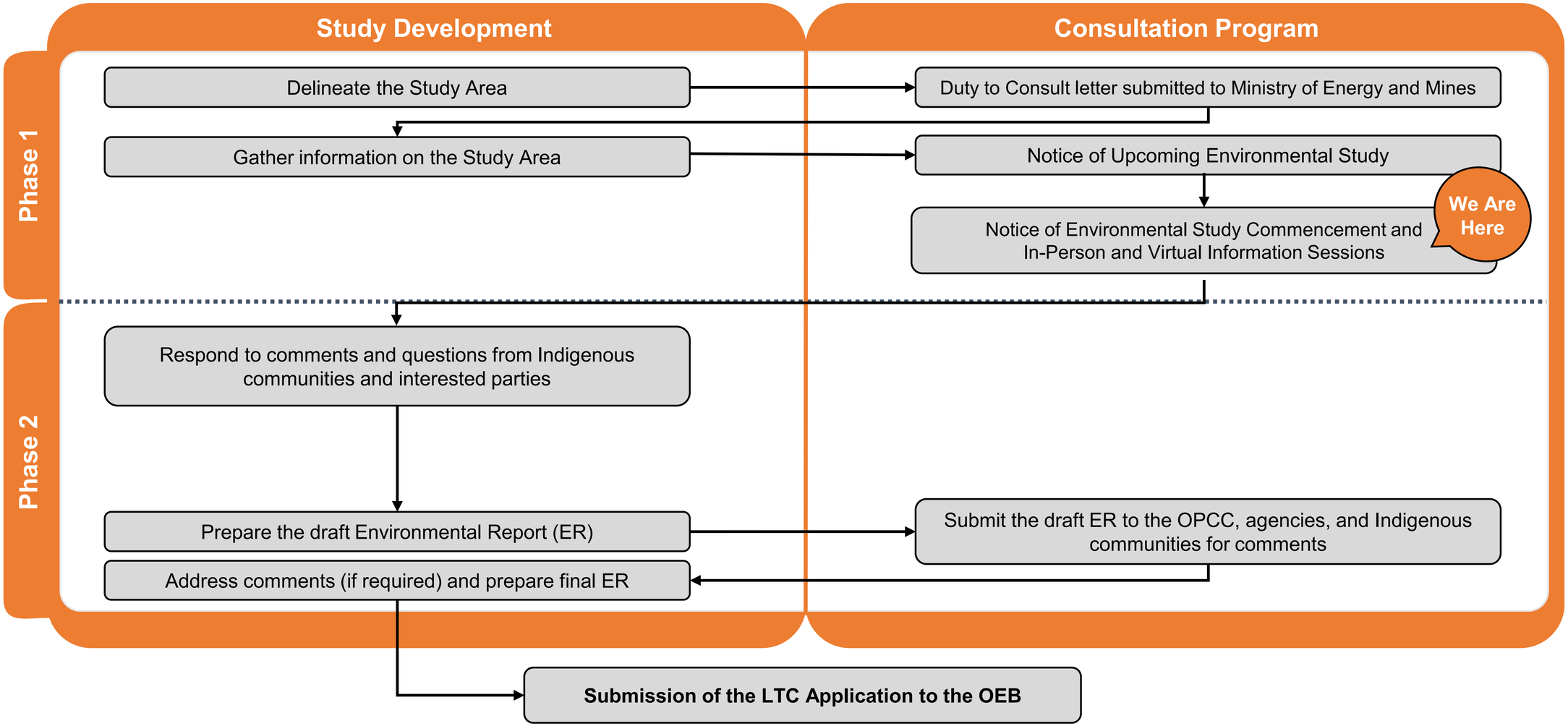
Environmental Study Process



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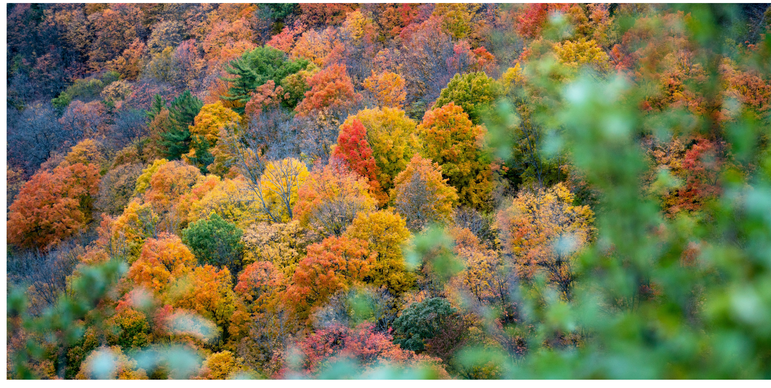

Environment, Health and Safety Policy

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.
- The goal is to have no safety incidents and to 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.

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Pipeline Design

The natural gas pipeline is designed to meet or exceed the regulations of the Canadian Standards Association *(Z662 Oil and Gas Pipeline Systems)* and the applicable regulations of the Technical Standards and Safety Association (TSSA).

Pipeline Safety and Integrity

Many steps are taken to ensure the safe, reliable operation of the Enbridge Gas network of natural gas pipelines, including:

- Design, construct, and test pipelines to meet or exceed requirements set by industry standards and regulatory authorities.
- Continuously monitor the entire network.
- Perform regular field surveys to detect leaks and confirm that corrosion prevention methods are working as intended.

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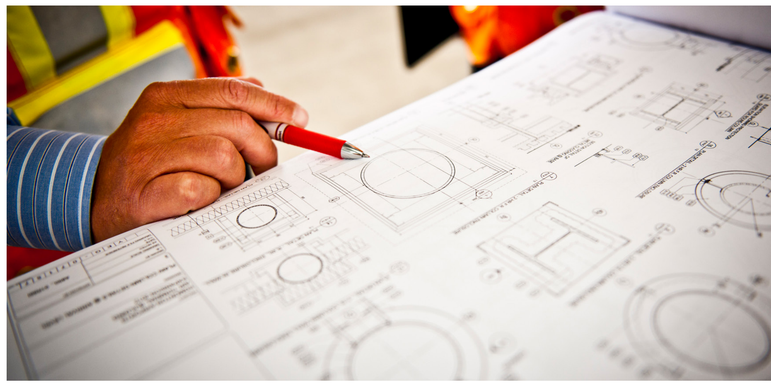

Access and Land Requirements

The proposed pipeline will require access agreements, permanent easement, or temporary working space during construction.

Enbridge Gas has a comprehensive Landowner Relations Program that utilizes dedicated Project Land Agents who would:

- Provide direct contact and act as a liaison between landowners and Enbridge Gas.
- Be available to landowners during the length of the Project and throughout construction activities.
- Act as a point of contact for concerns and questions.
- Address any legal matters relating to the temporary use of property, access agreements, permanent easements, and impacts or remedies to property.

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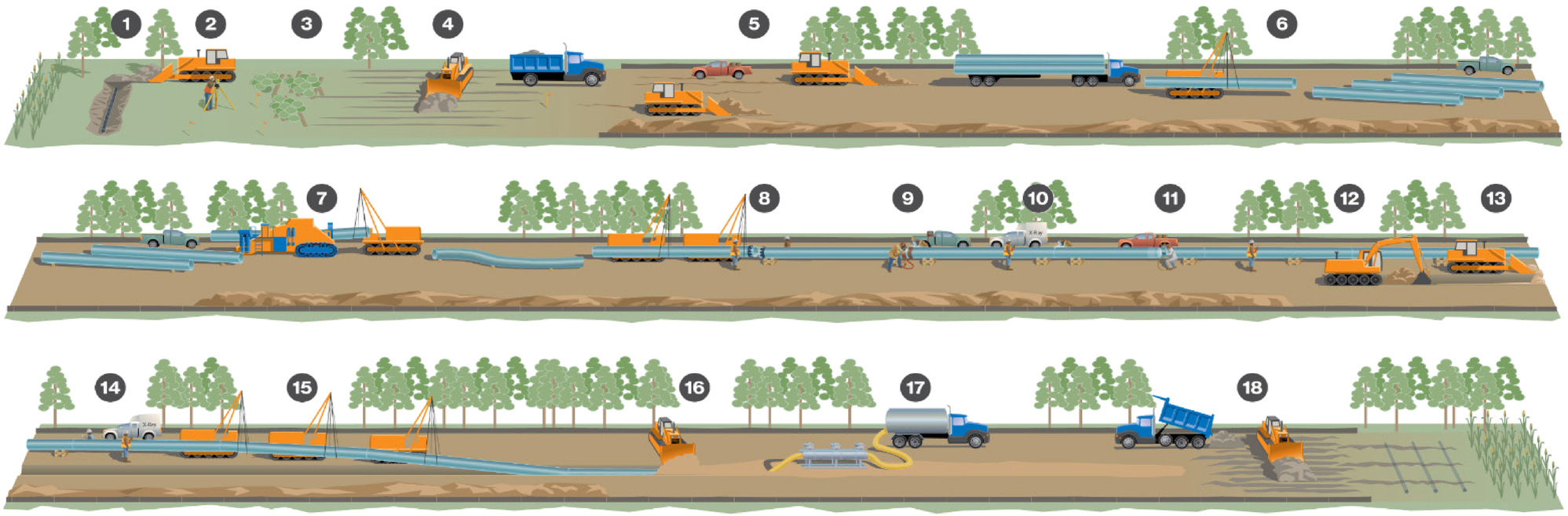
Constructing an Enbridge Gas Pipeline (Open Trenching)



1. Pre-construction tiling
2. Surveying and staking
3. Clearing
4. Right-of-way topsoil stripping
5. Front-end grading
6. Stringing pipe
7. Field bending pipe
8. Lining-up pipe
9. Welding process
10. X-ray or ultrasonic inspection, weld repair
11. Field coating
12. Digging the trench
13. Padding trench bottom
14. Final inspection and coating repair
15. Lowering pipe
16. Backfilling
17. Hydrostatic testing
18. Site restoration and post-construction tiling

Note: The construction infographic is specifically for open-cut steel pipe installation and serves for reference purposes only.

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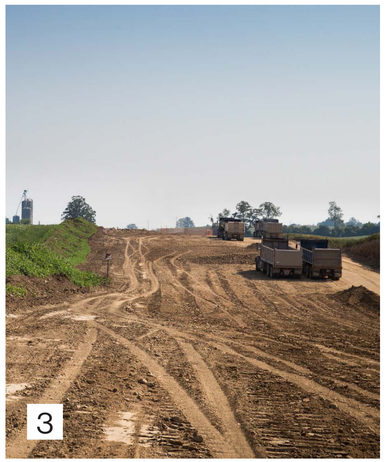
Constructing an Enbridge Gas Pipeline (Open Trenching, continued)

The pipeline construction process includes various procedures, as described in the previous slide.

- **Photo 1:** Shows a typical Enbridge Gas natural gas pipeline. This Project will involve the installation of a 48-inch diameter pipeline.
- **Photo 2:** Represents a typical trench that is created during the installation process.
- **Photo 3:** Represents the backfilled trench.
- **Photo 4:** Represents final clean-up and restoration. Once the pipeline has been installed, clean-up will involve the restoration of the easement, landowner property and other work areas.


1


2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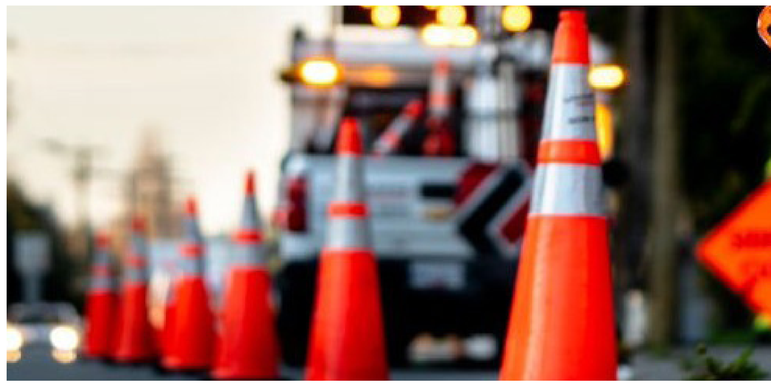

Socio-economic Features

The Project will be primarily constructed through the existing Enbridge Gas easement which borders private business areas, agricultural, and residential lands.

Potential Impacts

- Temporary increases in noise, dust and air emissions.
- Increased construction traffic volumes.
- Temporary impairment of the use of residential and/or commercial/industrial properties.
- Ornamental vegetation clearing along the pipeline route.

Example Mitigation Measures

- Provide access across the construction area.
- Restrict construction to daylight hours and adhere to applicable noise by-laws.
- Develop and implement a Traffic Control Plan.
- Place fencing at appropriate locations for safety.
- Ensure that a designated Enbridge Gas representative is available prior to and throughout construction.
- Implement dust control measures.
- Re-vegetation of cleared ornamental vegetation areas as needed (including seeding/planting).

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Cultural Heritage Resources

Cultural heritage features such as archaeological finds, heritage buildings, fences, and landscapes may be encountered during construction.

Detailed field surveys will be conducted by independent, third-party archaeologists and cultural heritage professionals prior to construction, if required.

Potential Impacts

- 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 any previously unknown archaeological or historical resources uncovered, or suspected to be uncovered, during excavation.

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Aquatic Resources

Enbridge Gas understands the importance of protecting watercourses, wetlands, and associated wildlife during construction and therefore will implement recognized mitigation measures to reduce possible environmental effects.

Potential Impacts

- Disruption or alteration to aquatic species and habitat and/or nuisance effects.
- Temporary reduction in surface water quality, fish habitat and alteration of waterflow during construction.
- Increased erosion, sedimentation, and turbidity resulting from removal of vegetation.

Example Mitigation Measures

- Conduct surveys of waterbodies.
- Obtain and abide by all agency permits and approvals.
- Install and maintain erosion and sediment control measures.
- Conform to fish timing window guidelines.
- For in-channel construction, protect aquatic species through methods such as flow diversion/dewatering, fish rescue planning etc., and manage sedimentation and turbidity.
- Restore and seed disturbed areas to establish habitat and reduce erosion.

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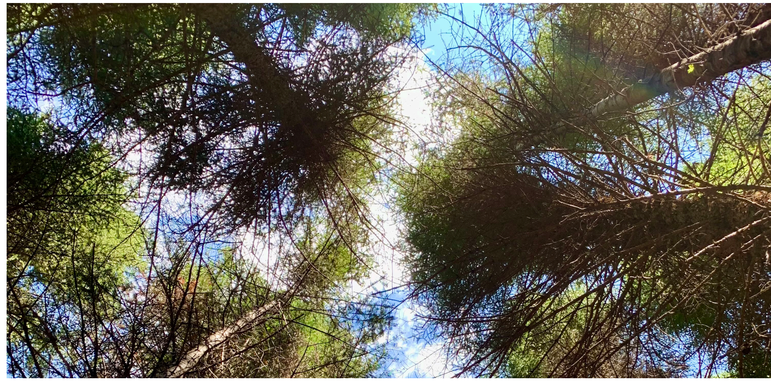

Terrestrial Resources

Natural environment features such as wildlife habitat and vegetated/wooded areas may need to be crossed during construction.

Potential Impacts

- Damage or removal of vegetation and wildlife habitat in the construction area.
- Disturbance and/or mortality to local wildlife.

Example Mitigation Measures

- Conduct surveys (including Species at Risk surveys) in advance of construction to determine opportunities for wildlife habitat to exist.
- Complete tree and vegetation removal outside of sensitive wildlife windows, to the extent possible.
- Clearly mark the construction area to avoid accidental damage.
- Restore and seed disturbed areas to establish habitat and reduce erosion, where appropriate.
- Secure all necessary permits and follow conditions of approval.

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Agricultural Soils

Enbridge Gas has established and tested measures to preserve the integrity of agricultural soils throughout the construction phase:

- A third-party soils specialist will determine topsoil depth prior to stripping and supervise activities so the proper depth of topsoil is removed and replaced.
- Topsoil will be stripped from the right-of-way and other work areas and stockpiled along the right-of-way. A separation will be maintained between topsoil and subsoil.
- Enbridge Gas will implement a wet soil shutdown protocol on agricultural lands to reduce soil structure damage.
- The subsoil on the stripped portion of the right-of-way will be chisel ploughed or sub-soiled during cleanup activities to alleviate compaction.
- Any agricultural drainage systems impacted by construction will be repaired.
- Enbridge Gas will develop and implement a sampling program on agricultural easements along the pipeline route for potential pests and/or diseases that are known to the area, where appropriate.
- The entire outside boundaries of the work-space necessary for construction of the Project will be staked at regular intervals.
- A post-construction cover crop program will be available to landowners.

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Maintaining Agricultural Drainage Systems

- Landowners will be contacted prior to construction to confirm the location and type of existing drains. Any future drainage plans will also be discussed with the landowner.
- Field tile will be temporarily re-routed during pre-construction activities where required to allow proper drainage during construction.
- Damaged and severed drains will be repaired following construction. After repair and prior to backfilling, landowners will be invited to inspect and approve the repair. Any on-going field tile issues resulting from pipeline construction will be addressed by Enbridge Gas as required.

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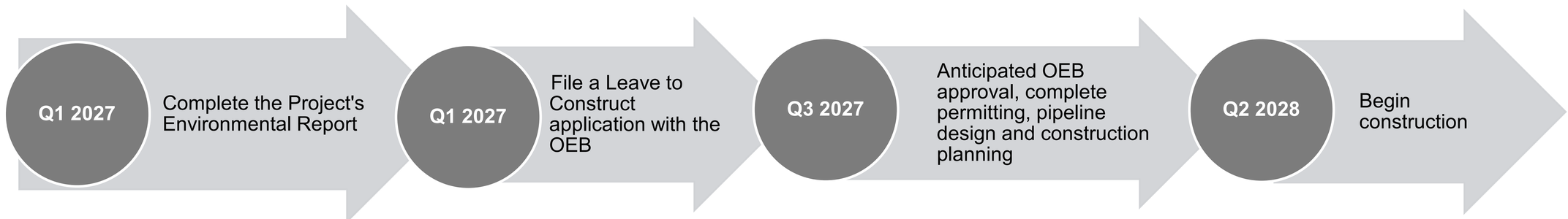
Next Steps

After this Information Session, Enbridge Gas intends to pursue the following schedule of activities:



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Thank-you!

On behalf of the Project Team, thank you for attending the session. Please complete a questionnaire by **September 15, 2026,** to ensure that your comments are considered as part of the Environmental Report.

Mark Knight
Principal, Environmental Planner
Assessment & Permitting

Stantec Consulting Ltd.
300 Hagey Blvd #100
Waterloo, ON N2L 0A4
Phone: (519) 585-3489

Email: **Dawn-EnniskillenES@stantec.com**

For more information about the proposed project, please visit the Enbridge Gas project website at:
Enbridgegas.com/dawnparkwayrenewal

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Dawn Parkway System Renewal Project: Dawn to Enniskillen
Information Session Questionnaire

Thank you for attending the Dawn Parkway System Renewal Project: Dawn to Enniskillen Information Session! We hope the session was informative and we would appreciate your comments and feedback. If you require any assistance or clarification while completing this questionnaire, please send an email to **Dawn-EnniskillenES@stantec.com**. If you have a question that requires a response, please fill out the **Contact Information** section at the end of this form, and a representative will respond as soon as possible.

Please complete this questionnaire by **September 15, 2026** for feedback to be considered as part of the Environmental Report submitted to the Ontario Energy Board (OEB). Your feedback is important and will also be considered during the planning and permitting stages of the project.

1. **What is your interest in this project?**

   ☐ Directly affected landowner
   ☐ Member of an Indigenous community
   ☐ Business owner
   ☐ Surrounding landowner
   ☐ Interested citizen
   ☐ Member of interest group
   ☐ Government official
   ☐ Other: _____

2. **What is your view of the proposed project?**

3. **Please indicate if the project will have any potential impacts to you, your property, or your business that you would like addressed** (i.e., access, noise, dust, traffic, etc.).

4. **Please identify any features along the pipeline route you feel are important to consider during the environmental study.**

Dawn Parkway System Renewal Project: Dawn to Enniskillen
Information Session Questionnaire

5. **Were you provided with an adequate understanding of the project as well as the Environmental Study and OEB review and approval process?**

   ☐ Yes

   ☐ No

6. **Do you require additional information about the project and/or planning and review/approval processes? Please note below:**

7. **Are you interested in receiving an electronic copy of the Environmental Report?**

   ☐ Yes

   ☐ No

8. **Did the content provided in the Information Session meet your needs?**

9. **How did you hear about the Information Session? Check all that apply:**

   ☐ Project Notification Letter

   ☐ Word of Mouth

   ☐ Social Media Post

   ☐ Newspaper

Dawn Parkway System Renewal Project: Dawn to Enniskillen
Information Session Questionnaire

10. **Do you have any questions or comments about this project, not addressed above, you would like to bring to our attention?**

_____
_____
_____
_____
_____
_____

Thank you for completing this questionnaire. If you would like to be informed of project updates, please provide us with your full contact information. If you have a question about the project that has not been addressed or for which you would like more information, please email us at: **Dawn-EnniskillenES@stantec.com.**

Contact Information

Name: _____
Address: _____
Email: _____
Phone: (____)_____

Any personal information (PI), such as names and addresses, collected by Enbridge Gas Inc. (EGI) on this comment form (or through the Information Session process) 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.

C.7 Project Correspondence

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Appendix C7 Project Correspondence

Consultation Correspondence

Agencies and Elected Officials

Comment Number	Stakeholder Group	Name	Method of Communication	Email	Phone Number	Date of Correspondence	Summary of Comment	Date Response Provided	Summary of Response
1	Elected Officials	Enbridge Gas	Email	N/A	N/A	July 3, 2026	Notice of Upcoming Environmental Study (NUES) circulated via email.	N/A	N/A
2	Agencies on the Contact List	Stantec	Email	N/A	N/A	July 6, 2026	NUES circulated via email.	N/A	N/A
3	St. Clair Region Conservation Authority (SCRCA)	Kelsey Oatman	Email	koatman@scrca.on.ca	519-245-3710 Ext. 221	July 9, 2026	Acknowledgement of NUES. Noted that portions of the study area are regulated by the SCRCA (map is linked in email). Some activities may require a permit prior to commencement of development; more information can be provided once plans are finalized.	N/A	N/A
4	Elected Officials	Enbridge Gas	Email	N/A	N/A	July 17, 2026, and July 21, 2026	NUES sent to all members on the contact list via email.	N/A	N/A
5	Lambton-Kent-Middlesex Member of Provincial Parliament (MPP)	Arlene Morell	Email	arlene.morell@pc.ola.org	519-245-8696	July 21, 2026	Acknowledgement of NUES on behalf of MPP Pinsonneault. In process of reviewing the file.	N/A	N/A
6	Agencies on the Contact List	Stantec	Email	N/A	N/A	August 4, 2026	Notice of Environmental Study Commencement (NESC) circulated via email.	N/A	N/A
7	St. Clair Region Conservation Authority	Jeff Vlasman	Email	jvlasman@scrca.on.ca	519-245-3710 ext. 254	August 5, 2026	Acknowledgement of NESC.	N/A	N/A

Comment Number	Stakeholder Group	Name	Method of Communication	Email	Phone Number	Date of Correspondence	Summary of Comment	Date Response Provided	Summary of Response
8	Select Agencies	Enbridge Gas	Email	N/A	N/A	August 6, 2026	NESC circulated via email.	N/A	N/A
9	Agencies on the Contact List	Stantec and Enbridge Gas	Email	N/A	N/A	August 7, 2026	Update provided noting that NESC circulated on August 4, 2026, had incorrect Virtual Information Session (VIS) web address. An updated NESC with correct VIS address was circulated via email.	N/A	N/A
10	Elected Officials	Enbridge Gas	Email	N/A	N/A	August 11, 2026 & August 13, 2026	NESC sent to members of provincial parliament.	N/A	N/A

Ontario Pipeline Coordinating Committee

Comment Number	Stakeholder Group	Name	Method of Communication	Email	Phone Number	Date of Correspondence	Summary of Comment	Date Response Provided	Summary of Response
1	OPCC Members on Contact List	Stantec	Email	N/A	N/A	July 6, 2026	NUES circulated via email.	N/A	N/A
2	Ontario Ministry of Agriculture, Food and Agribusiness	Ken Mott	Email	ken.mott@ontario.ca	613-290-9112	July 6, 2026	Ken thanked Stantec for providing the NUES and shared 2026 guidance material on Agricultural Impact Assessment for future use.	July 6, 2026	Stantec thanked Ken for sharing the materials.
3	Technical Standards and Safety Authority (TSSA)	Robin Yu	Email	ryu@tssa.org	416-734-3402	July 7, 2026	Robin stated that the TSSA does not have any comments at this time. Enbridge is to submit an Application for Review of Pipeline Project to TSSA.	N/A	N/A
4	Ministry of Citizenship and Multiculturalism	Anastasia Abrazhevich	Email	Anastasia.Abrazhevich@ontario.ca	437-240-2379	July 30, 2026	Acknowledgement of NUES. Advice on how to incorporate consideration of cultural heritage in pipeline projects. Recommendations: combined Stage 1-2 archaeological assessment (AA) for entire study area; minimum Stage 1 AA; make every attempt to complete an Existing Conditions and Preliminary Impact Assessment.	N/A	N/A
5	OPCC Members on Contact List	Stantec	Email	N/A	N/A	August 4, 2026	NESC circulated via email.	N/A	N/A

Comment Number	Stakeholder Group	Name	Method of Communication	Email	Phone Number	Date of Correspondence	Summary of Comment	Date Response Provided	Summary of Response
6	Technical Standards and Safety Authority (TSSA)	Andre Nurgel	Email	anurgel@tssa.org	416-734-3521	August 5, 2026	TSSA does not have any comments at this time. Enbridge is to submit an Application for Review of Pipeline Project to TSSA.	N/A	N/A
7	Ministry of Natural Resources (MNR)	Connor Broughton	Email	connor.broughton@ontario.ca	705-761-1713	August 6, 2026	Acknowledgement of NESC. MNR attached package for external proponent environmental assessments which provides information on the following: regulatory authority to issue authorizations, permits, licenses, approvals.	N/A	N/A
8	OPCC Members on Contact List	Stantec	Email	N/A	N/A	August 7, 2026	Update provided noting that NESC circulated on August 4, 2026, had incorrect Virtual Information Session (VIS) web address. An updated NESC with correct VIS address was circulated via email.	N/A	N/A
9	TSSA	Robin Yu	Email	ryu@tssa.org	416-734-3402	August 27, 2026	Thanked Stantec for providing the corrected web address. TSSA does not have any comments at this time. Enbridge is to submit an Application for Review of Pipeline Project to TSSA.	N/A	N/A

Municipal

Comment Number	Stakeholder Group	Name	Method of Communication	Email	Phone Number	Date of Correspondence	Summary of Comment	Date Response Provided	Summary of Response
1	Municipal Staff on Contact List	Enbridge Gas	Email	N/A	N/A	July 3, 2026	NUES circulated via email.	N/A	N/A
2	Municipal Staff on Contact List	Stantec	Email	N/A	N/A	July 6, 2026	NUES circulated via email.	N/A	N/A
3	County of Lambton	Matt Deline	Email	Matt.Deline@county-lambton.on.ca	N/A	July 27, 2026	Matt Deline responded to the NUES stating that the County of Lambton is the road authority of Country Road 21 and will require a County Right-of-way permit. The County asked to be updated as the Project advances.	N/A	N/A
4	Municipal Staff on Contact List	Stantec	Email	N/A	N/A	August 4, 2026	NESC circulated via email.	N/A	N/A
5	Municipal Staff on Contact List	Stantec	Email	N/A	N/A	August 7, 2026	Update provided noting that NESC circulated on August 4, 2026, had incorrect Virtual Information Session (VIS) web address. An updated NESC with correct VIS address was circulated via email.	N/A	N/A
6	Township of Dawn Euphemia – Public Works	John Collinson	Email	roads@dawneuphemia.on.ca	519-692-5148	August 7, 2026	Acknowledged corrected VIS.	N/A	N/A
7	Municipal Staff	Enbridge Gas	Email	N/A	N/A	August 7, 2026	Update on NESC circulated via email.	N/A	N/A

Indigenous Communities

Comment Number	Stakeholder Group	Name	Method of Communication	Email	Phone Number	Date of Correspondence	Summary of Comment	Date Response Provided	Summary of Response
1	Indigenous Communities	Enbridge Gas	Email	N/A	N/A	July 6, 2026	NUES and PSM circulated via email.	N/A	N/A
2	Indigenous Communities	Enbridge Gas	Email	N/A	N/A	August 6, 2026	NESC circulated via email.	N/A	N/A
3	Indigenous Communities	Stantec	Email	N/A	N/A	August 18, 2026	Invitations to participate in upcoming ecological survey sent via email.	N/A	N/A
4	Chippewas of the Thames First Nation (COTTFN)	Jennifer Mills	Email	jmills@cottfn.com	N/A	August 18, 2026	COTTFN is interested in participating in ecological survey. Agreement can be based on previous agreements with Enbridge.	N/A	N/A
5	Three Fires Group	Jana George	Email	jana.george@threefires.com	N/A	August 18, 2026	Three Fires is interested in participating in ecological survey.	August 18, 2026	Enbridge response provided, agreement sent for signature.
6	Indigenous Communities	Stantec	Email	N/A	N/A	August 25, 2026	Notification of meeting place for the ecological surveys, and PPE needed.	N/A	N/A
7	COTTFN	Lauren Little	Email	llittle@cottfn.com	519-857-3575	August 25, 2026	COTTFN still needs to confirm attendees and will forward contact details once their schedule is solidified.	N/A	N/A
8	Aamjiwnaang First Nation	Courtney Jackson	Email	cjackson@aamjiwnaang.ca	519- 336-8410 ext. 250	August 25, 2026	Courtney CC'd Wanda Maness (TriTribal Monitoring Service) who will confirm if they have a monitor available.	N/A	N/A
9	Three Fires Group	Jana George	Email	jana.george@threefires.com	N/A	August 25, 2026	Three Fires will finalize schedule for the following week on Friday, then will forward information confirming monitor(s).	N/A	N/A
10	Walpole Island First Nation	Taylor Myers	Email	Taylor.myers@wifn.org	519-627-1475	August 25, 2026	Typo, email needs response to confirm that Walpole Island First Nation is invited.	August 25, 2026	Stantec response provided, confirming that Walpole Island First Nation is invited.

Comment Number	Stakeholder Group	Name	Method of Communication	Email	Phone Number	Date of Correspondence	Summary of Comment	Date Response Provided	Summary of Response
11	COTTFN	Jennifer Mills	Email	jmills@cottfn.com	N/A	August 26, 2026	Request for Enbridge to send agreement.	August 26, 2026	Enbridge response provided, agreement attached for signature.
12	Three Fires Group	Courtney Bressette	Email	Courtney.Bressette@threefires.com	N/A	August 28, 2026	Confirmation of attendance and noted which monitor will attend for each day of the ecological survey. Tuesday (Hayden George - 519-402-0344), Wednesday/Thursday (Patrick Henry - 548-997-9459)	N/A	N/A
13	COTTFN	Lauren Little	Email	llittle@cottfn.com	519-857-3575	August 31, 2026	Confirmation that a monitor will join for the ecological surveys Tuesday through Thursday (Jennifer Antone - 519-521-8922). Request to know who the site supervisor is + their contact details.	August 31, 2026	Stantec response provided. Mitch Ellah listed as site supervisor and contact details provided.
14	Walpole Island First Nation	Stantec	Email	N/A	N/A	August 31, 2026	Stantec confirmed again that Walpole Island First Nation is invited. Request to confirm attendance and monitor(s).	N/A	N/A
15	Aamjiwnaang First Nation	Stantec	Email	N/A	N/A	August 31, 2026	Stantec followed up regarding whether or not any monitor(s) will be attending the ecological surveys beginning tomorrow.	N/A	N/A
16	Aamjiwnaang First Nation	Courtney Jackson, Wanda Maness	Email	cjackson@aamjiwnaang.ca ttms.maness@gmail.com	N/A	August 31, 2026	Wanda Maness (TriTribal Monitoring Service) has indicated she has a monitor who is able to participate. Request for information to be forwarded to Wanda.	August 31, 2026	Stantec response provided with all information regarding meeting time and place, Stantec contact, and PPE required.
17	Walpole Island First Nation	Taylor Myers	Email	Taylor.myers@wifn.org	519-627-1475	August 31, 2026	Confirmation that a monitor will join for the ecological surveys Tuesday through Thursday (Tristen Shipman - 226-364-3132)	August 31, 2026	Stantec response provided with all information regarding meeting time and place, Stantec contact, and PPE required.

Comment Number	Stakeholder Group	Name	Method of Communication	Email	Phone Number	Date of Correspondence	Summary of Comment	Date Response Provided	Summary of Response
18	COTTFN	Erna Marie-Leclair	Email	emleclaire@cottfn.com	N/A	September 11, 2026	Noted their appreciation for receiving the summary memo, and asked to be provided the Environmental Report and participate in the archaeological assessment. One question was asked regarding the change in pipe diameter.		

Landowners and Stakeholders

Comment Number	Stakeholder Group	Name	Method of Communication	Email	Phone Number	Date of Correspondence	Summary of Comment	Date Response Provided	Summary of Response
1	Landowners and Stakeholders on Contact List	Stantec	Mail	N/A	N/A	July 6, 2026	NUES circulated via letter to Landowners. NUES circulated via email to Stakeholders.	N/A	N/A
2	Hydro One	Secondary Land Use Asset Optimization	Email	Secondarylanduse@hydroone.com	N/A	July 10, 2026	There are no existing Hydro One transmission lines in the area. If the study area expands, connect with Hydro One again. Drainage within proximity to Hydro One transmission corridor must be directed away.	N/A	N/A
3	Landowners and Stakeholders on Contact List	Stantec	Mail	N/A	N/A	August 4, 2026	NESC circulated via letter to Landowners. NESC circulated via email to Stakeholders.	N/A	N/A
4	Conservation Ontario	Robyn Rumney	Email	rrumney@conservationontario.ca	289-338-8725	August 4, 2026	Acknowledgement of NESC.	N/A	N/A
5	Lambton Area Water Supply System (LAWSS)	Clinton Harper	Email	clinton.harper@lawss.org	519-344-7429 ext. 250	August 5, 2026	Acknowledged NESC. Noted that LAWSS does not have assets in the study area.	N/A	N/A

Comment Number	Stakeholder Group	Name	Method of Communication	Email	Phone Number	Date of Correspondence	Summary of Comment	Date Response Provided	Summary of Response
6	Landowners	Stantec	Mail	N/A	N/A	August 6, 2026	NESC (with corrected VIS web address) mailed to Landowners via Canada Post.	N/A	N/A
7	Landowners and Stakeholders on Contact List	Stantec	Mail and Email	N/A	N/A	August 7 and 10, 2026	Update provided noting that NESC circulated on August 4, 2026, had incorrect Virtual Information Session (VIS) web address. An updated NESC with correct VIS address was circulated to Stakeholders via email on August 7, 2026 and mailed out to Landowners on August 10, 2026.	N/A	N/A
8	Conservation Ontario	Robyn Rumney	Email	rrumney@conservationontario.ca	289-338-8725	August 7, 2026	Acknowledged corrected VIS. Asked for confirmation that the Conservation Authorities were also notified of the change.	August 7, 2026	Stantec confirmed that SCRCA was notified.
9	Landowner	[redacted]	Phone	N/A	[redacted]	August 21, 2026	Called wondering if the pipeline will run through his farm ([redacted]).		Stantec confirmed [redacted] is not a directly impacted landowner. He had no further inquiries about the Project.

Information Session Questionnaire Comments

Comment Number	Stakeholder Group	Name	Method of Communication	Email	Phone Number	Date of Correspondence	Summary of Comment	Date Response Provided	Summary of Response
1	[redacted]	[redacted]	In-Person-Questionnaire Form	[redacted]	[redacted]	August 27, 2026	[redacted] has no major comments or concerns. -Wants landowner soil conditions to be protected and restored with extra caution near drains and watercourses. -Would like to be contacted if public support is required or would like to see announcements on project as available.	N/A	N/A

C.8 Indigenous Consultation Record

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Appendix C8 Enbridge Gas Inc. Indigenous Consultation Record for the Dawn Parkway System Renewal (DPSR) Program: Dawn to Enniskillen ("Project") Record updated as of October 23, 2026

Aamjiwnaang First Nation (AFN)

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
1.0	July 6, 2026	Email	An Enbridge Gas representative emailed an AFN representative to provide the Notice of Upcoming Environmental Study and Preliminary Desktop Environmental and Cultural Heritage Summary Memo for the Project (the “Memo”). Enbridge Gas advised that capacity funding was available to support technical review, fieldwork participation, and meaningful consultation, and invited questions or a meeting to discuss the Project. The Notice provided information regarding the proposed Project, Environmental Study, anticipated regulatory process, consultation, and engagement. The Memo outlined the Project, regulatory process, environmental and archaeological studies, potential impacts and mitigation measures, and opportunities for Indigenous input and participation in future fieldwork.		
1.1	July 24, 2026	Email	An Enbridge Gas representative emailed the AFN representative to provide a monthly Project update.		
1.2	August 4, 2026	Email	An Enbridge Gas representative emailed the AFN representative to invite participation in an in-person information session to be held on August 27, 2026, and a virtual information session to be held between August 17 and August 31, 2026, regarding the Project. The Enbridge Gas representative informed that consultation materials from the in-person information session would be available at the link provided and informed that a questionnaire would be offered. The representative explained that any feedback provided by AFN would inform site-specific environmental protection and mitigation measures and requested comments by September 15, 2026.		
1.3	August 6, 2026	Email	An Enbridge Gas representative emailed an AFN representative to advise that the previously provided web address for the Project’s virtual information session contained an error, provided the corrected virtual information session web address, attached a corrected notice, and apologized for the inconvenience.		

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
1.4	August 18, 2026	Email	A Stantec representative emailed an AFN representative to invite participation in a roadside ecological survey associated with the Project, advised that the survey was anticipated to require three days of fieldwork between September 1 and September 3, 2026, and provided Project information, including that the Project involves potential abandonment, removal, and replacement of an existing natural gas pipeline. The Stantec representative also outlined fieldwork requirements, advised that an agreement could be coordinated and noted that meeting location and access information would be provided if participation is confirmed.		
1.5	August 21, 2026	Email	An Enbridge Gas representative emailed the AFN representative to provide a monthly Project update.		
1.6	August 25, 2026	Email	A Stantec representative emailed the AFN and Enbridge Gas representatives to follow up to inquire whether AFN was interested in participating in upcoming roadside ecological surveys, advised that field work was planned for September 1 to 3, invited interested participants to meet field staff at a specified location and time on September 1, noted that the surveys would occur along a road easement and that gloves were not required, provided a list of required personal protective equipment, and invited any further questions.		
1.7	August 25, 2026	Email		An AFN representative emailed the Stantec and Enbridge Gas representatives to apologize for the delayed response, advised that a representative from the Tri Tribal Monitoring Service (TTMS) had been included in the correspondence and would be able to confirm whether a monitor was available, and invited further requests for information from AFN.	
1.8	August 31, 2026	Email	A Stantec representative emailed the AFN and Enbridge Gas representatives to inquire whether a monitor was available to attend the ecological surveys beginning the following day and requested confirmation regarding the monitor's availability.		
1.9	August 31, 2026	Email	A Stantec representative emailed the AFN representative to follow up and inquire whether a monitor had been confirmed as available to attend ecological surveys scheduled to begin the following day.		

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
1.10	August 31, 2026	Email		An AFN representative emailed the Enbridge Gas and Stantec representatives to advise that a representative of TTMS had confirmed the availability of a monitor to participate, requested that all relevant information be sent directly to the TTMS representative, and invited further requests if additional support was required.	
1.11	August 31, 2026	Email	A Stantec representative emailed the AFN and Enbridge Gas representatives the logistical information for upcoming fieldwork, including the fieldwork dates, the designated meeting location and start time, the Stantec field contact, and the required personal protective equipment, and invited questions regarding the information provided.		
1.12	August 31, 2026	Email		A TTMS representative on behalf of AFN emailed the Enbridge Gas and Stantec representatives, thanking them for their assistance regarding participation in an upcoming ecological survey associated with the Project.	
1.13	September 1-3	Ecological Survey	From September 1 to 3, 2026, Stantec completed ecological surveys for the Project. Indigenous monitoring attendees were to include representatives from COTTFN, TFG, WIFN and TTMS. The surveys were completed within the area where the Project would be constructed. To date, no concerns, observations, or recommendations have been raised in relation to the field program.		
1.14	September 1, 2026	Email		A TTMS representative emailed the Stantec representative expressing thanks for the information.	
1.15	September 1, 2026	Email		A TTMS representative emailed a Stantec representative to advise that participation scheduled for September 1, 2026, had been missed, informed that TTMS would have a monitor available on September 2, 2026, and confirmed that a TTMS monitor would join the field crew on that date and provided their contact information.	

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
1.16	September 1, 2026	Email	A Stantec representative emailed the TTMS representative to advise that the group would meet on September 2, 2026, at the same meeting location used previously and confirmed the meeting time for the morning gathering.		
1.17	September 2, 2026	Email	An Enbridge Gas representative emailed a TTMS representative to share a monitoring agreement for work being completed that week, requested that the signed agreement be returned once signed, and invited TTMS to contact the Enbridge Gas representative with any questions.		
1.18	September 2, 2026.	Email		A TTMS representative emailed the Enbridge Gas representative to return a signed monitoring agreement.	
1.19	September 2, 2026	Email	An Enbridge Gas representative emailed the TTMS representative confirming receipt of the signed monitor agreement.		
1.20	September 4, 2026	Email		A TTMS representative emailed an Enbridge Gas representative to share an invoice for payment for monitoring services provided by TTMS during the week of August 31 to September 4, 2026. The TTMS representative advised that the invoice was attached, noted that a monitor providing the services was late on September 3, 2026, and stated that the monitor was unable to reconnect with a Project participant after arriving at the dropped-pin location.	
1.21	September 9, 2026	Email	An Enbridge Gas representative emailed the TTMS representative to confirm receipt of the invoice		

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
1.22	September 10, 2026	Email	An Enbridge Gas representative emailed an AFN representative regarding the Project and advised that Enbridge Gas was proposing a pipeline renewal Project consisting of two geographically distinct pipeline segments, with the notification pertaining to the Dawn to Enniskillen segment. The Enbridge Gas representative explained that approximately 16.7 km of natural gas pipeline was proposed to be installed to replace an existing pipeline and noted that, where practicable, the existing pipeline would be abandoned, removed, and replaced within the existing easement. The Enbridge Gas representative provided a notification letter, virtual open house slides, and a questionnaire; requested that the completed questionnaire be returned by September 15, 2026, if possible; acknowledged that capacity funding may be required to support timely technical review and meaningful consultation and advised that such funding was available; and invited the AFN representative to provide potential meeting dates to discuss the proposed Project and address any questions.		
1.23	September 29, 2026	Email	An Enbridge Gas representative emailed the AFN representative to offer a monthly update on Enbridge Gas Projects.		
1.24	October 1, 2026	Email	An Enbridge Gas representative emailed an AFN representative to share an update regarding the Project, advising that the Project was initiated on July 6, 2026, and that feedback and an opportunity to meet to discuss any feedback were being sought. The Enbridge Gas representative identified an Ontario Energy Board filing date of 2027 and a proposed construction timeline of 2028.		
1.25	October 5, 2026	In-Person Meeting	An Enbridge Gas representative met with AFN representatives regarding the Project. The Enbridge Gas representative advised that the Environmental Report was anticipated to be shared in November for review and comment and confirmed that capacity funding was available. The Enbridge Gas representative confirmed that such activities occurring near the community were shared with AFN.	AFN expressed interest in reviewing the Project scope with the Project team and requested capacity funding to support its review activities. AFN also requested continued notification of fieldwork activities, expressed interest in visiting Enbridge Gas facilities, and sought information regarding the communication of integrity and maintenance activities occurring within its territory.	
1.26	October 9, 2026	Email	An Enbridge Gas representative emailed AFN representatives regarding the Project and thanked them for meeting previously. The Enbridge Gas representative advised that the Project had been briefly discussed and requested several dates for an in-person or virtual meeting with the Project team to review the Project and address questions. The Enbridge Gas representative further advised that Enbridge Gas recognized capacity support may be required for timely technical document review and meaningful consultation and stated that capacity funding was available to support AFN ’s participation.		

Walpole Island (Bkejwanong) First Nation (WIFN)

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
2.0	July 6, 2026	Email	An Enbridge Gas representative emailed a WIFN representative to provide the Notice of Upcoming Environmental Study and Preliminary Desktop Environmental and Cultural Heritage Summary Memo for the Project (the “Memo”). Enbridge Gas advised that capacity funding was available to support technical review, fieldwork participation, and meaningful consultation, and invited questions or a meeting to discuss the Project. The Notice provided information regarding the proposed Project, Environmental Study, anticipated regulatory process, consultation, and engagement. The Memo outlined the Project, regulatory process, environmental and archaeological studies, potential impacts and mitigation measures, and opportunities for Indigenous input and participation in future fieldwork.		
2.1	July 24, 2026	Email	An Enbridge Gas representative emailed the WIFN representative to provide a monthly Project update.		
2.2	August 4, 2026	Email	An Enbridge Gas representative emailed a WIFN representative to invite participation in an in-person information session to be held on August 27, 2026, and a virtual information session to be held between August 17 and August 31, 2026, regarding the Project. The Enbridge Gas representative advised that consultation materials from the in-person information session would be available at the link provided and that a questionnaire would be offered. The representative explained that feedback provided by WIFN would inform site-specific environmental protection and mitigation measures and requested comments by September 15, 2026.		
2.3	August 6, 2026	Email	An Enbridge Gas representative emailed a WIFN representative to advise that the previously provided web address for the Project’s virtual information session contained an error, provided the corrected virtual information session web address, attached a corrected notice, and apologized for the inconvenience.		
2.4	August 18, 2026	Email	A Stantec representative emailed a WIFN representative to invite participation in a roadside ecological survey associated with the Project, advised that the survey was anticipated to require three days of fieldwork between September 1 and September 3, 2026, and provided Project information, including that the Project involves potential abandonment, removal, and replacement of an existing natural gas pipeline. The Stantec representative also outlined fieldwork requirements, advised that an agreement could be coordinated and noted that meeting location and access information would be provided if participation is confirmed.		

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
2.5	August 21, 2026	Email	An Enbridge Gas representative emailed the WIFN representative to provide a monthly Project update.		
2.6	August 25, 2026	Email	A Stantec representative emailed WIFN representatives and copied the Enbridge Gas representative to follow up on a previous invitation to participate in upcoming ecological surveys related to the Project. The communication inquired whether WIFN had interest in participating and advised that fieldwork was planned for September 1 to September 3, 2026. Project details were provided. The communication also outlined personal protective equipment requirements and invited any further questions.		
2.7	August 25, 2026	Email		A WIFN representative emailed the sender in response to the invitation to participate in upcoming ecological surveys related to the Project. The communication confirmed that WIFN was interested in participating, noted that the previous correspondence appeared to reference AFN rather than WIFN, and requested confirmation that the invitation was intended for WIFN. The communication further advised that, upon receiving confirmation, WIFN would contact its monitors to determine availability and provide contact information for participants. Project details were provided.	
2.8	August 25, 2026	Email	A Stantec representative emailed WIFN representatives and copied the Enbridge Gas representative to acknowledge and apologize for an error in a previous communication that incorrectly referenced another Nation. The communication confirmed that the invitation to participate in activities related to the Project was intended for WIFN and reaffirmed the invitation to participate. Project details were provided.		
2.9	August 31, 2026	Email	A Stantec representative emailed WIFN representatives and copied the Enbridge Gas representative to follow up regarding participation in upcoming ecological surveys related to the Project. The communication confirmed that the invitation was intended for WIFN, apologized for the previous confusion, advised that the surveys were scheduled to begin the following day, and requested that WIFN provide the names of monitors who would be participating.		

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
2.10	August 31, 2026	Email		A WIFN representative emailed the sender to advise that a previously identified monitor was no longer available to participate in the upcoming ecological survey related to the Project due to a scheduling conflict. The communication confirmed that a replacement monitor had been secured and was available to participate in the survey, provided the replacement monitor's contact information for coordination purposes, and invited any further requests related to participation. Project details were provided.	
2.11	August 31, 2026	Email	A Stantec representative emailed WIFN, Enbridge Gas, and Project representatives providing contact information for the aquatic biologist who would be leading the fieldwork and advising that the Stantec team would meet WIFN community monitors at the Oil Springs Youth Centre prior to the scheduled ecological survey.		
2.12	September 1-3	Ecological Survey	From September 1 to 3, 2026, Stantec completed ecological surveys for the Project. Indigenous monitoring attendees were to include representatives from COTTFN, TFG, WIFN and TTMS. The surveys were completed within the area where the Project would be constructed. To date, no concerns, observations, or recommendations have been raised in relation to the field program.		
2.13	September 2, 2026	Email	An Enbridge Gas representative emailed a WIFN representative to provide a monitoring agreement for signatures related to work being completed that week. The communication requested that the signed agreement be returned to the Enbridge Gas representative and invited any questions.		
2.14	September 10, 2026	Phone Call	An Enbridge Gas representative called the WIFN representative regarding the Project. They discussed confirmation about receiving the email on the Project.		
2.15	September 10, 2026	Email	An Enbridge Gas representative emailed WIFN representatives regarding the Project. The representative shared Project information and provided a notification letter, virtual open house slides, and a questionnaire, requested that the completed questionnaire be returned by September 15, 2026, offered capacity funding to support technical review and consultation activities, and requested potential meeting dates to discuss the proposed Project and address any questions.		

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
2.16	September 16, 2026	Email		A WIFN representative emailed the Enbridge Gas representative to advise that an OEB notification or Environmental Assessment report related to the Project could not be located. The communication noted that information session notices for August 17 to 30 and archaeological engagement materials were available and indicated that, prior to submitting the questionnaire, clarification was being sought regarding any missing information. Confirmation was requested regarding information contained in the consultation log.	
2.17	September 16, 2026	Email		A WIFN representative emailed the Enbridge Gas representative to advise that agreement for upcoming ecological survey work associated with the Project had been received from a required signatory, requested that the agreement also be signed and returned by the recipient, and explained that doing so would help ensure records were complete and contained all required signatures.	
2.18	September 17, 2026	Email	An Enbridge Gas representative emailed a WIFN representative to acknowledge receipt of correspondence regarding the Project and advised that notification of an upcoming Environmental Study had been provided on July 6, 2026, including the notice of Environmental Study a Memo. The Enbridge Gas representative confirmed receipt of WIFN's notification regarding the August 17 to 31, 2026 information sessions and participation in the project ecological survey. The communication advised that a notification letter regarding the proposed segment of the Project had been emailed on September 10, 2026, including Open House slides and a questionnaire based on the Open House materials. The Enbridge Gas representative noted that the Environmental Report was anticipated to be completed in Q1 2027 and advised that WIFN would have an opportunity to review and provide comments on the draft report once available. The communication invited further questions and requested that WIFN provide potential dates for a meeting to discuss the proposed Project and any additional questions.		
2.19	September 17, 2026	Email	An Enbridge Gas representative emailed a WIFN representative to confirm receipt of the signed monitoring agreement related to the Project. The communication advised that a copy of the agreement was attached and provided for WIFN's records.		

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
2.20	September 29, 2026	Email	An Enbridge Gas representative emailed the WIFN representative to offer a monthly update on the Project.		
2.21	October 1, 2026	Email		A WIFN representative emailed an Enbridge Gas representative to share a signed agreement, advised that the agreement had been signed by the representative, and requested that a signed copy be returned.	
2.22	October 1, 2026	Email	An Enbridge Gas representative emailed a WIFN representative to advise that a signed copy of the agreement had already been received from a WIFN representative on September 16, 2026, and provided a copy that had been returned on September 17, 2026, for WIFN records.		
2.23	October 1, 2026	Email		A WIFN representative emailed an Enbridge Gas representative to acknowledge receipt of a signed agreement, thanked the Enbridge Gas representative, and extended well wishes.	
2.24	October 2, 2026	Email	An Enbridge Gas representative emailed a WIFN representative to acknowledge and thank the WIFN representative for confirming receipt of a document and extended well wishes for the day and weekend.		
2.25	October 2, 2026	In-Person meeting	An Enbridge Gas representative met with representatives of WIFN in Wallaceburg to discuss several ongoing projects and consultation activities. Discussion topics included Project construction updates, upcoming fieldwork opportunities, planning for a future site visit, responses to any WIFN comments received, upcoming environmental reporting and engagement opportunities, and regulatory approvals related to infrastructure projects. WIFN advised that they are awaiting newly elected Council members to become established before scheduling additional Project discussions and noted that Project updates are regularly provided to Council. WIFN also highlighted organizational staffing challenges and ongoing efforts to recruit additional staff. Throughout the discussion, WIFN expressed interest in working with Enbridge Gas to assist in addressing outstanding invoicing matters and payment-related concerns. The meeting concluded with broader discussions regarding community priorities, ongoing engagement, and maintaining positive working relationships.		
2.26	October 9, 2026	Email	An Enbridge Gas representative emailed WIFN representatives regarding the Project and thanked them for meeting previously. The Enbridge Gas representative advised that the Project had been briefly discussed and requested several dates for an in-person or		

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
			virtual meetings with the Project team to review the Project and address questions. The Enbridge Gas representative further advised that Enbridge Gas recognized capacity support may be required for timely technical document review and meaningful consultation and stated that capacity funding was available to support WIFN's participation.		

Chippewas of Kettle and Stony Point First Nation (CKSPFN)

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
3.0	July 6, 2026	Email	An Enbridge Gas representative emailed TFG and CKSPFN representatives to provide the Notice of Upcoming Environmental Study and Preliminary Desktop Environmental and Cultural Heritage Summary Memo for the Project (the "Memo"). Enbridge Gas advised that capacity funding was available to support technical review, fieldwork participation, and meaningful consultation, and invited questions or a meeting to discuss the Project. The Notice provided information regarding the proposed Project, Environmental Study, anticipated regulatory process, consultation, and engagement. The Memo outlined the Project, regulatory process, environmental and archaeological studies, potential impacts and mitigation measures, and opportunities for Indigenous input and participation in future fieldwork.		
3.1	July 9, 2026	Email		A TFG representative on behalf of CKSPFN emailed an Enbridge Gas representative acknowledging receipt of the Notice of Upcoming Environmental Study for the Project. TFG advised that its team is interested in participating throughout the environmental study and asked whether a Capacity Funding Agreement should be provided to Enbridge Gas for review.	
3.2	July 10, 2026	Email	An Enbridge Gas representative emailed the CKSPFN representative to thank them for confirming their interest in capacity funding and asked them to send a quote or proposal for their team's engagement.		

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
3.3	July 22, 2026	Email		A TFG representative emailed the Enbridge Gas representative to advise that the requested information would be provided later that day or the following day, requested an introductory meeting for the Project, and inquired about any additional reports that should be reviewed and included in the capacity funding proposal.	
3.4	July 23, 2026	Email	An Enbridge Gas representative emailed the TFG representatives to express interest in meeting, requested available dates and times, advised that an Environmental Report and Stage 1 and 2 archaeological fieldwork will occur, and asked whether the representatives would like to meet to learn more before a capacity funding proposal is submitted.		
3.5	July 23, 2026	Email		A TFG representative emailed the Enbridge Gas representative to confirm meeting availability for that day or requested availability to meet tomorrow.	
3.6	July 23, 2026	Email	An Enbridge Gas representative emailed the TFG representative to provide availability to meet and offered to send an invite.		
3.7	July 23, 2026	Email		A TFG representative emailed the Enbridge Gas representative to confirm the meeting time.	
3.8	July 24, 2026	Email	An Enbridge Gas representative emailed the TFG representative expressing thanks for the confirmation and that they had sent a meeting invite.		
3.9	July 24, 2026	Virtual Meeting	An Enbridge Gas representative met with the TFG representatives to discuss the Project and capacity funding.		
3.10	July 24, 2026	Email	An Enbridge Gas representative emailed the CKSPFN representative to provide a monthly Project update.		
3.11	July 30, 2026	Email		A CKSPFN representative emailed the Enbridge Gas representative to express appreciation for the monthly update.	

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
3.12	July 30, 2026	Email		A TFG representative emailed the Enbridge Gas representative to advise that another Enbridge Gas representative advised that the Project was similar in scope to another project and asked if the Enbridge Gas representative had the previously used capacity funding agreement to share.	
3.13	July 31, 2026	Email	An Enbridge Gas representative emailed the TFG representative to confirm to follow up on a past capacity funding agreement.		
3.14	July 31, 2026	Email		A TFG representative emailed the Enbridge Gas representative to provide a draft capacity funding request for review.	
3.15	August 4, 2026	Email	An Enbridge Gas representative emailed a TFG representative to acknowledge receipt of a draft capacity funding request related to the Project and advised that a previous capacity funding agreement covering multiple projects had been used and accepted by TFG and asked that should TFG wish to proceed with this draft request, a capacity funding agreement would be provided for review and signature.		
3.16	August 4, 2026	Email		A TFG representative emailed the Enbridge Gas representative to acknowledge the proposal to use a capacity funding agreement covering multiple projects, advised that a separate capacity funding request was also being prepared for another project, and requested a copy of the previous multi-project capacity funding agreement for review because access to prior agreement files was not currently available.	
3.17	August 4, 2026	Email	An Enbridge Gas representative emailed a TFG representative to advise that a multi-project capacity funding agreement had only been used once while TFG was in the early stages of development, explained that project-specific capacity funding agreements are preferred because capacity requirements may vary between projects, and requested confirmation regarding whether TFG wished to proceed with the submitted proposal so that a capacity funding agreement could be provided for signature.		

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
3.18	August 4, 2026	Email	An Enbridge Gas representative emailed the TFG and CKSPFN representatives to invite participation in Information Sessions for the Project, advised that an in-person Information Session would be held on August 27, 2026 and that a virtual Information Session would be available from August 17 to August 31, 2026, explained that consultation materials and a questionnaire would be available to support review and comment submission, noted that input received may be used to develop site-specific environmental protection and mitigation measures, requested input and comments by September 15, 2026, and invited questions or a meeting to discuss the Project.		
3.19	August 4, 2026	Email		A TFG representative emailed the Enbridge Gas representative and agreed with the preferred project-specific capacity funding approach and requested that Enbridge Gas proceed with the capacity funding proposal related to the Project.	
3.20	August 5, 2026	Email		A TFG representative emailed the Enbridge Gas representative to express gratitude for sharing information regarding the upcoming information sessions and advised that TFG would review the consultation materials and provide feedback by September 15.	
3.21	August 5, 2026	Meeting	Enbridge Gas representatives met with TFG representatives to discuss questions regarding fieldwork requirements and whether separate agreements would be required, Enbridge Gas representatives confirmed that a separate agreement would be needed and advised that fieldwork would be like other Projects. TFG representatives asked whether a roadside assessment differs from archaeological fieldwork and were advised they are. Enbridge Gas representatives noted certain archeological work has been completed and additional work will continue. Enbridge Gas representatives explained that the Project is in the early stages, reviewed the listed SAR and potential findings, and advised that archaeological work was unlikely to occur in the fall, although surveys could be completed. TFG representatives expressed interest in participating. Enbridge Gas representatives advised that the Environmental Report could be shared around October, and that comments would be required before Christmas. TFG representatives noted the importance of considering cumulative effects, and Enbridge Gas representatives advised that additional research would be completed and that cumulative effects would be assessed using methods consistent with recently reviewed Environmental Reports. Enbridge Gas representatives also explained that additional mitigation studies would be developed to support permitting requirements. TFG representatives asked whether there		

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
			was a timeline for submitting a capacity funding proposal and were advised it could be submitted when ready. Enbridge Gas representatives then asked whether the meeting had been helpful, and TFG representatives advised that the Memo was helpful as it provided an understanding of key information, opportunities for involvement, and SAR in the area.		
3.22	August 6, 2026	Email	An Enbridge Gas representative emailed a TFG representative to advise that the previously provided web address for the Project's virtual information session contained an error, provided the corrected virtual information session web address, attached a corrected notice, and apologized for the inconvenience.		
3.23	August 10, 2026	Email	An Enbridge Gas representative emailed a TFG representative to provide an attached capacity funding agreement related to the Project, requested return of the signed agreement upon execution, and invited any questions regarding the agreement.		
3.24	August 10, 2026	Email		A TFG representative emailed the Enbridge Gas representative to acknowledge receipt of the capacity funding agreement related to the Project, advised that the agreement would be reviewed and signed, and confirmed that the executed agreement would be returned as soon as possible	
3.25	August 10, 2026	Email	An Enbridge Gas representative emailed a TFG representative to acknowledge receipt of confirmation.		
3.26	August 11, 2026	Email		A TFG representative emailed an Enbridge Gas representative to thank Enbridge Gas for ongoing support and provided a signed capacity funding agreement related to the Project.	
3.27	August 11, 2026	Email	An Enbridge Gas representative emailed a TFG representative to confirm receipt of the signed capacity funding agreement and convey well wishes.		

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
3.28	August 18, 2026	Email	A Stantec representative emailed a TFG representative to invite participation in a roadside ecological survey associated with the Project, advised that the survey was anticipated to require three days of fieldwork between September 1 and September 3, 2026, and provided Project information, including that the Project involves potential abandonment, removal, and replacement of an existing natural gas pipeline. The Stantec representative also outlined fieldwork requirements, advised that an agreement could be coordinated, and noted that meeting location and access information would be provided if participation was confirmed.		
3.29	August 18, 2026	Email		A TFG representative emailed the Stantec representative to confirm that a monitor was available to participate in the ecological survey.	
3.30	August 18, 2026	Email	An Enbridge Gas representative emailed the TFG representative expressing thanks for the confirmation and would send an agreement.		
3.31	August 20, 2026	Email	An Enbridge Gas representative emailed a TFG representative to provide an attached agreement for upcoming fieldwork associated with the Project, requested return of the signed agreement upon execution, and invited any questions regarding the agreement.		
3.32	August 20, 2026	Email		A TFG representative emailed the Enbridge Gas representative to acknowledge receipt of the agreement for upcoming fieldwork associated with the Project, provide a signed copy of the agreement, and request a finalized copy for TFG records once execution is complete.	
3.33	August 21, 2026	Email	An Enbridge Gas representative emailed the CKSPFN representative to provide a monthly Project update.		
3.34	August 21, 2026	Email	An Enbridge Gas representative emailed a TFG representative to acknowledge receipt of the agreement for upcoming fieldwork associated with the Project and provided an executed copy of the agreement.		
3.35	August 24, 2026	Email		A CKSPFN representative thanked the Enbridge Gas representative for the monthly Project update.	

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
3.36	August 25, 2026	Email		A CKSPFN representative emailed the Enbridge Gas representative to express appreciation for information that had been provided, thanked the recipient, and conveyed well wishes.	
3.37	August 25, 2026	Email	A Stantec representative emailed the TFG and Enbridge Gas representatives to advise that a meeting location had been selected for ecological surveys scheduled for September 1 to September 3 and instructed participants to meet field staff at a designated location at 10:00 a.m. on September 1. The Stantec representative noted that the surveys would take place along the road easement and therefore there was no requirement to bring gloves for that purpose and provided a list of required personal protective equipment consisting of a hard hat, steel-toed footwear, safety glasses, gloves, and high-visibility clothing. The Stantec representative invited further questions.		
3.38	August 25, 2026	Email		A CKSPFN representative thanked the Enbridge Gas representative for sharing the monthly updates.	
3.39	August 25, 2026	Email		A TFG representative on behalf of CKSPFN representative emailed the Stantec and Enbridge Gas representatives and thanked them for the information provided, advised that scheduling for the following week would be finalized on Friday afternoons, confirmed that the name and contact information of the monitor would be provided once attendance had been confirmed, and expressed appreciation	
3.40	August 28, 2026	Email		A TFG representative on behalf of CKSPFN emailed the Stantec and Enbridge Gas representative to thank the recipients for the update, advised that environmental monitors had been identified to participate in the Project on specified survey days, provided the monitoring schedule, supplied contact information for the identified monitors, and invited recipients to reach out with any questions	
3.41	September 1-3	Ecological Survey	From September 1 to 3, 2026, Stantec completed ecological surveys for the Project. Indigenous monitoring attendees were to include representatives from COTTFN, TFG, WIFN and TTMS. The surveys were completed within the area where the Project would be constructed. To date, no concerns, observations, or recommendations have been raised in relation to the field program.		

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
3.42	September 10, 2026	Email	An Enbridge Gas representative emailed CKSPFN to advise that the Project was proposed and provided Project details. The communication advised that an Enbridge Gas notification letter, Virtual Open House slides, and a questionnaire were attached and requested that the completed questionnaire be returned by September 15, 2026, if possible. The Enbridge Gas representative confirmed receipt of a signed capacity support funding letter to support a timely technical review of documents, meaningful consultation, and CKSPFN team capacity. The communication invited a meeting to discuss the proposed Project and answer questions, requested potential meeting dates, and advised that additional questions could be directed to the Enbridge Gas representative.		
3.43	September 15, 2026	Email		A CKSPFN representative emailed an Enbridge Gas representative regarding the Project, thanked the Enbridge Gas representative for providing information, and requested a virtual meeting. The CKSPFN representative proposed meeting times of September 21 at 1:00 p.m., September 23 at 2:00 p.m., or September 24 at 1:00 p.m., and invited the Enbridge Gas representative to propose alternative meeting times if the suggested times were not suitable.	
3.44	September 17, 2026	Email	A CKSPFN representative emailed the Enbridge Gas representative to acknowledge receipt of proposed meeting dates regarding the Project. The communication confirmed that a meeting invitation would be issued for September 21, 2026, at 1:05 p.m. and expressed appreciation for the opportunity to meet.		
3.45	September 21, 2026	Virtual Meeting	On September 21, 2026, a virtual meeting took place regarding the Project. TFG, CKSPFN, and Enbridge Gas were in attendance. Enbridge Gas requested that TFG advise if any culturally significant features, sites, or concerns are identified along the proposed Project route and provide any additional Traditional Land Use information that may be relevant to the assessment of potential Project effects. CKSPFN and TFG advised they would follow up with any additional culturally significant information identified through their review. CKSPFN is also committed to providing updated business directory and procurement contact information to support future procurement and contact opportunities. Enbridge Gas committed to circulating the Environmental Report for review and comment once available. The parties agreed to continue meeting and engaging as consultation progresses.		

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
3.46	September 29, 2026	Email	An Enbridge Gas representative emailed the CKSPFN representative to offer a monthly update on Enbridge Gas Projects.		

Chippewas of the Thames First Nation (COTTFN)

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
4.0	July 6, 2026	Email	An Enbridge Gas representative emailed the COTTFN representative to provide the 'Notice of Upcoming Environmental Study' and the Memo'. The Enbridge Gas representative offered capacity funding.		
4.1	July 7, 2026	Email	An Enbridge Gas representative emailed a COTTFN representative to advise that a shapefile was not yet available for the Project and that Enbridge Gas would work to obtain the shapefile for NationsConnect.		
4.2	July 24, 2026	Email	An Enbridge Gas representative emailed the COTTFN representative to provide monthly Project updates.		
4.3	August 4, 2026	Email	An Enbridge Gas representative emailed a COTTFN representative to invite participation in an in-person information session to be held on August 27, 2026, and a virtual information session to be held between August 17 and August 31, 2026, regarding the Project. The Enbridge Gas representative advised that consultation materials from the in-person information session would be available at the link provided and that a questionnaire would be offered. The representative explained that feedback provided by COTTFN would inform site-specific environmental protection and mitigation measures and requested comments by September 15, 2026.		
4.4	August 4, 2026	Email		A COTTFN representative emailed an Enbridge Gas representative to advise that the Consultation Unit would respond within seven business days and if no response is provided in that timeframe to resend the email.	
4.5	August 6, 2026	Email	An Enbridge Gas representative emailed a COTTFN representative to advise that the previously provided web address for the Project’s virtual information session contained an error, provided the corrected virtual information session web address, attached a corrected notice, and apologized for the inconvenience.		

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
4.6	August 18, 2026	Email	A Stantec representative emailed a COTTFN representative to invite participation in a roadside ecological survey associated with the Project, advised that the survey was anticipated to require three days of fieldwork between September 1 and September 3, 2026, and provided Project information, including that the Project involves potential abandonment, removal, and replacement of an existing natural gas pipeline. The Stantec representative also outlined fieldwork requirements, advised that an agreement could be coordinated and noted that meeting location and access information would be provided if participation is confirmed.		
4.7	August 18, 2026	Email		A COTTFN representative emailed the Stantec representative to confirm interest in participating in the upcoming ecological survey associated with the Project, advised that an agreement could be based on previous environmental survey agreements used with Enbridge Gas, and identified a COTTFN representative who would coordinate field participation activities.	
4.8	August 25, 2026	Email	A Stantec representative emailed a COTTFN representative to provide meeting instructions for the ecological surveys associated with the Project occurring between September 1 and September 3, 2026, advised of the meeting location and start time, confirmed that the surveys would occur within the road easement, advised that gloves were not required for the fieldwork, outlined that hard hats, steel toed boots, safety glasses, gloves, and high vis are required personal protective equipment, and invited any further questions regarding participation in the surveys.		
4.9	August 25, 2026	Email		A COTTFN representative emailed the Enbridge Gas representative to say they will forward the name and contact details for the field liaison once they confirm their schedules.	
4.10	August 25, 2026	Email	An Enbridge Gas representative emailed a COTTFN representative to provide Project updates.		
4.11	August 26, 2026	Email		A COTTFN representative emailed the Enbridge Gas representative to ask for a template for previous Environmental Field Liaison (EFL) work with Enbridge Gas as an agreement is still required.	

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
4.12	August 26, 2026	Email	An Enbridge Gas representative emailed the COTTFN representative with an agreement for COTTFN signature.		
4.13	August 26, 2026	Email		A COTTFN representative emailed the Enbridge Gas representative with a signed copy of the contact.	
4.14	August 30, 2026	Email		A COTTFN representative requested that the Project be submitted to NationsConnect before Wednesday, advised that the representative wished to have the Nation's initial response letter recorded in NationsConnect, and noted that the letter needed to be sent before the representative's last day, and requested notification if meeting this request would present any issues.	
4.15	August 31, 2026	Email	A Stantec representative emailed the COTTFN and Enbridge Gas representatives to advise that an aquatic biologist had been copied on the correspondence, informed the recipients that the aquatic biologist and a terrestrial ecologist would be meeting with a representative the following day and hoped that other communities would also participate, and provided contact information for the aquatic biologist.		
4.16	August 31, 2026	Email		A COTTFN representative emailed the Enbridge Gas and Stantec representatives and thanked the recipients, advised that the information had been included for field liaison, and confirmed that the field liaison would meet the team at 10:00 a.m. the following day.	
4.17	September 1-3	Ecological Survey	From September 1 to 3, 2026, Stantec completed ecological surveys for the Project. Indigenous monitoring attendees were to include representatives from COTTFN, TFG, WIFN and TTMS. The surveys were completed within the area where the Project would be constructed. To date, no concerns, observations, or recommendations have been raised in relation to the field program.		
4.18	September 1, 2026	Email		A COTTFN representative emailed an Enbridge Gas representative to advise that their contract allows for two field liaisons and provided the name of the second field liaison who would participate in the ecological survey.	
4.19	September 1, 2026	Email	A Stantec representative emailed a COTTFN representative to thank them for advising of the additional field liaison.		

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
4.20	September 2, 2026	Email	An Enbridge Gas representative apologized for not having attended to the request sooner, advised that work on the request was underway but noted that it would be completed after the recipient's departure, inquired whether any additional information, responses, or capacity funding requests were anticipated from COTTFN for two separate projects, requested confirmation from the recipient or another team representative by the end of the week, and expressed appreciation for the working relationship while encouraging future contact.		
4.21	September 3, 2026	Email	An Enbridge Gas representative emailed the COTTFN representative to follow up on a previous discussion about meetings to discuss the Project. The Enbridge Gas representative provided the slides from the virtual open house and questionnaire and welcomed comments directly if preferred. The Enbridge Gas representative requested and provided availability to meet. The Enbridge Gas representative offered capacity funding.		
4.22	September 1, 2026	Field visit	On September 1st to the 3rd, 2026, Stantec conducted Ecological Surveys for the Project. Two monitors from COTTFN attended the field program in an Indigenous monitoring capacity. The assessment was completed within the area where the Project would be constructed. During the fieldwork, the Indigenous monitor participated in observations of field activities and discussions with the archaeological team. To date, no concerns or recommendations were raised during the field program.		
4.23	September 10, 2026	Email	An Enbridge Gas representative emailed COTTFN representatives to provide notification of the Project and advised that an Enbridge Gas Notification Letter was attached. The communication advised that capacity support may be required to enable a timely technical review of documents and meaningful consultation and indicated that Enbridge Gas was prepared to provide capacity funding to support that work. The communication also indicated that a meeting regarding the proposed Project was anticipated.		
4.24	September 11, 2026	Email		A COTTFN representative emailed the Enbridge Gas representative to provide comments that had previously been prepared and were noted as due that day. The communication acknowledged the opportunity to review the preliminary memo, advised interest in reviewing the Environmental Report once it was available, and requested participation in future archaeological	

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
				assessments. Questions were raised regarding the Project, including a request for clarification on information contained in the preliminary memo and an inquiry regarding the Project's status in NationsConnect. The communication also advised that invoice revisions related to prior work were forthcoming and requested a meeting with the Enbridge Gas representative to obtain an overview of Enbridge Gas projects.	
4.25	September 14, 2026	Email	An Enbridge Gas representative emailed a COTTFN representative to acknowledge receipt of comments and advised that responses would be provided shortly. The Enbridge Gas representative confirmed that a KMZ file had been obtained and indicated that the Project would be uploaded to NationsConnect shortly. The Enbridge Gas representative also noted that, given ongoing matters, a meeting should be scheduled as soon as schedules are permitted and inquired about available dates and times for the COTTFN team.		
4.26	September 16, 2026	Email		A COTTFN representative emailed the Enbridge Gas representative to advise that the COTTFN team was available to meet on September 29 and indicated a preference for a meeting time after 10:00 a.m. The communication noted that the team would be unavailable from 12:00 p.m. to 1:00 p.m. and advised that, if an afternoon meeting was preferred, the meeting could begin any time after 1:30 p.m. The COTTFN representative requested confirmation regarding whether the proposed date and times were suitable and advised that an alternative date could be identified if necessary.	
4.27	September 17, 2026	Email	An Enbridge Gas representative emailed the COTTFN representative to advise that the proposed September 29 meeting date was not suitable and proposed October 6, October 8, or October 14 as alternative meeting dates and requested confirmation regarding availability for the proposed dates and noted that other dates could also be considered if required.		

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
4.28	September 18, 2026	Email		A COTTFN representative emailed the Enbridge Gas representative and advised that October 6 in the afternoon would be a suitable time for a meeting regarding the Project. The representative indicated that the meeting could be hosted at COTTFN or held virtually, depending on Enbridge Gas' preference.	
4.29	September 18, 2026	Email	An Enbridge Gas representative confirmed that an afternoon meeting on October 6 regarding the Project would be suitable and expressed a preference for meeting in person at COTTFN. The representative requested confirmation of the preferred meeting time and advised availability throughout the afternoon.		
4.30	September 18, 2026	Email		A COTTFN representative emailed an Enbridge Gas representative regarding coordination of a meeting and confirmed agreement with the proposed arrangements, advising that the meeting would take place at 2:00 p.m. at COTTFN.	
4.31	September 18, 2026	Email	An Enbridge Gas representative emailed a COTTFN representative to confirm the meeting time and place proposal.		
4.32	September 21, 2026	Email		A COTTFN representative provided invoice #14851 for payment related to the Project on behalf of COTTFN, advised that the invoice covered the period of August 31 to September 4, 2026, requested that the payment remittance memo indicate that the payment be deposited to the Environmental Field Liaison account, and invited questions regarding the invoice.	
4.33	September 22, 2026	Email	An Enbridge Gas representative thanked the recipient, inquired whether another participant had also attended at least one day with a previously referenced participant, and requested clarification regarding whether that participant’s hours would be billed separately.		

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
4.34	September 24, 2026	Email		A COTTFN representative emailed an Enbridge Gas representative, thanked Enbridge Gas for identifying that an additional field liaison had attended the site, and advised that COTTFN would confirm whether an invoice had already been submitted separately before providing another invoice.	
4.35	September 24, 2026	Email		A COTTFN representative emailed an Enbridge Gas representative to share an invoice previously referenced in an earlier communication, apologized for the delay in providing it, and explained that revisions from finance were required before it could be sent.	
4.36	September 24, 2026	Email	An Enbridge Gas representative emailed a COTTFN representative to provide the anticipated Enbridge Gas attendees for the October 6, 2026, meeting and asked whether the meeting space could accommodate a hybrid format to allow attendees to participate either in person or virtually.		
4.37	September 24, 2026	Email		A COTTFN representative emailed an Enbridge Gas representative and confirmed that the meeting space could accommodate a hybrid meeting format, allowing attendees to participate either in person or virtually.	
4.38	October 6, 2026	Email		A COTTFN Consultation representative advised an Enbridge Gas representative that call-in capability had been arranged for the afternoon meeting. and expressed regrets that they were unable to attend a separate morning meeting with Enbridge Gas regarding Rebasing Engagement.	
4.39	October 6,2026	Meeting	Enbridge Gas representatives met with COTTFN representatives to provide information regarding the Project. COTTFN representatives asked why the proposed pipeline diameter was increasing to 48 inches. Enbridge Gas explained that, rather than replacing the entire 225 km of 26-inch pipeline, replacing shorter sections with larger-diameter pipeline would address the identified need. Enbridge Gas provided a Project timeline and advised that the draft Environmental Report was expected to be available around November 5, 2026, for a 45-day review period. COTTFN representatives noted that accommodation may be required and identified a potential Indigenous-owned tree-clearing company.		

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
4.40	October 6,2026	Email		A COTTFN representative emailed an Enbridge Gas representative and advised that COTTFN expected an opportunity for equity participation in the Project, subject to Project approval, and anticipated that equity discussions would begin shortly.	
4.41	October 9, 2026	Email		A COTTFN representative emailed an Enbridge Gas representative and provided an invoice for the additional field liaison.	

Oneida Nation of the Thames (ONEIDA)

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
5.0	July 6, 2026	Email	An Enbridge Gas representative emailed an Oneida representative to provide the Notice of Upcoming Environmental Study and Preliminary Desktop Environmental and Cultural Heritage Summary Memo for the Project (the “Memo”). Enbridge Gas advised that capacity funding was available to support technical review, fieldwork participation, and meaningful consultation, and invited questions or a meeting to discuss the Project. The Notice provided information regarding the proposed Project, Environmental Study, anticipated regulatory process, consultation, and engagement. The Memo outlined the Project, regulatory process, environmental and archaeological studies, potential impacts and mitigation measures, and opportunities for Indigenous input and participation in future fieldwork.		
5.1	July 24, 2026	Email	An Enbridge Gas representative emailed the Oneida representative to provide monthly Project updates.		

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
5.2	August 4, 2026	Email	An Enbridge Gas representative emailed an Oneida representative to invite participation in an in-person information session to be held on August 27, 2026, and a virtual information session to be held between August 17 and August 31, 2026, regarding the Project. The Enbridge Gas representative advised that consultation materials from the in-person information session would be available at the link provided and that a questionnaire would be offered. The representative explained that feedback provided by Oneida would inform site-specific environmental protection and mitigation measures and requested comments by September 15, 2026.		
5.3	August 6, 2026	Email	An Enbridge Gas representative emailed an Oneida representative to advise that the previously provided web address for the Project's virtual information session contained an error, provided the corrected virtual information session web address, attached a corrected notice, and apologized for the inconvenience.		
5.4	August 18, 2026	Email	A Stantec representative emailed an Oneida representative to invite participation in a roadside ecological survey associated with the Project, advised that the survey is anticipated to require three days of fieldwork between September 1 and September 3, 2026, and provided Project information, including that the Project involves potential abandonment, removal, and replacement of an existing natural gas pipeline. The Stantec representative also outlined fieldwork requirements, advised that an agreement could be coordinated and noted that meeting location and access information would be provided if participation is confirmed.		
5.5	August 25, 2026	Email	A Stantec representative emailed the Oneida and Enbridge Gas representatives to follow up to inquire whether AFN (Stantec's typo) had interest in participating in upcoming roadside ecological surveys for the Project, advised that field work was planned for September 1 to September 3, provided instructions to meet field staff at a specified location at 10:00 a.m. on September 1 if interested in participating, noted that the surveys would occur along a road easement and therefore there was no requirement related to gloves for survey activities, identified required personal protective equipment as a hard hat, steel-toed footwear, safety glasses, gloves, and high-visibility clothing, and invited further questions		
5.6	August 25, 2026	Email	An Enbridge Gas representative emailed an Oneida representative to provide Project updates.		

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
5.7	September 1-3	Ecological Survey	From September 1 to 3, 2026, Stantec completed ecological surveys for the Project. Indigenous monitoring attendees were to include representatives from COTTFN, TFG, WIFN and TTMS. The surveys were completed within the area where the Project would be constructed. To date, no concerns, observations, or recommendations have been raised in relation to the field program.		
5.8	September 3, 2026	Email	An Enbridge Gas representative emailed the Oneida representative to follow up on an offer to meet and discuss the Project. The Enbridge Gas representative provided the slides from the virtual open house and questionnaire and welcomed comments directly if preferred. The Enbridge Gas representative requested and provided availability to meet. The Enbridge Gas representative offered capacity funding.		
5.9	September 3, 2026	Email		An Oneida representative emailed the Enbridge Gas representative expressing thanks for the email and would review it with the Political Office and respond.	
5.10	September 3, 2026	Email	An Enbridge Gas representative emailed the Oneida representative expressing thanks for the response and attached previously sent emails regarding the Project for reference, including information session details, notice of environmental study, and summary memo. The Enbridge Gas representative asked if the Oneida representative should be copied on emails going forward.		
5.11	September 3, 2026	Email		An Oneida representative emailed the Enbridge Gas representative to provide confirmation that the appropriate Oneida representative would be provided with the information and would reach out to the Enbridge Gas representative directly.	
5.12	September 3, 2026	Email	An Enbridge Gas representative emailed the Oneida representative expressing thanks.		
5.13	September 10, 2026	Email	An Enbridge Gas representative emailed an Oneida representative to provide notification of the Project and advised that an Enbridge Gas Notification Letter was attached. The communication advised that capacity support may be required to enable a timely technical review of documents and meaningful consultation and indicated that Enbridge Gas was prepared to provide capacity funding to support that work. The communication also indicated that a meeting regarding the proposed Project was anticipated.		

Line item	Date	Method	Summary of Enbridge Gas Activity	Summary of Community Activity	Issues or Concerns Raised & Responses
5.14	September 10, 2026	Emailed		An Oneida representative emailed the Enbridge Gas representative, thanked Enbridge Gas for the information, and advised that it had been forwarded to the Political Office for response.	
5.15	October 1, 2026	Email	An Enbridge Gas representative emailed an Oneida representative to inquire whether a representative had been assigned to the Project. The Enbridge Gas representative also requested clarification on whether the individual assigned to the portfolio would be dedicated solely to the Project or would be responsible for this and other current and future projects.		
5.16	October 23, 2026	Email	Enbridge Gas emailed Oneida representative asking if the portfolios have been assigned and, therefore, if someone has been identified to receive Project information.		

Appendix D Stage 1 Archaeological Assessment

DRAFT

Ministry of Tourism, Culture and Sport

Archaeology Programs Unit
Programs and Services Branch
Culture Division
401 Bay Street, Suite 1700
Toronto ON M7A 0A7
Tel.: (416) 212-8442
Email: John.Dunlop@ontario.ca

Ministère du Tourisme, de la Culture et du Sport

Unité des programmes d'archéologie
Direction des programmes et des services
Division de culture
401, rue Bay, bureau 1700
Toronto ON M7A 0A7
Tél. : (416) 212-8442
Email: John.Dunlop@ontario.ca

Ontario

Jul 5, 2017

Arthur Figura (P083)
Stantec Consulting
600 - 171 Queens London ON N6A 5J7

RE: Review and Entry into the Ontario Public Register of Archaeological Reports: Archaeological Assessment Report Entitled, "Stage 1 Archaeological Assessment: Dawn-Enniskillen Pipeline Project: Parts of Various Lots and Concessions, Geographic Township of Dawn, now Township of Dawn-Euphemia and Township of Enniskillen, Lambton County, Ontario", Dated Jun 19, 2017, Filed with MTCS Toronto Office on Jun 29, 2017, MTCS Project Information Form Number P083-0272-2016, MTCS File Number 0004462

Dear Mr. Figura:

This office has reviewed 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.[1] This review has been carried out in order to determine whether the licensed professional consultant archaeologist has met the terms and conditions of their licence, that the licensee assessed the property and documented archaeological resources using a process that accords with the 2011 Standards and Guidelines for Consultant Archaeologists set by the ministry, and that the archaeological fieldwork and report recommendations are consistent with the conservation, protection and preservation of the cultural heritage of Ontario.

The report documents the assessment of the study area as depicted in Figures 10 and 11-1 to 11-3 of the above titled report and recommends the following:

The Stage 1 archaeological assessment, involving background research and a property inspection, resulted in the determination that large portions of the study area exhibit a moderate to high potential for the identification and recovery of archaeological resources. As such, in accordance with Section 1.3 of the MTCS' 2011 Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011), a Stage 2 archaeological assessment will be required for portions of the study area which retain archaeological potential. The Stage 1 archaeological assessment further determined that the study area retains areas of no archaeological potential, including previously disturbed areas, particularly around existing Union Gas infrastructure; municipal drains; and areas that are low and permanently wet, directly associated with present-day water sources.

Based on the information contained in the report, the ministry is satisfied that the fieldwork and reporting for the archaeological assessment are consistent with the ministry's 2011 Standards and Guidelines for

Consultant Archaeologists and the terms and conditions for archaeological licences. This report has been entered into the Ontario Public Register of Archaeological Reports. 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 any further information regarding this matter, please feel free to contact me.

Sincerely,

John Dunlop
Archaeology Review Officer

cc. Archaeology Licensing Officer
Doug Schmidt,Union Gas Ltd.
tbd tbd,Ontario Energy Board

[1]In 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.

Stage 1 Archaeological Assessment: Dawn-Enniskillen Pipeline Project

Parts of Various Lots and Concessions, Geographic Township of Dawn, now Township of Dawn-Euphemia and Township of Enniskillen, Lambton County, Ontario

Prepared for:
Union Gas Limited
50 Keil Drive North,
PO Box 2001,
Chatham, ON N7M 5M1
Tel: (866) 949-1595 Ext. 5236954

Prepared by:
Stantec Consulting Ltd.
600-171 Queens Ave.
London, ON N6A 5J7
Tel: (519) 645-2007
Fax: (519) 645-6575

Licensee: Arthur Figura, MA
License #: P083
PIF #: P083-0272-2016
Project #: 160960981

REVISED REPORT

June 19, 2017

Table of Contents

EXECUTIVE SUMMARY ..... **I**

PROJECT PERSONNEL ..... **III**

ACKNOWLEDGEMENTS ..... **III**

1.0 PROJECT CONTEXT **1.1**
1.1 DEVELOPMENT CONTEXT 1.1
1.1.1 Objectives 1.1
1.2 HISTORICAL CONTEXT 1.2
1.2.1 Post-Contact Aboriginal Resources 1.2
1.2.2 Euro-Canadian Resources 1.4
1.3 ARCHAEOLOGICAL CONTEXT 1.7
1.3.1 The Natural Environment 1.7
1.3.2 Pre-contact Aboriginal Resources 1.8
1.3.3 Previously Known Archaeological Sites and Surveys 1.10
1.3.4 Existing Conditions 1.12

2.0 FIELD METHODS **2.1**

3.0 ANALYSIS AND CONCLUSIONS **3.1**

4.0 RECOMMENDATIONS **4.1**

5.0 ADVICE ON COMPLIANCE WITH LEGISLATION **5.1**

6.0 BIBLIOGRAPHY AND SOURCES **6.1**

7.0 IMAGES **7.1**
7.1 PHOTOGRAPHS 7.1

8.0 MAPS **8.1**

9.0 CLOSURE **9.1**

LIST OF TABLES

Table 1: Summary of Lots and Concessions Comprising Study Area 1.1
Table 2: Summary of Historical Townships Comprising Study Area 1.5
Table 3: Generalized Cultural Chronology of the Study Area 1.9
Table 4: Previously Registered Archaeological Sites 1.10
Table 5: Archaeological Reports Within 50 Metres of the Study Area 1.11

LIST OF FIGURES

Figure 1: Study Area Overview 8.2

Figure 2.1: Study Area Location 8.3
Figure 2.2: Study Area Location 8.4
Figure 2.3: Study Area Location 8.5
Figure 3: Map of Treaty Areas in Upper Canada 8.6
Figure 4: Map of Treaties and Purchases (Adapted from Morris 1943) 8.7
Figure 5: The 1796 Chenail Ecarté Treaty 8.8
Figure 6: The 1821 Surveyor's Map of the Township Of Dawn 8.9
Figure 7: The 1880 Historical Atlas Map of Dawn Township 8.10
Figure 8: The 1833 Surveyor's Map of the Township of Enniskillen 8.11
Figure 9: The 1880 Historical Atlas Map of Enniskillen Township 8.12
Figure 10: Archaeological Potential of Study Area Overview 8.13
Figure 11.1: Archaeological Potential of Study Area 8.14
Figure 11.2: Archaeological Potential of Study Area 8.15
Figure 11.3: Archaeological Potential of Study Area 8.16

Executive Summary

Stantec Consulting Ltd. (Stantec) was retained by Union Gas Ltd. (Union Gas) to conduct a Stage 1 archaeological assessment prior to the construction of the Dawn-Enniskillen Pipeline Project (Dawn-Enniskillen) (the Project) located on parts of various lots and concessions, Geographic Township of Dawn, now Township of Dawn-Euphemia, and Township of Enniskillen, Lambton County, Ontario. The Stage 1 assessment was conducted during the preliminary - planning phase of the Project in accordance with the provisions of the *Ontario Heritage Act* (Government of Ontario 1990a) and the requirements of Section 4.3.4 of the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario* (OEB 2011).

The alignment of the proposed pipeline is expected to follow the existing easement of the Dawn-Parkway System. Thus, the current study area for the Stage 1 assessment is large and serves to capture a broad and generalized geographic area associated with the Project. This Stage 1 archaeological assessment was conducted under archaeological consulting license P083 issued to Arthur Figura, MA, of Stantec by the Ministry of Tourism, Culture and Sport (MTCS). A property inspection was undertaken on March 30, 2016 in accordance with Section 1.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The property inspection included the existing pipeline alignment and the lands immediately adjacent to it to provide overview of a larger study area as noted above. The goal of the property inspection was to identify the presence or absence of any features of archaeological potential.

The Stage 1 archaeological assessment, involving background research and a property inspection, resulted in the determination that large portions of the study area exhibit a moderate to high potential for the identification and recovery of archaeological resources. As such, in accordance with Section 1.3 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), **a Stage 2 archaeological assessment will be required for portions of the study area which retain archaeological potential.** The Stage 1 archaeological assessment further determined that the study area retains areas of no archaeological potential, including previously disturbed areas, particularly around existing Union Gas infrastructure; municipal drains; and areas that are low and permanently wet, directly associated with present-day water sources.

The objective of the Stage 2 archaeological assessment will be to document archaeological resources within the study area and to determine whether these archaeological resources require further assessment or if they have already been previously documented by other known archaeological assessments within the study area. The Stage 2 archaeological assessment will include the systematic walking of open ploughed fields at five metre intervals as outlined in Section 2.1.1 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists*

(Government of Ontario 2011). The MTCS standards further require that all agricultural land, both active and inactive, be recently ploughed and sufficiently weathered to improve the visibility of archaeological resources. Ploughing must be deep enough to provide total topsoil exposure, but not deeper than previous ploughing, and should provide at least 80% ground surface visibility.

For areas inaccessible for ploughing, the Stage 2 archaeological assessment will include a test pit survey at a five-metre interval as outlined in Section 2.1.2 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The MTCS standards require that each test pit be approximately 30 centimetres in diameter, excavated to at least five centimetres in to subsoil, and have all soil screened through six millimetre hardware cloth to facilitate the recovery of any cultural material that may be present. Prior to backfilling, each test pit will be examined for stratigraphy, cultural features, or evidence of fill.

Should any areas of disturbance or features indicating that archaeological potential have been removed, including municipal road ROWs and areas of ground disturbance due to landscaping, as well as permanently wet or steeply sloped areas not previously identified during the Stage 1 property inspection be encountered during the Stage 2 archaeological assessment, they will not require assessment but will be photo documented as outlined in Section 2.1.8 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

In addition to the above, the Stage 1 archaeological assessment determined that there are small pockets within the study area which retain low to no archaeological potential due to low and permanently wet conditions and modern disturbances (e.g., municipal drains, and Union Gas infrastructure). Thus, these portions of the study area do not retain potential for the identification or recovery of archaeological resources. In accordance with Section 1.3.2 and Section 7.7.4 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), **a Stage 2 archaeological assessment is not required for any portion of the study area with low to no archaeological potential.**

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

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

Project Personnel

Project Manager:	Meghan Bertenshaw, Environmental Scientist
Licensed Archaeologist:	Arthur Figura, MA (P083)
Licensed Field Director:	Arthur Figura, MA (P083)
Report Writer:	Arthur Figura, MA (P083)
GIS Specialist:	Patrick Worsell, BES, DGIS
Quality Review:	Jeffrey Muir, BA (P304)
Independent Review:	Tracie Carmichael, BA, B.Ed. (R140)

Acknowledgements

Proponent Contacts:	Doug Schmidt, Union Gas Limited Ryan Park, Union Gas Limited
Ministry of Tourism, Culture and Sport:	Robert von Bitter
Ministry of Natural Resources and Forestry:	Lisa Casselman – Survey Records Clerk
Walpole Island Heritage Centre:	Jared Macbeth – Project Review Coordinator Dr. Dean Jacobs – Consultation Manager

1.0 PROJECT CONTEXT

1.1 DEVELOPMENT CONTEXT

Stantec Consulting Ltd. (Stantec) was retained by Union Gas Ltd. (Union Gas) to conduct a Stage 1 archaeological assessment for the Dawn-Enniskillen Pipeline Project (the Project). The study area for the Stage 1 archaeological assessment of the Project comprises parts of various lots and concessions, Geographic Township of Dawn, now Township of Dawn-Euphemia, and Township of Enniskillen, Lambton County, Ontario (Figures 1 and 2). The Stage 1 assessment was conducted during the preliminary planning phase of the Project in accordance with the provisions of the *Ontario Heritage Act* (Government of Ontario 1990a) and the requirements of Section 4.3.4 of the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario* (OEB 2011).

The proposed Project will occur between the existing Union Gas Dawn Compressor Station located at the intersection of Bentpath Line and Dawn Valley Road in the Township of Dawn-Euphemia and the existing Enniskillen Transmission Station located at Oakdale Road in the Township of Enniskillen. While the alignment for the new pipeline is expected to follow the existing easement of the Dawn-Parkway System (Figures 1 and 2), the final construction easement, or temporary land use, will be determined by Union Gas at a later date. Thus, the current study area for the Stage 1 assessment is large and serves to capture a broad and generalized geographic area associated with the Project. Table 1 provides a summary of the lots and concessions included within this Stage 1 report.

Table 1: Summary of Lots and Concessions Comprising Study Area

Lower Tier Municipality	Geographic Township	Concession	Lot
Dawn-Euphemia	Dawn	1	Part 25 to Part 34
Dawn-Euphemia	Dawn	2 to 12	Part 25, 26 to 34
Dawn-Euphemia	Dawn	13	Part 25 to Part 34
Enniskillen	Enniskillen	1 to 4	Part 2; 3 to 27; Part 28
Enniskillen	Enniskillen	5	Part 2 to Part 28

1.1.1 Objectives

The objectives of the Stage 1 assessment were to compile all available information about the known and potential archaeological heritage resources within the study area and to provide specific direction for the protection, management and/or recovery of these resources. In compliance with the provincial standards and guidelines set out in the Ministry of Tourism, Culture and Sport's (MTCS) 2011 *Standards and Guidelines for Consultant Archaeologists*

(Government of Ontario 2011), the objectives of the Stage 1 Archaeological Overview/Background Study are as follows:

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

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

- A review of relevant archaeological, historic and environmental literature pertaining to the study area;
- A review of the land use history, including pertinent historic maps;
- An examination of the Ontario Archaeological Sites Database (ASDB) to determine the presence of known archaeological sites in and around the project area; and
- A property inspection of the study area.

Permission to enter the property was provided by Doug Schmidt at Union Gas Limited.

1.2 HISTORICAL CONTEXT

1.2.1 Post-Contact Aboriginal Resources

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

The study area for the Project falls within the lands of the archaeologically known Western Basin tradition. It has been put forward that the Western Basin people were of the Fire Nation, an Algonkian-speaking group pushed out of Ontario by the Iroquoian-speaking Neutral people in the early 17th century (Murphy and Ferris 1990). The Neutral, in turn, ceased to exist as a corporate entity following the incursion of the New York Iroquois in 1650 (Heidenreich 1990). The First Nations people who occupied this portion of southwestern Ontario have been referred to as Anishinaabe or Anishinaabeg; Chippewa; and Ojibwa, an Algonquian-speaking people. According to traditional history, they were once one nation, but subdivisions occurred as people migrated to different areas. They were also known as the Three Fires Confederacy, and acted together in political and military affairs through the 17th to 19th centuries.

Under British administration in the 19th century, the groups were divided into separate bands. The Anishinaabe included the western Algonquian peoples, among them the Chippewa and the Odawa. Until the 18th century, the central Algonquian-speaking peoples, among them Potawatomi, were located in the Michigan Peninsula (Blackbird 1887). In the middle of 18th century, the Chippewa were located on the south shores of Lake Huron, the east shores of Georgian Bay, and on the west end of Lake Ontario. Aboriginal peoples continue to play a large role in the occupation of the study area and its environs.

Following the American Revolutionary War, Britain focused on the settlement of European immigrants into what became province of Upper Canada in 1791. To enable widespread settlement, the British government negotiated a series of treaties with the First Nations peoples. Figure 3 provides a map of southwestern Ontario illustrating early treaties and purchases (Government of Canada n.d.a). One of the earliest treaties involving lands located near the study area was made on May 19, 1790. Originally identified as the Detroit Treaty, the chiefs of the Odawa, Chippewa, Pottawatomi, and Huron Nations and representatives of the British Crown established a vast tract of land "…from the Detroit River easterly to Catfish Creek and south of the river La Tranche [now Thames River] and Chenail Ecarte [now St. Clair River], and contains Essex County except Anderdon Township and Part of West Sandwich; Kent County except Zone Township, and Gores of Camden and Chatham; Elgin County except Bayham Township and parts of South Dorchester and Malahide…[i]n Middlesex County, Del[a]ware and Westminster Township and part of North Dorchester" (Morris 1943:17). Today, this treaty is identified as Treaty Number 2, illustrated by the letter "C" on Figure 4. A plaque, erected by the Historic Sites and Monuments Board of Canada further identifies this treaty as *McKee's Purchase*. A commemorative plaque located in the Blenheim Memorial Park in Blenheim, Ontario reads (Ontario Plaques 2016a):

> *In May 1790 Alexander McKee, Deputy Agent of the British Indian Department, and the principal chiefs of the Ottawa, Potawatomi, Chippewa and Wyandot negotiated a treaty whereby the British Crown acquired title to what is now southwestern Ontario. This treaty completed the process begun with Niagara treaties of 1781 and 1784, with the result that most of the Ontario peninsula was soon opened to British and Loyalist settlement.*

Later, on September 29, 1795, McKee obtained a preliminary agreement from several Ojibwa Chiefs to set apart land at Chenail Ecarté for the purpose of establishing a Reserve for those who lost their lands and homes during the last stages of the American Revolution War (Willig 2008). A preliminary agreement was signed by which the Crown offered to pay £1,200 for these lands (Willig 2008). On September 7, 1796, the Chenail Ecarté Treaty was signed by the Ojibwa and Odawa chiefs (Lytwyn 2009). Figure 5 provides an early illustration by Abraham Iredell of the Chenail Ecarté Treaty lands (Government of Canada n.d.b; see also Curnoe 1996:166). Today, this treaty is more commonly identified as Treaty Number 7, identified by the letter "J" on Figure 4. This treaty comprises "…a tract of land near the River called Chenail Ecart[é]…[to include] the Township of Sombra in Lambton County and the Gore of Chatham Township in Kent County" (Morris 1943:21).

The study area for the Project is located within Treaty Number 21, which was an agreement made on March 9, 1819 between John Aiken, on behalf of the British Crown, and the Chippewa Nation. Treaty Number 21 is illustrated on Figure 4 by the letter "R". The lands of Treaty Number 21 commence:

> *…at the northerly side of the River Thames at the south west angle of the Township of London; thence along the western boundary of the Township of London, in a course north 21 degrees, 30 minutes west, twelve miles to the north west angle of the said Township; then on a course about south 62 degrees and 30 minutes west forty-eight miles more or less until it intersects a line on a course produced north two miles from the north east angle of the Shawnee [Sombra] Township; then along the eastern boundary line of the said Township, twelve miles and a half more or less to the northern boundary line of the Township of Chatham; then east twenty-four miles more or less to the River Thames; then along the water[']s edge of the River Thames against the stream to the place of beginning, reserving a tract of land situate[d] on the northerly side of the River Thames nearly opposite to the northerly angle of the Township of Southwold and south west angle of the Del[a]ware Township containing 15,360 acres; also reserving two miles square distant about four miles above the rapids where the Indians have their improvements and nearly parallel to the Moravian Village containing 5,120 acres.*
>
> (Morris 1943:24-25)

As demonstrated above, the nature of Aboriginal settlement size, population distribution, and material culture shifted as European settlers encroached upon Aboriginal territory. However, despite this shift, "written accounts of material life and livelihood, the correlation of historically recorded villages to their archaeological manifestations, and the similarities of those sites to more ancient sites have revealed an antiquity to documented cultural expressions that confirms a deep historical continuity to…systems of ideology and thought" (Ferris 2009:114). As a result, First Nations peoples of southern Ontario have left behind archaeologically significant resources throughout the region which show continuity with past peoples, even if they have not been explicitly recorded in Euro-Canadian documentation. Examples of documentation of Aboriginal activities (e.g., notations on early township survey plans and surveyor's field notes) are noted below.

1.2.2 Euro-Canadian Resources

In 1791, the Provinces of Upper Canada and Lower Canada were created from the former Province of Quebec by an act of British Parliament. At this time, Colonel John Graves Simcoe was appointed as the Lieutenant Governor of Upper Canada and was tasked with governing the new province, directing its settlement and establishing a constitutional government modelled after that of Britain's (Petryshyn 1985). In 1792, Simcoe divided Upper Canada into 19 counties consisting of previously-settled lands, new lands opened for settlement, and lands not yet acquired by Crown. These new counties stretched from Essex in the west, to Glengarry in the

east. Table 2 provides a summary of the former and current municipal designations for the study area.

Table 2: Summary of Historical Townships Comprising Study Area

Geographic Township	Former County	Current Lower Tier Municipality	Current Upper Tier Municipality
Dawn	Lambton	Township of Dawn-Euphemia	Lambton County
Enniskillen	Lambton	Township of Enniskillen	Lambton County

Lambton County was originally part of the District of Hesse, and in 1792 was renamed the Western District. The Western District consisted of Kent (which included Lambton) and Essex Counties. Lambton County was named after John George Lambton, first Earl of Durham. Lambton was the author of the Durham Report, which investigated the issues that led to the Upper Canada Rebellion of 1837. All of the townships in Lambton were not completely surveyed until 1835. After the *Municipal Act* of 1849, which provided a means of government for towns and counties, several counties amalgamated and separated over the next few years with the former Kent County; Lambton County finally became an independent county in 1853 (Elford 1982).

Euro-Canadian settlement in the area of Lambton County began as early as 1796 as French settlers began living along the banks of the St. Clair River. Large scale settlement, however, did not begin until the 1830s. The majority of the surveyed lots in the townships of Lambton County were assigned to children of the United Empire Loyalists, who sold their rights to early Euro-Canadian occupants. Early Euro-Canadian inhabitants were primarily tenant farmers from Britain as well as artisans and retired military men. The population of Lambton County swelled in the 1850s with the establishment of the Great Western Railway and the Great Trunk Railway. This growth remained steady until 1891, when the population peaked at 58,810 people (Elford 1982).

Dawn Township was surveyed in 1821 by Shubal Park, and Euro-Canadian settlement started in 1822. Survey records obtained from the Ministry of Natural Resources and Forestry (MNRF) were examined for evidence of Aboriginal and early Euro-Canadian settlements in Dawn Township (Government of Ontario n.d.). An early survey plan of the township, originally drawn in 1821, depicts numerous land grant recipients, and illustrates how land grants changed over time as multiple names are denoted in each lot, with many overlapping each other. The 1821 survey of Dawn Township, confirmed by an examination of the accompanying field notes, also illustrates an Aboriginal presence in the township, particularly along the banks of Bear Creek, now known as the Sydenham River (Figure 6). Two instances of an “Indian Clearing” (Insets 1 and 3 on Figure 6) and one instance of an “Indian Village” (Inset 2 on Figure 6) are noted on the map. While none of these labels fall within the study area, they do illustrate the Aboriginal presence in the vicinity.

The 1880 historical atlas of Lambton County (Belden & Co. 1880) shows the extent to which Dawn Township was settled by the late 19th century (Figure 7). Early Euro-Canadian settlement of the township was limited to the southeastern portion around the early communities of Florence and Dawn Centre. Dawn Township was originally connected with three other townships to form one municipal unit, consisting of 147 taxpayers (Lauriston 1949). The township was densely wooded and had poor drainage, which held back settlement in the 1800s. The majority of land was not cleared, and most clearings were only between five and 25 acres (Lauriston 1949).

By 1835, Dawn was its own township, although a portion of Dawn Township was lost to Kent County when Lambton and Kent Counties split in 1849. In 1850 the township still only numbered 429 people. With sawmills in use by the 1870s growth picked up; by 1881 the population was 2,026 and by 1901 grew once more to 3,659 (Elford 1982). However, even by 1901, only half of all the land in Dawn township was cultivated, and reliable roadways had not been built; most concession roads could not be traversed their entire length until the 1920s (Elford 1982). After 1901, people left the township for Western Canada with the promise of 160 free acres and since then the population has continued to decrease. However, during this time, the oil and gas resources that the area became known for were starting to be developed, which also discouraged land clearance for agricultural purposes. By 1980 only 1,796 people lived in Dawn Township (Elford 1982). Drainage continues to be an issue throughout the township and much of the poorly drained land is used as pasture for beef cattle. The remaining land is used for production of corn, soybeans, hay, tomatoes and cereal crops. As a result of municipal restructuring in 1998, the townships of Dawn and neighbouring Euphemia were amalgamated as the Township of Dawn-Euphemia.

The Township of Enniskillen was named after the Earl of Enniskillen from Ireland. Deputy Surveyor Lewis Burwell hired Eliakim Malcolm to survey Enniskillen Township in 1832. Malcolm prepared his report in January 1833. Many of the lots were assigned to the British soldiers who served in the War of 1812 (Elford 1982). Large portions of the township were known to contain forested swamps and often impassable wetland areas. Survey records obtained from the MNRF were examined for evidence of Aboriginal and early Euro-Canadian settlements in Enniskillen Township (Government of Ontario n.d.). An early survey plan of the township, originally drawn in 1833, depicts lots and concession numbers, but does not include any names of land grants. The map shows major and minor watercourses located within township boundaries (Figure 8).

The 1880 historical atlas of Lambton County (Belden & Co. 1880) shows the extent to which Enniskillen Township was settled by the late 19th century (Figure 9). Early Euro-Canadian settlement of the township was slow. In 1850 Enniskillen had a population of only 150 people. The 1861 census of Enniskillen Township states that only a few people initially settled in the township known by many as a "miserable swamp" (Canada Census 1861). According to the 1861 census there were 1,069 Enniskillen township occupants. The fortunes of the township changed in mid-1850 after the discovery of oil in Enniskillen Township. One of the first oil wells was drilled in North America on Lot 16, Concession 2 owned by James Miller Williams (Ball and Phelps 2016). The historical plaque erected in Oil Springs by the Historic Sites and Monuments Board of Canada identifies the first oil wells in Canada (Ontario Plaques 2016b):

> *The presence of oil in this locality was observed by early travelers and by the pioneer farmers who used it for medical purposes. In 1858, near Oil Springs, James M. Williams dug the first oil well in Canada and later established a refinery at Hamilton. In 1861, John Shaw, by drilling into the rock, opened the first flowing well, its situation being Lot 18, Concession 2, Enniskillen Township. From these beginnings developed one of Canada's most important industries.*

Initially the discovery of petroleum did not have a positive effect on the overall township population. Many unoccupied lots were purchased or leased by oil speculators, who kept them out of reach of the Euro-Canadian inhabitants. At the end of 1862, there were 1,000 oil wells and 10 refineries in the Enniskillen Township, and by 1866 there were estimated 1,500 wells in operation. Much of the product was refined in nearby Oil Springs until the discovery of the Petrolia oil field and the construction of the railway connecting Petrolia with the Great Western Railway at Wyoming.

The last quarter of the 19th century saw an increase in township settlement due to changes to provincial legislation allowing farmers to have ditches made along the concession lines and have them paid by the taxes levied on all adjacent lands. Once the oil boom subsided in 1870s the township became an agricultural community with improved drainage and roadways (Elford 1982).

The historical context of the Stage 1 study area for the Project includes numerous examples of Aboriginal and early Euro-Canadian resources. In discussing the late 19th century historical mapping it must be remembered that historical county atlases were produced primarily to identify factories, offices, residences and landholdings of subscribers and were funded by subscription fees. Landowners who did not subscribe were not always listed on the maps (Caston 1997:100). As such, all structures were not necessarily depicted or placed accurately (Gentilcore and Head 1984).

The majority of the region surrounding the study area has been subject to European-style agricultural practices for over 100 years, having been densely populated by Euro-Canadian farmers by the late 19th century. Moreover, much of the study area has been cleared of woodlot and had extensive drainage systems installed to reclaim swamp and marshland as agricultural fields.

1.3 ARCHAEOLOGICAL CONTEXT

1.3.1 The Natural Environment

The study area is situated within the St. Clair Clay Plain physiographic region, as identified by Chapman and Putnam 1984). The St. Clair Clay Plain is described as:

> *Adjoining Lake St. Clair in Essex and Kent County Counties and the St. Clair River in Lambton County are extensive clay plains covering 2,270 square miles. The region is one of little relief, lying between 575 and 700 feet a.s.l., except for the moraine at*

> *Ridgetown and Blenheim which rises 50 to 500 feet higher….Glacial Lake Whittlesey, which deeply covered all of these lands, and Lake Warren which subsequently covered nearly the whole area, failed to leave deep stratified beds of sediment on the underlying clay till except around Chatham, between Blenheim and the Rondeau marshes, and in a few other smaller areas. Most of Lambton and Essex Counties, therefore, are essentially till plains smoothed by shallow deposits of lacustrine clay which settled in the depressions while the knolls were being lowered by wave action.*
>
> (Chapman and Putnam 1984:147)

The study area is located primarily within Caistor Clay and Brookston Clay deposits. Generally, pre-contact Aboriginal settlement tended towards locations which contained well drained soil. However the presence of Caistor and Brookston Clays as the predominant soil types in the study area should not discount the potential for the presence of archaeological resources. Large portions of the forested tracts within and in close proximity to the study are still poorly drained, as they were when Dawn Township was first surveyed in 1821.

The major topographic feature nearest to the study area is the St. Clair River located to the west, although other sources of potable water are abundant within the Stage 1 study area. In addition to large primary water sources such as St. Clair River, there are numerous other primary and secondary sources of potable water. The study area drains towards the St. Clair River and Lake St. Clair by creeks such as Booth Creek, Crooked Creek, and Black Creek. Additional secondary and tertiary creeks and streams from these primary sources are noted throughout the study area.

1.3.2 Pre-contact Aboriginal Resources

This portion of southwestern Ontario has been occupied by First Nations peoples since the retreat of the Wisconsin glacier approximately 11,000 years ago. Local environmental conditions were significantly different from what they are today. Ontario's first peoples would have crossed the landscape in small groups in search of food, particularly migratory game species. In this area, caribou may have been a Paleo-Indian diet staple, supplemented by wild plants, small game, birds, and fish. Given the low density of populations on the landscape at this time and their mobile nature, Paleo-Indian sites are small and ephemeral. They are sometimes identified by the presence of fluted points. Sites are frequently located adjacent to the shorelines of large glacial lakes (Ellis and Deller 1990).

Archaeological records indicate subsistence changes around 8,000 B.C. at the start of the Archaic Period in southwestern Ontario. Since the large mammal species that formed the basis of the Paleo-Indian diet became extinct or moved north with the warming of the climate, Archaic populations had a more varied diet, exploiting a range of plants and bird, mammal, and fish species. Reliance on specific food resources like fish, deer, and several nut species became more noticeable through the Archaic Period and the presence of warmer, more hospitable environs led to expansion of group and family sizes. In the archaeological record, this is evident in the presence of larger sites. The coniferous forests of earlier times were replaced by

stands of mixed coniferous and deciduous trees by about 4,000 B.C. The transition to more productive environmental circumstances led to a rise in population density. As a result, Archaic sites become more abundant over time. Artifacts typical of these occupations include a variety of stemmed and notched projectile points; chipped stone scrapers; ground stone tools (e.g., celts, adzes) and ornaments (e.g., bannerstones, gorgets); bifaces or tool blanks; animal bone; and chert waste flakes, a byproduct of the tool making process (Ellis *et al*. 1990).

Significant changes in cultural and environmental patterns occurred in the Early and Middle Woodland periods (*circa* 950 B.C. to 800 A.D.). Occupations became increasingly more permanent in this period, culminating in major semi-permanent villages by roughly 1,000 years ago. Archaeologically, the most significant changes by Woodland peoples were the appearance of artifacts manufactured from modeled clay and the emergence of more sedentary villages. The earliest pottery was crudely made by the coiling method and early house structures were simple oval enclosures. The Early and Middle Woodland periods are also characterized by extensive trade in raw materials, objects and finished tools, with sites in Ontario containing trade items with origins in the Mississippi and Ohio River valleys (Spence *et al*. 1990).

By the Late Woodland period there was a distinctive cultural occupation in southwestern Ontario, including Essex, Kent, and Lambton counties. The primary Late Woodland occupants of the Windsor area were populations described by archaeologists as Western Basin Tradition. Murphy and Ferris (1990:189) indicate that these people had ties with populations in southeastern Michigan and northwestern Ohio, and represent an *in situ* cultural development from the earlier Middle Woodland groups. The Western Basin Tradition seems to have been centred in the territory comprising the eastern drainage basin of Lake Erie, Lake St. Clair, and the southern end of Lake Huron. The Western Basin Tradition is divided up into four phases based on differences in settlement and subsistence strategies and pottery attributes. Table 3 provides a general outline of the cultural chronology of the study area, summarized from Ellis and Ferris (1990).

Table 3: Generalized Cultural Chronology of the Study Area

Period	Characteristics	Time	Comments
Early Paleo-Indian	Fluted Projectiles	9,000 – 8,400 B.C.	spruce parkland/caribou hunters
Late Paleo-Indian	Hi-Lo Projectiles	8,400 – 8,000 B.C.	smaller but more numerous sites
Early Archaic	Kirk and Bifurcate Base Points	8,000 – 6,000 B.C.	slow population growth
Middle Archaic	Brewerton-like Points	6,000 – 2,500 B.C.	environment similar to present
Late Archaic	Narrow Point	2,000 – 1,800 B.C.	increasing site size
	Broad Point	1,800 – 1,500 B.C.	large chipped lithic tools
	Small Point	1,500 – 1,100 B.C.	introduction of bow hunting
Terminal Archaic	Hind Points	1,100 – 950 B.C.	emergence of true cemeteries
Early Woodland	Meadowood Points	950 – 400 B.C.	introduction of pottery

Period	Characteristics	Time	Comments
Middle Woodland	Couture Corded Pottery	400 B.C. – A.D. 500	increased sedentism
	Riviere au Vase Phase	A.D. 500 – 800	seasonal hunting and gathering
Late Woodland	Younge Phase	A.D. 800 – 1200	incipient agriculture
	Springwells Phase	A.D. 1200 – 1400	agricultural villages
	Wolf Phase	A.D. 1400 – 1550	earth worked villages, warfare
Contact Aboriginal	Various Algonkian and Iroquoian Groups	A.D. 1600 – 1875	early written records and treaties
Historic	French/Euro-Canadian	A.D. 1749 – present	European settlement

1.3.3 Previously Known Archaeological Sites and Surveys

In order to compile an inventory of archaeological resources, the registered archaeological site records kept by the MTCS were consulted. In Ontario, information concerning archaeological sites stored in the ASDB is maintained by the MTCS. This database contains archaeological sites registered according to the Borden system. Under the Borden system, Canada is divided into grid blocks based on latitude and longitude. A Borden Block is approximately 13 kilometres east to west and approximately 18.5 kilometres north to south. Each Borden Block is referenced by a four-letter designator and sites within a block are numbered sequentially as they are found. The study area under review is located within Borden Blocks AeHn and AeHm.

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

An examination of the ASDB has shown that there are 10 previously registered archaeological sites within the study area or within a one-kilometre radius of the study area (Government of Ontario 2016a). Table 4 provides a summary of the previously registered archaeological sites including whether they retain cultural heritage value or interest (CHVI), and Tile 1 in the Supplementary Documentation shows the location of these sites.

Table 4: Previously Registered Archaeological Sites

Borden #	Site Name	Site Type	Cultural Affiliation	Status
AeHm-1	-	Findspot	pre-contact Aboriginal	No Further CHVI
AeHm-19	-	Homestead	Euro-Canadian	No Further CHVI
AeHn-1	Simpson	Findspot	Middle Woodland, Saugeen Tradition	No Further CHVI

Borden #	Site Name	Site Type	Cultural Affiliation	Status
AeHn-4	Booth Creek	Campsite	Early to Middle Woodland	No Further CHVI
AeHn-6	Bentpath-Rosedale 1	Homestead	Euro-Canadian	No Further CHVI
AeHn-7	Bentpath-Rosedale 3	Homestead	Euro-Canadian	No Further CHVI
AeHn-8	Bentpath-Rosedale 4	Homestead	Euro-Canadian	No Further CHVI
AeHn-9	Bentpath-Rosedale 2	Campsite	Late Woodland	No Further CHVI
AeHn-10	-	Dump	Euro-Canadian	No Further CHVI
AeHn-11	Location 13	Dump	Euro-Canadian	No Further CHVI

Among the pre-contact Aboriginal sites noted above, the Simpson site (AeHn-1) is a findspot dating to the Middle Woodland Saugeen Tradition, identified during an assessment of the proposed Union Gas Pipeline in 1985 (Museum of Indian Archaeology [MIA] 1985). No further work is required. The Booth Creek site (AeHn-4) is an Early to Late Woodland campsite identified during an assessment of the Union Gas Pipeline by Mayer, Pihl, Poulton and Associates Incorporated (MPP) in 1985 (MPP 1985). This site has been fully documented and have no further CHVI. The site location AeHm-1 is a pre-contact Aboriginal findspot of one retouched flake, documented during a 1987 assessment of the proposed Union Gas Pipeline (MIA 1987). No further work is required. Bentpath-Rosedale 2 (AeHn-9) is a Late Woodland campsite identified during a survey of the Union Gas Pipeline by Mayer Heritage Consultants Inc. (MHCI) in 1997 (MHCI 1997). This site has been fully documented and has no further CHVI.

The six Euro-Canadian sites include four homesteads and two historic dumps. The four homesteads, Bentpath-Rosedale 1 (AeHn-6), Bentpath-Rosedale 3 (AeHn-7), Bentpath-Rosedale 4 (AeHn-8), and an unnamed site (AeHm-19) were identified during the 1997 MHCI assessment of the Union Gas Pipeline (MHCI 1997). Location AeHn-10 was a historic dump identified during an assessment for the Union Gas Dawn Parkway System and Compressor Station in 2015 by Stantec (Stantec 2015). Location 13 (AeHn-11) was a historic dump identified during the Union Gas Dawn-Dover Pipeline Project in 2016 by Stantec (Stantec 2016; Stantec 2017). All sites have been fully documented and have no further CHVI.

There are seven archaeological projects that have been conducted within 50 metres or within the study area. The reports related to these projects are summarized below in Table 5. All of the work conducted has been related to Union Gas pipeline work and all of the sites listed in Table 4 were documented during these projects, as summarized above.

Table 5: Archaeological Reports Within 50 Metres of the Study Area

Date	Report Name	Archaeologist	PIF #	Reference
1985	*An Archaeological Resource Assessment of the Proposed Union Gas NPS 10 Pipeline to Link the Enniskillen Pool Station and the Dawn Compressor Plant*	MPP	85-14	MPP

Date	Report Name	Archaeologist	PIF #	Reference
1985	*Report on Archaeological Resource Assessment of a Proposed Union Gas Pipeline Submitted to Union Gas and Ecological Services for Planning*	MIA	85-38	MIA 1985
1987	*Licence Report 87-40: Archaeological Resource Assessment of the Proposed Union Gas Pipeline Relocation on Lot 27, Concession 1 to 3, and Lot 28, Concession 1, Enniskillen Township, Lambton County., Submitted to Union Gas Ltd., Chatham*	MIA	87-40	MIA 1987
1995	*Archaeological Assessment (Stages 1 to 3), Union Gas NPS-30, Bentpath-Rosedale Pipeline, Townships of Dawn and Enniskillen, Lambton County, Ontario*	Robert Mayer	95-005	MHCI 1995
1997	*Addendum to Archaeological Resource Assessment: Survey Union Gas NPS 48 Pipeline, Dawn to Enniskillen Segment, Lambton County, Ontario*	Robert Mayer	97-035	MHCI 1997
2015	*Stage 1-2 Archaeological Assessment: Dawn Parkway System, Dawn H Compressor Station Project*	Walter McCall	P389-0215-2015	Stantec 2015
2016	*Stage 2 Archaeological Assessment: Panhandle Reinforcement Project (Dawn – Dover): Parts of Various Lots and Concessions, Geographic Township of Dawn, now Township of Dawn-Euphemia, and Geographic Township of Sombra, now Township of St. Clair, Lambton County; and Geographic Townships of Chatham and Dover, now Municipality of Chatham-Kent, Ontario*	Parker Dickson	P256-0388-2015	Stantec 2016
2017	*Stage 3 Archaeological Assessment: Location 13 (AeHn-11), Panhandle Reinforcement Project (Dawn-Dover): Part of Lot 25, Concession 1, Geographic Township of Dawn, now Township of Dawn-Euphemia, County of Lambton, Ontario*	Parker Dickson	P256-0410-2016	Stantec 2017

1.3.4 Existing Conditions

The study area for the Stage 1 assessment of the Project comprises approximately 18,276 hectares and includes various Lots and Concessions, Geographic Township of Dawn, now Township of Dawn-Euphemia, and Township of Enniskillen, Lambton County, Ontario. The proposed Project will occur between the existing Union Gas Dawn Compressor Station located

at the intersection of Bentpath Line and Dawn Valley Road, Township of Dawn-Euphemia and the existing Enniskillen Transmission Station located at Oakdale Road, Township of Enniskillen. Broadly, much of the study area consists of active agricultural field with smaller pockets of sparse woodlot. The study area is also inundated with numerous water sources, municipal road ROWs, and municipally constructed drains. Existing Union Gas infrastructure, such as metering stations, pumping stations, and storage facilities, are also located within the study area.

The study area was subject to a property inspection on March 30, 2016. Further details regarding the property inspections are provided in Section 2.0 below.

2.0 FIELD METHODS

Initial background research compiled the information concerning any known and/or potential archaeological resources within the study area. A property inspection was conducted under archaeological consulting license P083 issued to Arthur Figura, MA, of Stantec by the MTCS. The property inspection was completed on March 30, 2016 under PIF P083-0272-2016 in accordance with Section 1.2 of the MTCS' 2011 Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011). During the property inspection the weather was overcast and cool. The lighting and visibility of land features was suitable. At no time were field, lighting, or weather conditions detrimental to the identification of features of archaeological potential.

The Stage 1 study area for the Project comprises approximately 18,276 hectares in various lots and concessions in the Geographic Township of Dawn, now Township of Dawn-Euphemia, and Township of Enniskillen. While the final construction easement for the Project has yet to be determined by Union Gas, the alignment of the new pipe will follow the existing alignment. Therefore the property inspection was limited to the existing pipeline alignment and the lands immediately adjacent to it in order to identify the presence or absence of any features of archaeological potential.

The photography from the property inspection is presented in Section 7.1 and confirms that the requirements for a Stage 1 property inspection were met, as per Section 1.2 and Section 7.7.2 Standard 1 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Photos 1 to 8 illustrate typical agricultural fields within the study area which retain archaeological potential. Typical woodlots within the study area, though sparse, are depicted in the background of these photos. A sample of the water courses throughout the study area are illustrated in Photos 9 and 10. These areas are low and permanently wet and retain low to no archaeological potential. Numerous modern disturbances were noted throughout the study area, including: municipal road rights-of-way (ROWs) (Photos 11 to 13), municipal drains (Photos 14 to 18), and existing Union Gas infrastructure (Photos 19 to 21). These areas retain low to no archaeological potential.

3.0 ANALYSIS AND CONCLUSIONS

Archaeological potential is established by determining the likelihood that archaeological resources may be present on a subject property. Stantec applied archaeological potential criteria commonly used by MTCS (Government of Ontario 2011) to determine areas of archaeological potential within the region under study. These variables include proximity to previously identified archaeological sites, distance to various types of water sources, soil texture and drainage, glacial geomorphology, elevated topography and the general topographic variability of the area. However, extensive land disturbance can eradicate archaeological potential (Wilson and Horne 1995).

Potable water is the single most important resource for any extended human occupation or settlement and since water sources in southwestern Ontario have remained relatively stable over time, proximity to drinkable water is regarded as a useful index for the evaluation of archaeological site potential. In fact, distance to water is one of the most commonly used variables for predictive modeling of archaeological site location in Ontario. Distance to modern or ancient water sources is generally accepted as the most important determinant of past human settlement patterns and, considered alone, may result in a determination of archaeological potential. However, any combination of two or more other criteria, such as well-drained soils or topographic variability, may also indicate archaeological potential.

As discussed above, distance to water is an essential factor in archaeological potential modeling. When evaluating distance to water it is important to distinguish between water and shoreline, as well as natural and artificial water sources, as these features affect sites locations and types to varying degrees. The MTCS categorizes water sources in the following manner:

- Primary water sources: lakes, rivers, streams, creeks;
- Secondary water sources: intermittent streams and creeks, springs, marshes and swamps;
- Past water sources: glacial lake shorelines, relic river or stream channels, cobble beaches, shorelines of drained lakes or marshes; and
- Accessible or inaccessible shorelines: high bluffs, swamp or marshy lake edges, sandbars stretching into marsh.

Primary water sources are abundant within the Stage 1 study area. Transecting the study area are creeks such as Booth Creek, Crooked Creek, and Black Creek. Additional secondary and tertiary creeks and streams from these primary sources run throughout the study area. Additional ancient and/or relic tributaries of water sources may have existed but are not identifiable today and are not indicated on historic mapping. Further examination of the study area's natural environment identified soil conditions suitable for Aboriginal and Euro-Canadian agriculture, especially in the 19th and 20th centuries following the implementation of municipal drainage systems and agricultural field tiling. Aboriginal agricultural practices are noted on the early 19th

century township surveys. An examination of the ASDB identified ten registered archaeological sites, including six Euro-Canadian sites (four homesteads and two historic dumps) and four pre-pre-contact Aboriginal sites (one findspot of indeterminate age, one Middle Woodland Saugeen Tradition findspot, one Early to Middle Woodland campsite, and one Late Woodland campsite).

For Euro-Canadian sites, archaeological potential can be extended to areas of early Euro-Canadian settlement, including places of military or pioneer settlements; early transportation routes; and properties listed on the municipal register or designated under *the Ontario Heritage Act* (Government of Ontario 1990a) or property that local histories or informants have identified with possible historical events, activities, or occupations. Historical mapping demonstrates that the study area follows early concession roads with structures illustrated as fronting these roads, particularly focused around major waterways. Much of the established road and rail networks and agricultural settlement from the 19th century is still visible today. Adding to these observations is the presence of the Four previously registered 19th century archaeological sites.

In summary, the pre-contact Aboriginal, post-contact Aboriginal, and Euro-Canadian archaeological potential of the study area are judged to be moderate to high. However, as noted above, extensive and deep land alteration can eradicate archaeological potential. The Stage 1 property inspection has determined that portions of the study area, particularly focused around Union Gas' existing pipeline, have been subject to extensive land disturbance which has removed archaeological potential. In addition to the existing pipeline corridor the areas of modern disturbances include municipal road ROWs, municipal drains, and existing Union Gas infrastructures. Further areas which retain low to no archaeological potential are low and permanently wet areas directly associated with present-day water sources.

4.0 RECOMMENDATIONS

The Stage 1 archaeological assessment of the study area for the Project determined that much of the area retains potential for the identification and documentation of archaeological resources. In accordance with Section 1.3.1 and Section 7.7.4 of the MTCS' 2011 Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011), **a Stage 2 archaeological assessment is required for any portion of the study area which impacts an area of archaeological potential (Figures 10 and 11).**

The objective of the Stage 2 archaeological assessment will be to document any archaeological resources within the portions of the study area still retaining archaeological potential and to determine whether these archaeological resources require further assessment or if they have already been previously documented by other known archaeological assessments within the study area. The Stage 2 archaeological assessment will include the systematic walking of open ploughed fields at five metre intervals as outlined in Section 2.1.1 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The MTCS standards further require that all agricultural land, both active and inactive, be recently ploughed and sufficiently weathered to improve the visibility of archaeological resources. Ploughing must be deep enough to provide total topsoil exposure, but not deeper than previous ploughing, and must provide at least 80% ground surface visibility.

Moreover, for areas inaccessible for ploughing, the Stage 2 archaeological assessment will include a test pit survey at five metre intervals as outlined in Section 2.1.2 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The MTCS standards require that each test pit be approximately 30 centimetres in diameter, excavated to at least five centimetres in to subsoil, and have all soil screened through six millimetre hardware cloth to facilitate the recovery of any cultural material that may be present. Prior to backfilling, each test pit will be examined for stratigraphy, cultural features, or evidence of fill.

If the archaeological field team determines any lands to be low and wet, steeply sloped, or disturbed (e.g. municipal road ROWs) during the Stage 2 field work, those areas will not require survey, but will be photographically documented in accordance with Section 2.1 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

In addition to the above, the Stage 1 archaeological assessment determined that there are small pockets within the study area which retain low to no archaeological potential due to low and permanently wet conditions and modern disturbances (e.g., municipal drains, and Union Gas infrastructure). Thus, these portions of the study area do not retain potential for the identification or recovery of archaeological resources. In accordance with Section 1.3.2 and Section 7.7.4 of the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), **a Stage 2 archaeological assessment is not required for any portion of the study area with low to no archaeological potential (Figures 10 and 11).**

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

5.0 ADVICE ON COMPLIANCE WITH LEGISLATION

This report is submitted to the Minister of Tourism, Culture and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act* (Government of Ontario 1990a), R.S.O. 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture and Sport, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

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

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

The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (Government of Ontario 2002) requires that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Government and Consumer Services.

Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the *Ontario Heritage Act* (Government of Ontario 1990a) and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.

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7.0 IMAGES

7.1 PHOTOGRAPHS

Photo 1: Typical Agricultural Field within Study Area Retaining Archaeological Potential, facing northeast



Photo 2: Typical Agricultural Field within Study Area Retaining Archaeological Potential, facing northeast



Photo 3: Typical Agricultural Field within Study Area Retaining Archaeological Potential, facing northeast



Photo 4: Typical Agricultural Field within Study Area Retaining Archaeological Potential, facing southwest



Images
June 19, 2017

Photo 5: Typical Agricultural Field within Study Area Retaining Archaeological Potential, facing southwest



Photo 6: Typical Agricultural Field within Study Area Retaining Archaeological Potential, facing northeast



Photo 7: Typical Agricultural Field within Study Area Retaining Archaeological Potential, facing northeast



Photo 8: Typical Agricultural Field within Study Area Retaining Archaeological Potential, facing southwest



Photo 9: Typical Low and Permanently Wet Area (Booth Creek) – Low to No Archaeological Potential, facing southeast



Photo 10: Typical Low and Permanently Wet Area (Black Creek) – Low to No Archaeological Potential, facing east



Photo 11: Typical Municipal Road ROW (Robinson Rd.) – Low to No Archaeological Potential, facing north



Photo 12: Typical Municipal Road ROW (Marthaville Rd.) – Low to No Archaeological Potential, facing south



Photo 13: Typical Municipal Road ROW (Edys Mills Line) – Low to No Archaeological Potential, facing east



Photo 14: Typical Disturbed Municipal Drain (6th Concession Road Drain) – Low to No Archaeological Potential, facing north



Photo 15: Typical Disturbed Drain Along Aberfeldy Line – Low to No Archaeological Potential, facing east



Photo 16: Typical Disturbed Drain Along Black Ash Rd. – Low to No Archaeological Potential, facing north



Photo 17: Typical Disturbed Municipal Drain (Dale Drain) – Low to No Archaeological Potential, facing north



Photo 18: Typical Disturbed Drain Along Oil Springs Line – Low to No Archaeological Potential, facing west



Photo 19: Existing Disturbed Union Gas Station (Marthaville Rd.) – Low to No Archaeological Potential, facing west



Photo 20: Existing Disturbed Union Gas Enniskillen Station - Low to No Archaeological Potential, facing west



Photo 21: Existing Disturbed Union Gas Cuthbert Station - Low to No Archaeological Potential, facing west



8.0 MAPS

All maps will follow on succeeding pages.

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Courtright Line
Weidman Line
South Plank Road
Waterworks Road
Township Of St. Clair
Township Of Enniskillen
Fairweather Road
Plowing Match Road
Tile Yard Road
Oil Springs
Oil Springs Line
Gypsie Flats Road
Black Ash Road
Wanstead Road
Oakdale Road
Township Of Enniskillen
Municipality Of Brooke-Alvinston
Oil Heritage Road
Kelly Road
Centre Street
Bickford Line
Mandaumin Road
Marthaville Road
Township Of Enniskillen
Township Of Dawn-Euphemia
Forest Road
Inwood Road
Stanley Line
Robinson Road
Mccallum Line
Township Of St. Clair
Township Of Dawn-Euphemia
Dawn Valley Road
Cuthbert Road
Edys Mills Line
Tramway Road
Pantry School Road
Gould Road
Huffs Corners Road
Hale School Road
Naylor Road
Mcauslan Road
Burman Line
Esterville Road
Bentpath Line
Smith Line
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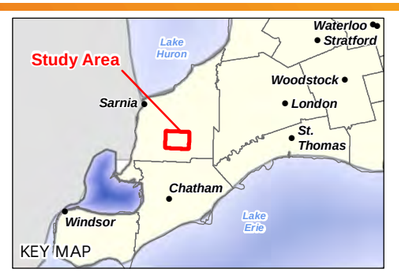
Legend
- Study Area
- Enniskillen Station
- Cuthbert Station
- Dawn Compressor Station
- Preferred Route
- Existing Dawn-Parkway System
- Road
- Municipal Boundary - Lower Tier

Notes
1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2016.
3. Orthoimagery © Mapcon, 2016. Imagery taken in 2010.



Client/Project
Union Gas Limited
Dawn-Enniskillen Pipeline Project

Figure No.
1

Title
Study Area Overview



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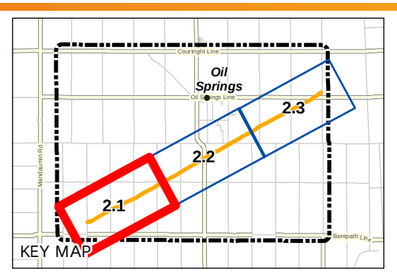
Legend
- Study Area
- Cuthbert Station
- Dawn Compressor Station
- Preferred Route
- Pipeline Easement
- Existing Dawn-Parkway System
- Road
- Constructed Drain
- Watercourse
- Waterbody
- Municipal Boundary - Lower Tier



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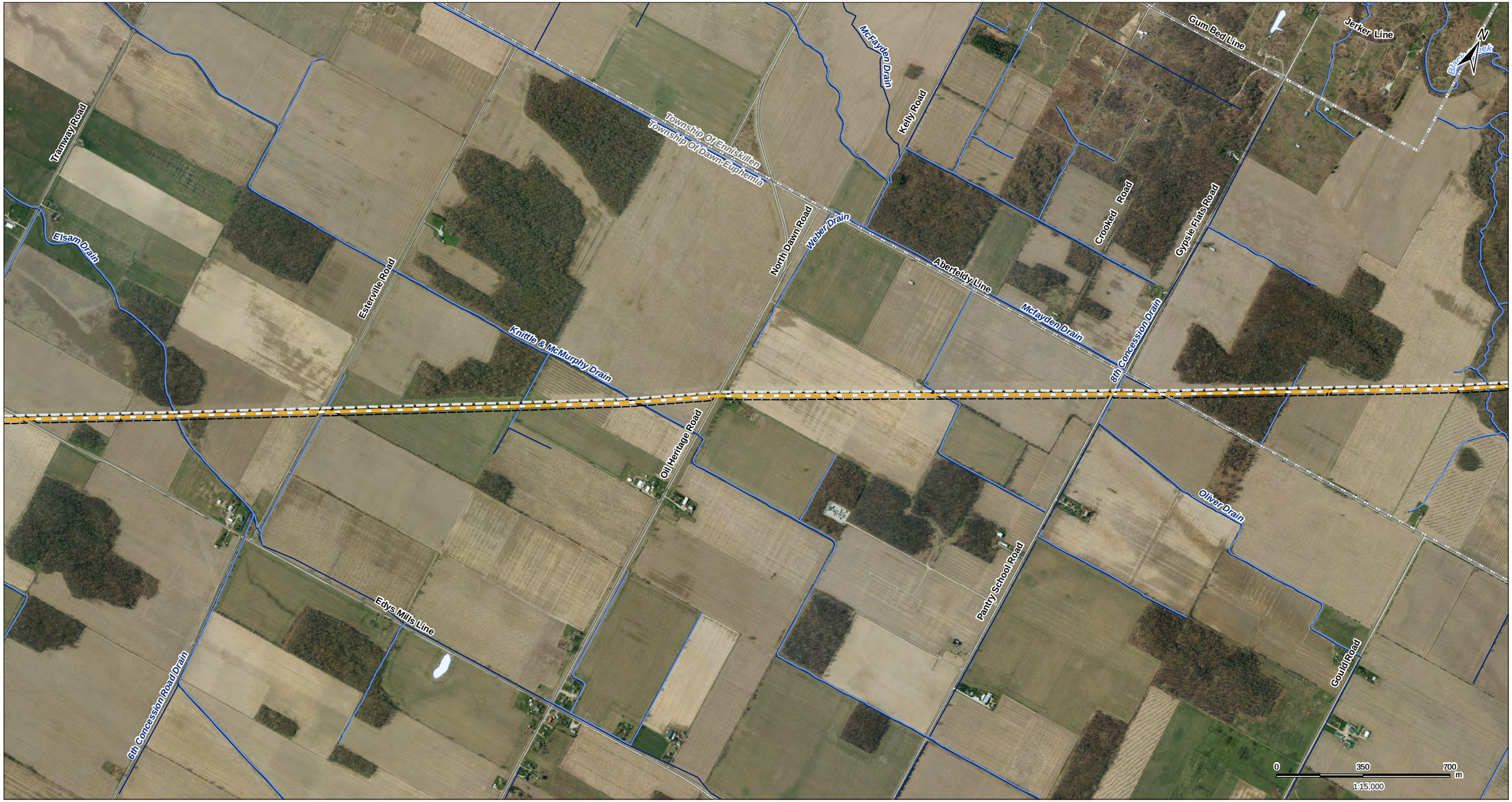
Dawn-Enniskillen Pipeline Project

Figure No.
2.1

Title
Study Area Location



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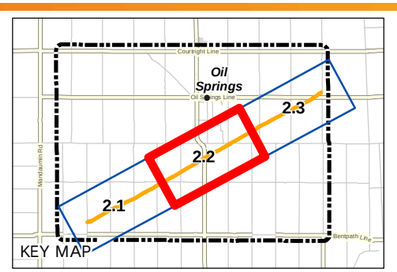
Legend
- Study Area
- Preferred Route
- Pipeline Easement
- Existing Dawn-Parkway System
- Road
- Constructed Drain
- Watercourse
- Waterbody
- Municipal Boundary - Lower Tier



Client/Project
Union Gas Limited
Dawn-Enniskillen Pipeline Project

Figure No.
2.2

Title
Study Area Location



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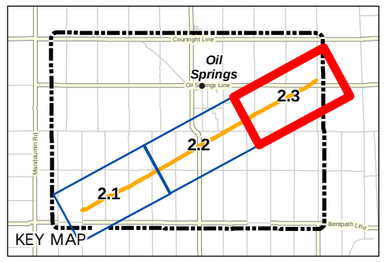
Legend
- Study Area
- Enniskillen Station
- Preferred Route
- Pipeline Easement
- Existing Dawn-Parkway System
- Road
- Constructed Drain
- Watercourse
- Waterbody
- Municipal Boundary - Lower Tier



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Union Gas Limited
Dawn-Enniskillen Pipeline Project

Figure No.
2.3

Title
Study Area Location



N

Legend
- Study Area
- Preferred Route

Notes
1. Map is not to scale.
2. Government of Canada. n.d.a. Map of Treaty Areas in Upper Canada. Ottawa: Department of Indian Affairs, Survey Branch.

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Client/Project
Union Gas Limited
Dawn-Enniskillen Pipeline Project

Figure No.
3

Title
Map of Treaty Areas in Upper Canada

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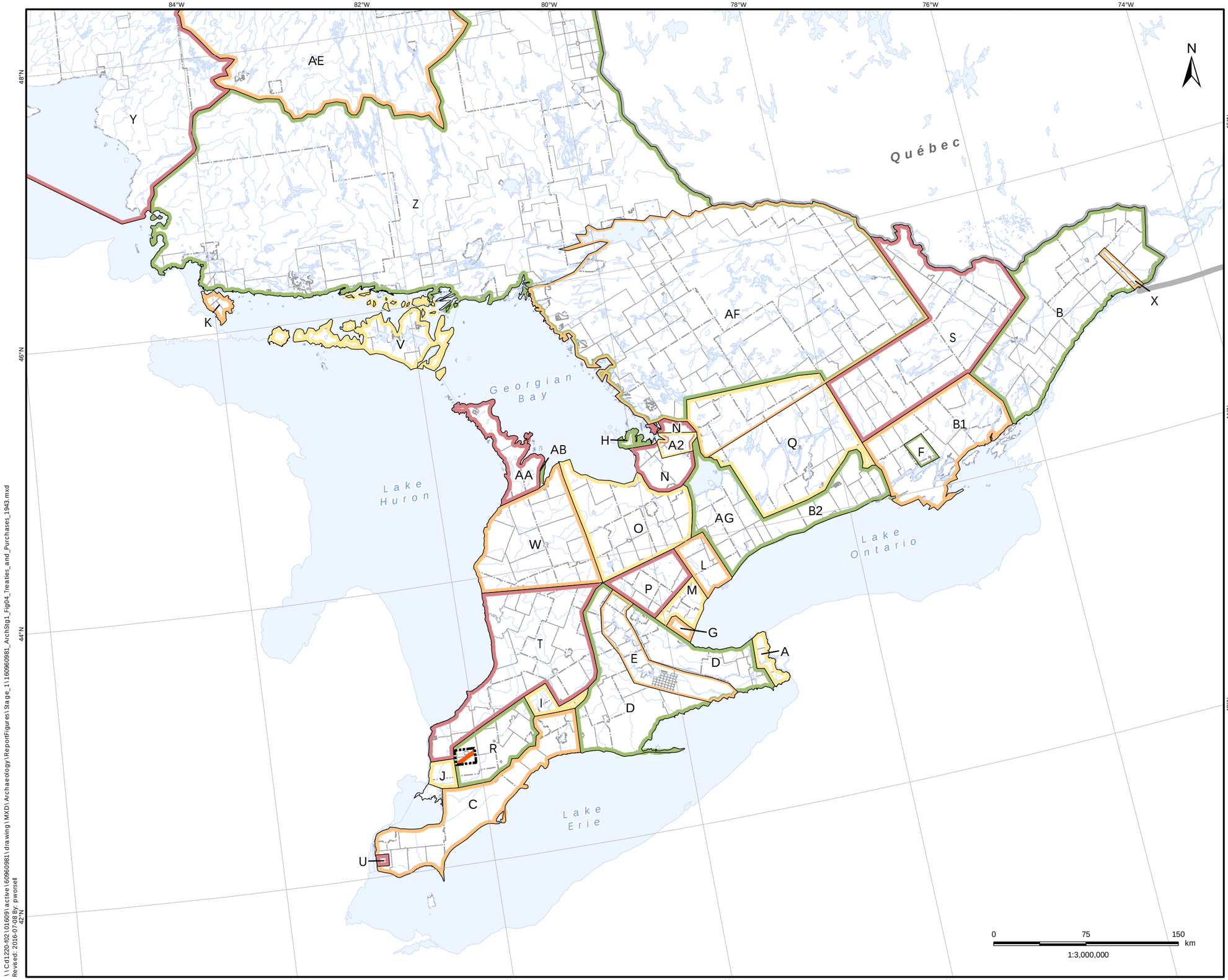
Revised: 2016-07-08 By: pworsell



Legend

- Study Area
- Preferred Route
- Municipal Boundary - Upper Tier
- Municipal Boundary - Lower or Single
- Watercourse
- Waterbody

A Treaty No. 381, May 9th, 1781 (Mississauga and Chippewa)
B Crawford's Purchase, October 9th, 1783 (Algonquin and Iroquois)
B1 Crawford's Purchase, October 9th, 1783 (Mississauga)
B2 Crawford's Purchases, 1784, 1787 And 1788 (Mississauga)
A2 John Collins' Purchase, 1785 (Chippewa)
C Treaty No. 2, May 19th, 1790 (Odawa, Chippewa, Pottawatomi, and Huron)
D Treaty No. 3, December 2nd, 1792 (Mississauga)
E Haldimand Tract:from the Crown to the Mohawk, 1793
F Tyendinaga:from the Crown to the Mohawk, 1793
G Treaty No. 3 3/4:from the Crown to Joseph Brant, October 24th, 1795
H Treaty No. 5, May 22nd, 1798 (Chippewa)
I Treaty No. 6, September 7th, 1796 (Chippewa)
J Treaty No. 7, September 7th, 1796 (Chippewa)
L Treaty No. 13, August 1st, 1805 (Mississauga)
M Treaty No. 13A, August 2nd, 1805 (Mississauga)
N Treaty No.16, November 18th, 1815 (Chippewa)
O Treaty No. 18, October 17th, 1818 (Chippewa)
P Treaty No. 19, October 28th 1818 (Chippewa)
Q Treaty No. 20, November 5th, 1818 (Chippewa)
R Treaty No. 21, March 9th, 1819 (Chippewa)
S Treaty No. 27, May 31st, 1819 (Mississauga)
T Treaty No. 27½, April 25th, 1825 (Ojibwa and Chippewa)
U Treaty No. 35, August 13th, 1833 (Wyandot or Huron)
V Treaty No. 45, August 9th, 1836 (Chippewa and Odawa, "For All Indians To Reside Thereon")
W Treaty No. 45½, August 9th, 1836 (Saugeen)
X Treaty No. 57, June 1st, 1847 (Iroquois of St. Regis)
Z Treaty No. 61, September 9th, 1850 (Robinson Treaty:Ojibwa)
AA Treaty No. 72, October 30th, 1854 (Chippewa)
AB Treaty No. 82, February 9th, 1857 (Chippewa)
AF Williams Treaty, October 31st and November 15th, 1923 (Chippewa and Mississauga)
AG Williams Treaty, October 31st, 1923 (Chippewa)

Notes

1. Coordinate System: NAD 1983 Statistics Canada Lambert
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2016.
3. Treaty boundaries adapted from Morris 1943 (1964 reprint). For cartographic representation only.

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Figure No.

4

Title

Treaties and Purchases
(Adapted from Morris 1943)

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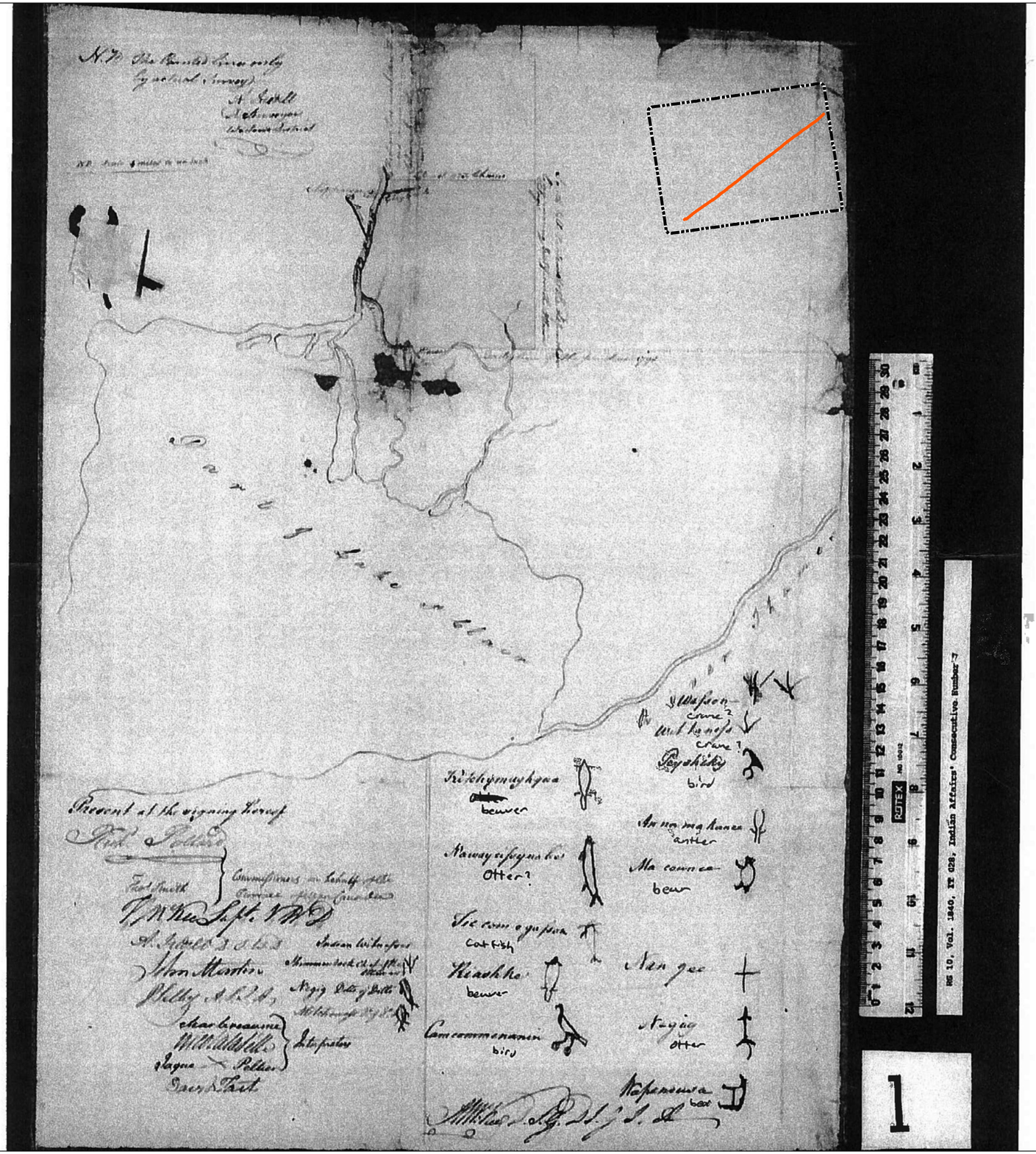

N

Stantec

Legend

- Study Area
- Preferred Route

Notes

1. Map is not to scale.
2. Government of Canada. n.d.b. Surrender #7, September 7, 1796. Ottawa: National Archives of Canada, File I7026 C-3.

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Dawn-Enniskillen Pipeline Project

Figure No.

5

Title

The 1796 Chenail Ecarté Treaty

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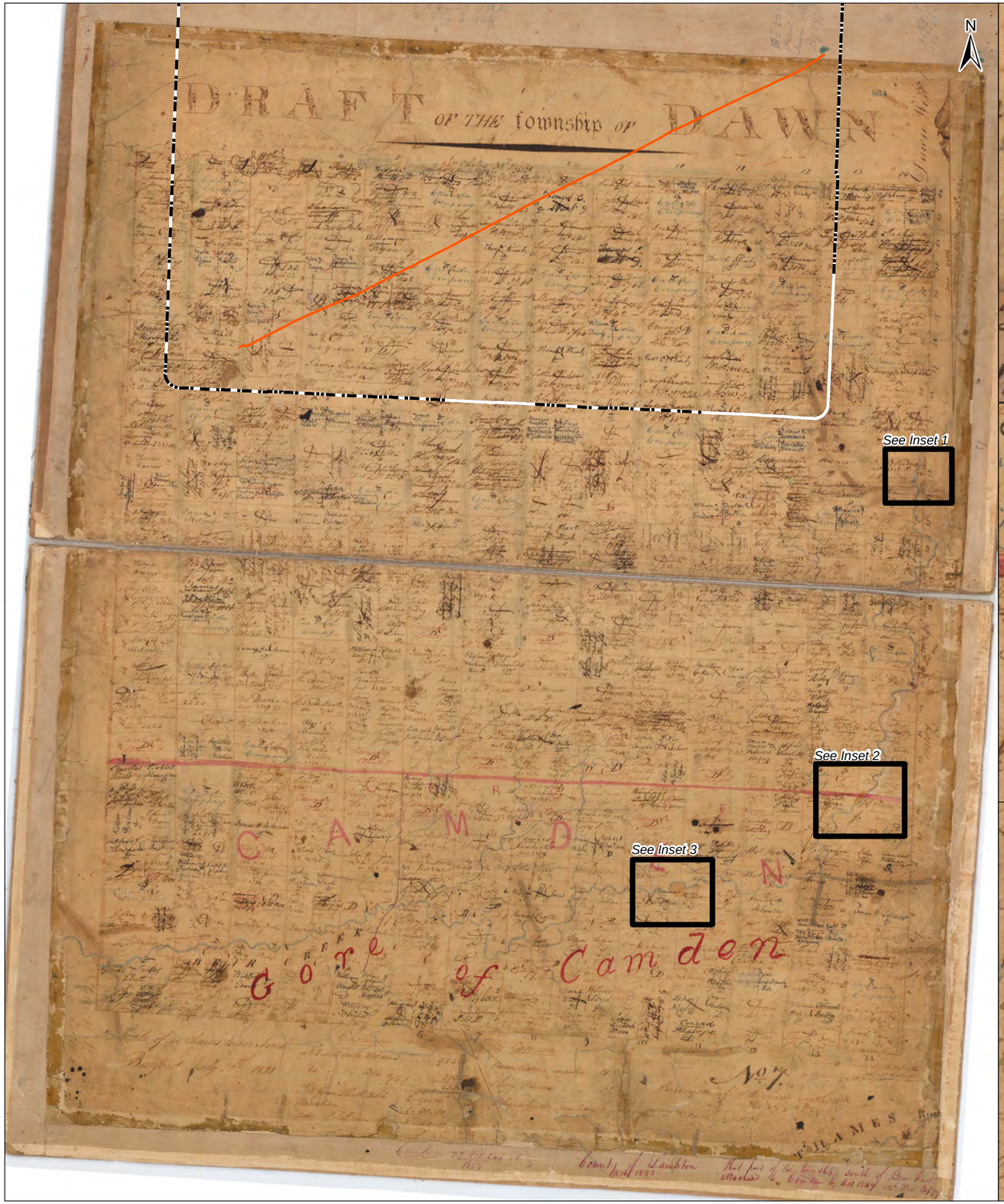

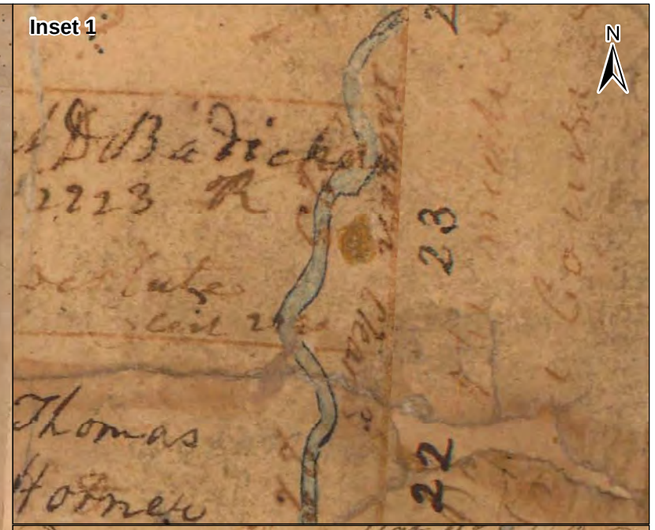

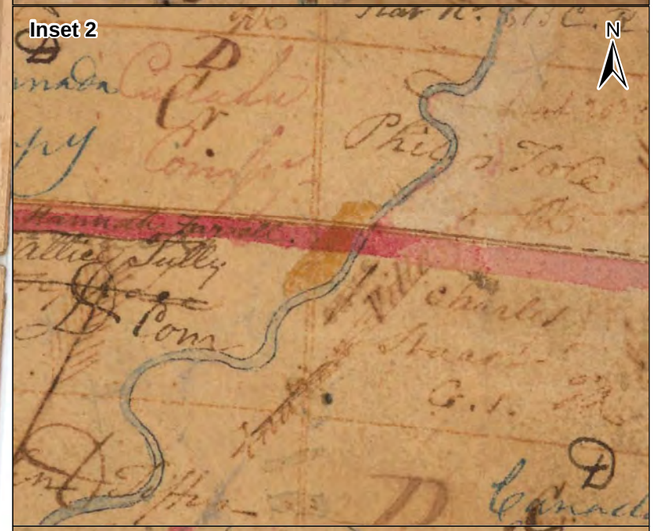

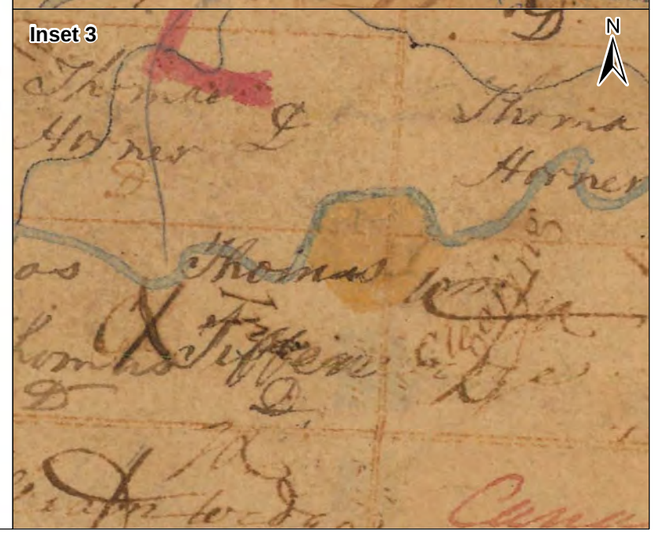

Stantec

Legend

- Study Area
- Preferred Route

Notes

1. Map is not to scale.
2. Government of Ontario. n.d.a. Crown Land Surveys. Personal communication: Lisa Casselman, Survey Records Clerk, Ministry of Natural Resources and Forestry.

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Client/Project

Union Gas Limited
Dawn-Enniskillen Pipeline Project

Figure No.

6

Title

The 1821 Surveyor's Map of the Township of Dawn

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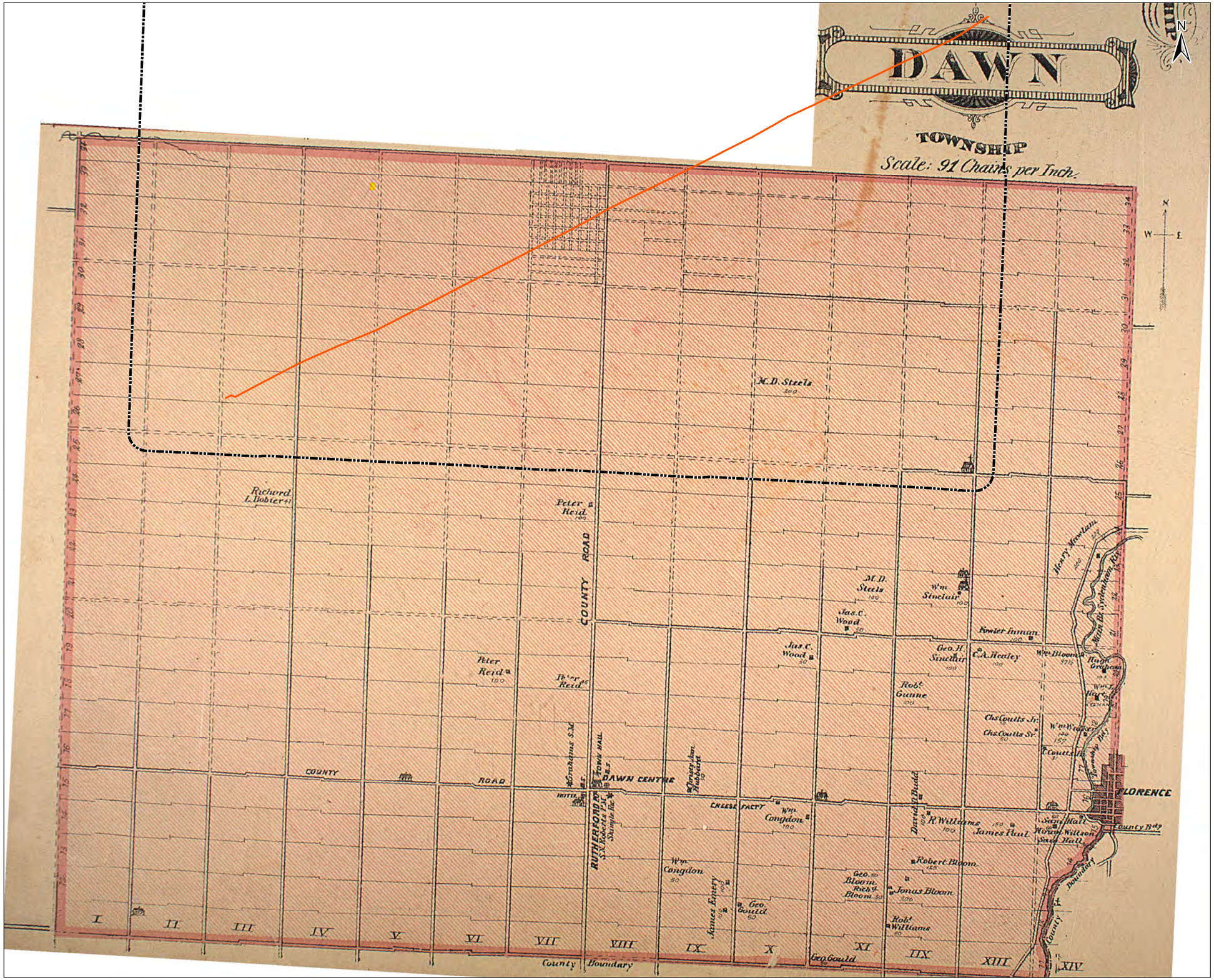


Stantec

Legend

- Study Area
- Preferred Route

Notes

1. Map is not to scale.
2. Belden & Co. 1880a. Illustrated Historical Atlas of Lambton Count, Ont. Toronto: H. Belden & Co.

July 2016
160960981

Client/Project

Union Gas Limited
Dawn-Enniskillen Pipeline Project

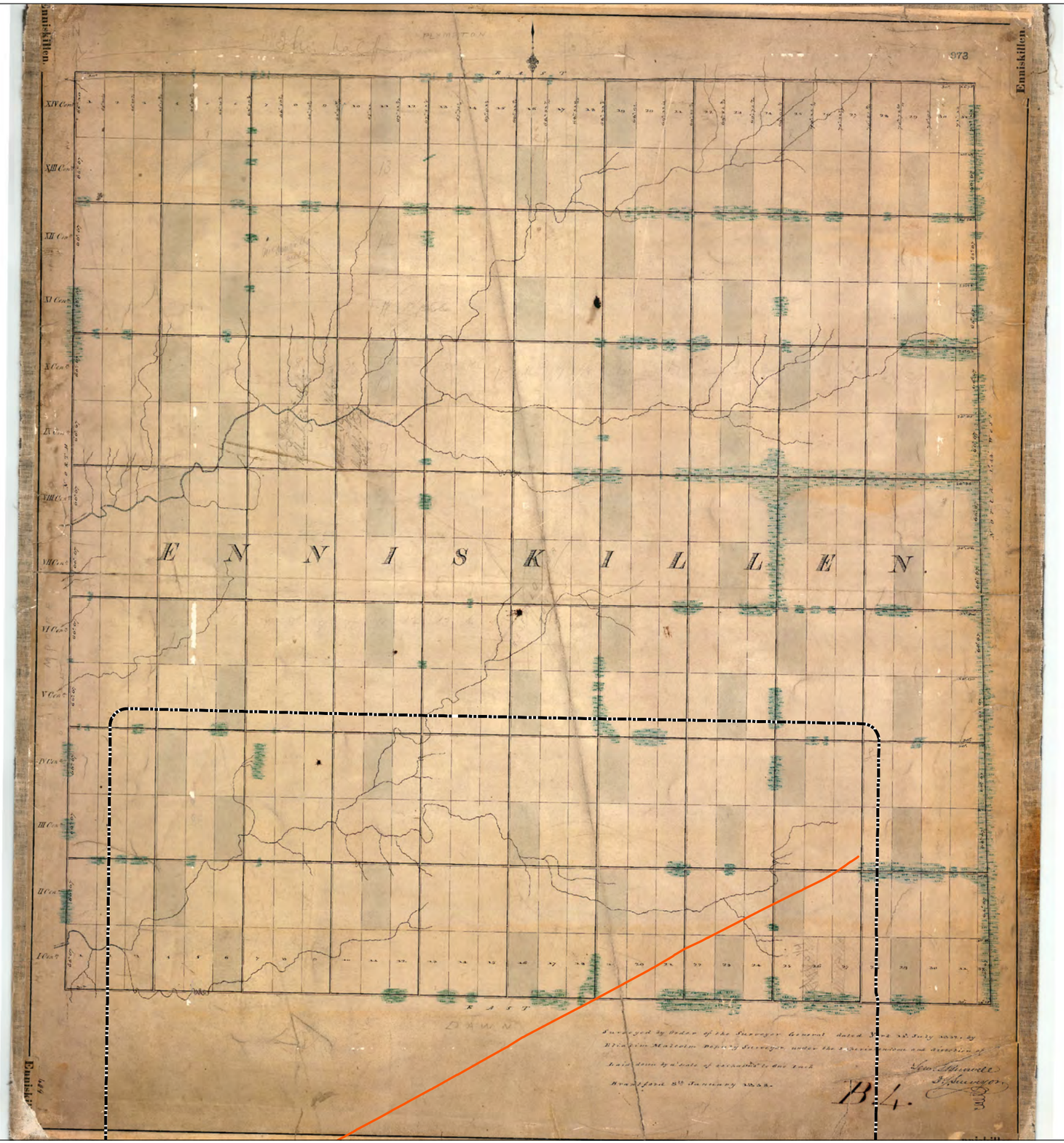
Figure No.

7

Title

The 1880 Historical Atlas Map of Dawn Township

\\Cd1220-f02\01609\active\160960981\drawing\MXD\Archaeology\ReportFigures\Stage_1\160960981_ArchStg1_Fig07_1880_Dawn_Township_Historic_Atlas.mxd
Revised: 2016-07-08 By: pworsell



N

Stantec

Legend
- Study Area
- Preferred Route

Notes
1. Map is not to scale.
2. Government of Ontario. n.d.a. Crown Land Surveys. Personal communication: Lisa Casselman, Survey Records Clerk, Ministry of Natural Resources and Forestry.

July 2016
160960981

Client/Project
Union Gas Limited
Dawn-Enniskillen Pipeline Project

Figure No.
8

Title
The 1833 Surveyor's Map of the Township of Enniskillen

\\Cd1220-f02\01609\active\160960981\drawing\MXD\Archaeology\ReportFigures\Stage_1\160960981_ArchStg1_Fig08_1833_Enniskillen_Township_Survey.mxd
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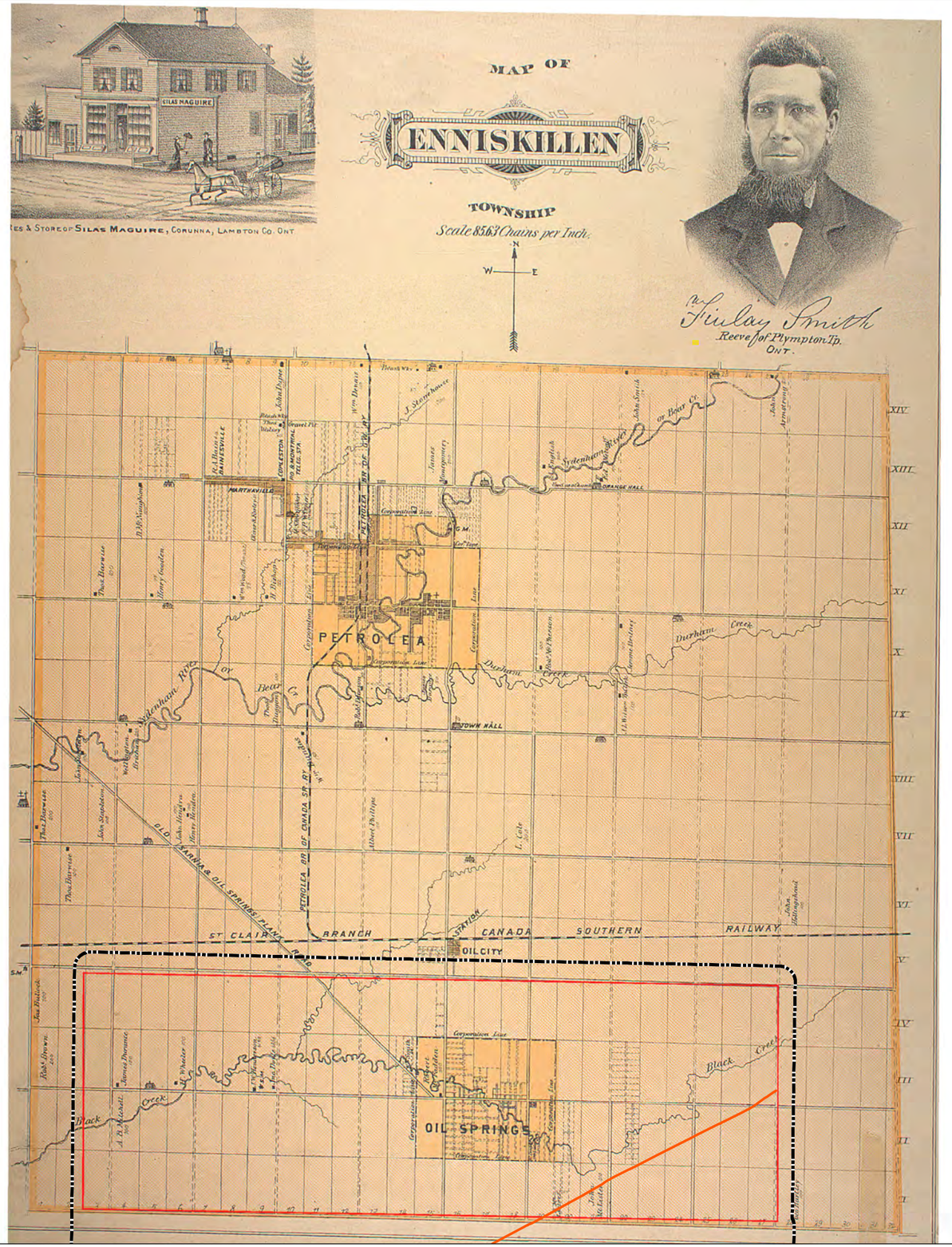

N

Stantec

Legend
- Study Area
- Preferred Route

Notes
1. Map is not to scale.
2. Government of Ontario. n.d.a. Crown Land Surveys. Personal communication: Lisa Casselman, Survey Records Clerk, Ministry of Natural Resources and Forestry.

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160960981

Client/Project
Union Gas Limited
Dawn-Enniskillen Pipeline Project

Figure No.
9

Title
The 1880 Historical Atlas Map of Enniskillen Township

\\Cd1220-f02\01609\active\160960981\drawing\MXD\Archaeology\ReportFigures\Stage_1\160960981_ArchStg1_Fig09_1880_Enniskillen_Historic_Atlas.mxd
Revised: 2016-07-08 By: pworsell



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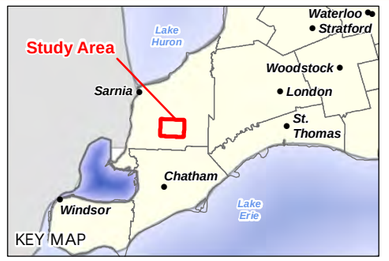
Legend
- Study Area
- Enniskillen Station
- Cuthbert Station
- Dawn Compressor Station
- Preferred Route
- Existing Dawn-Parkway System
- Road
- Municipal Boundary - Lower Tier

Archaeological Potential
- Stage 2 Archaeological Assessment Recommended
- Disturbed Municipal Drain, Low to No Archaeological Potential
- Existing Union Gas Infrastructure, Low to No Archaeological Potential
- Area of Modern Disturbance - Archaeological Potential to be Confirmed During Stage 2 Assessment
- Low and Permanently Wet Areas, Low to No Archaeological Potential



Client/Project
Union Gas Limited
Dawn-Enniskillen Pipeline Project

Figure No.
10

Title
Archaeological Potential of Study Area Overview



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160960981

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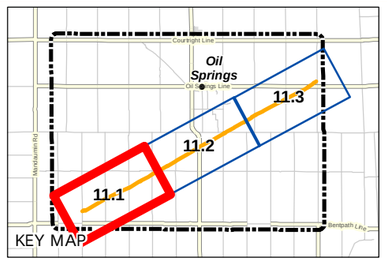
3. Orthoimagery © Mapcon, 2016. Imagery taken in 2010.

Legend
- Study Area
- Cuthbert Station
- Dawn Compressor Station
- Preferred Route
- Pipeline Easement
- Existing Dawn-Parkway System
- Road
- Municipal Boundary - Lower Tier
- Photo Location

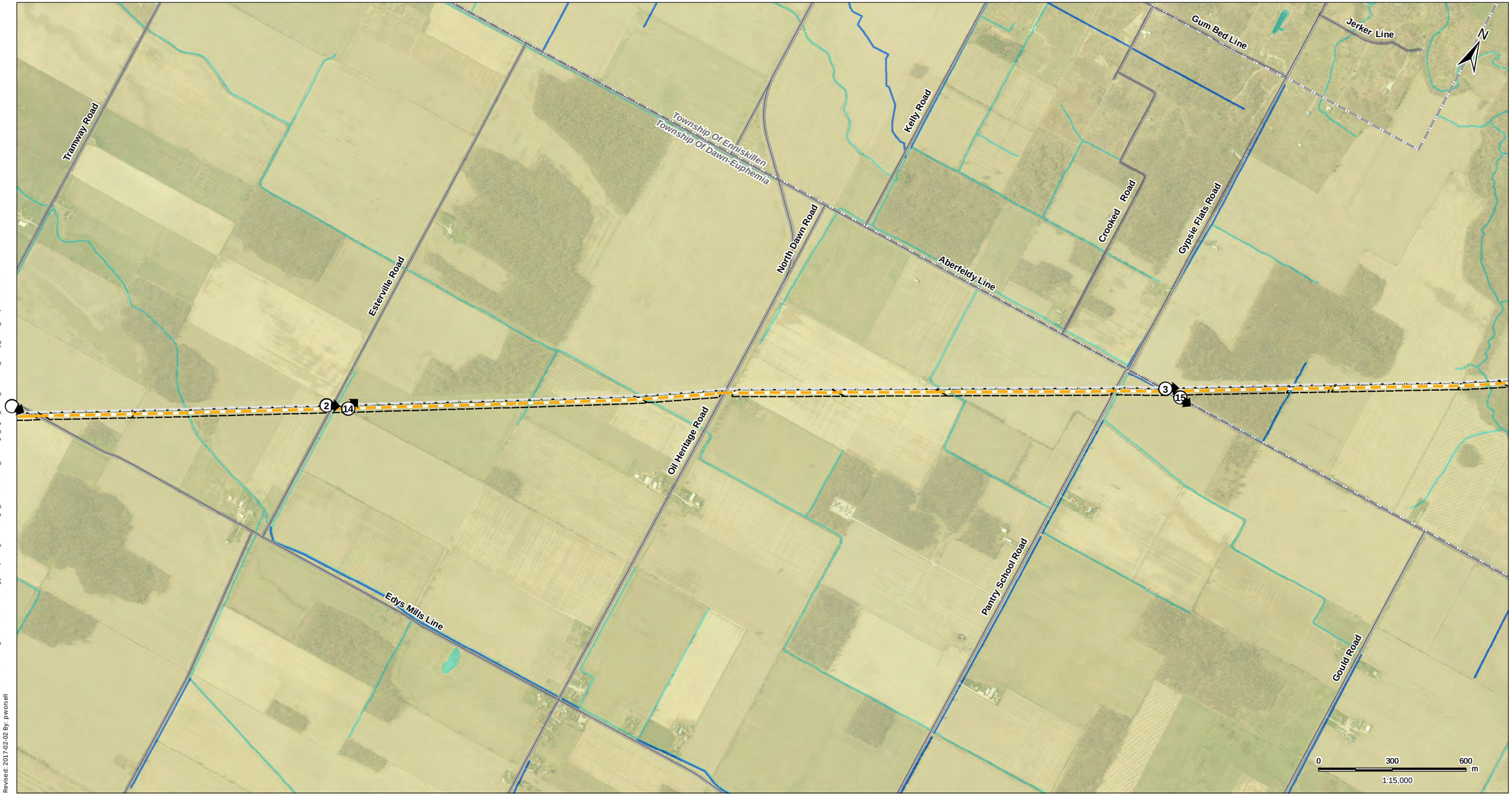
Archaeological Potential
- Stage 2 Archaeological Assessment Recommended
- Disturbed Municipal Drain, Low to No Archaeological Potential
- Existing Union Gas Infrastructure, Low to No Archaeological Potential
- Area of Modern Disturbance - Archaeological Potential to be Confirmed During Stage 2 Assessment
- Low and Permanently Wet Areas, Low to No Archaeological Potential



Client/Project
Union Gas Limited
Dawn-Enniskillen Pipeline Project

Figure No.
11.1

Title
Archaeological Potential of Study Area



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Revised: 2017-02-02 By: pworsell

February 2017
160960981

Stantec

Legend

- Study Area
- Preferred Route
- Pipeline Easement
- Existing Dawn-Parkway System
- Road
- Municipal Boundary - Lower Tier
- Photo Location

Archaeological Potential

- Stage 2 Archaeological Assessment Recommended
- Disturbed Municipal Drain, Low to No Archaeological Potential
- Area of Modern Disturbance - Archaeological Potential to be Confirmed During Stage 2 Assessment
- Low and Permanently Wet Areas, Low to No Archaeological Potential

Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
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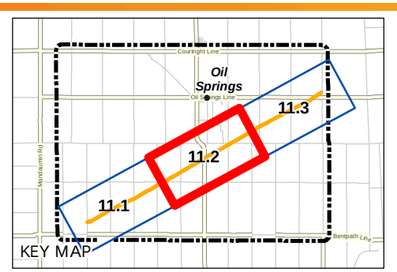
3. Orthoimagery © Mapcon, 2016. Imagery taken in 2010.



Client/Project

Union Gas Limited
Dawn-Enniskillen Pipeline Project

Figure No.

11.2

Title

Archaeological Potential of Study Area



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Revised: 2017-02-02 By: pworsell

February 2017
160960981

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Notes
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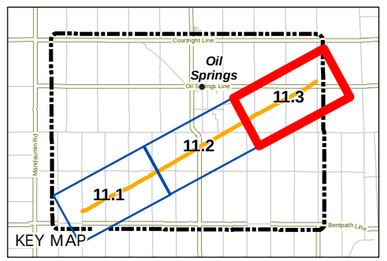
Legend
- Study Area
- Enniskillen Station
- Preferred Route
- Pipeline Easement
- Existing Dawn-Parkway System
- Road
- Municipal Boundary - Lower Tier
- Photo Location

Archaeological Potential
- Stage 2 Archaeological Assessment Recommended
- Disturbed Municipal Drain, Low to No Archaeological Potential
- Existing Union Gas Infrastructure, Low to No Archaeological Potential
- Area of Modern Disturbance - Archaeological Potential to be Confirmed During Stage 2 Assessment
- Low and Permanently Wet Areas, Low to No Archaeological Potential



Client/Project
Union Gas Limited
Dawn-Enniskillen Pipeline Project

Figure No.
11.3

Title
Archaeological Potential of Study Area

9.0 CLOSURE

This report documents work that was performed in accordance with generally accepted professional standards at the time and location in which the services were provided. No other representations, warranties or guarantees are made concerning the accuracy or completeness of the data or conclusions contained within this report, including no assurance that this work has uncovered all potential archaeological resources associated with the identified property.

All information received from the client or third parties in the preparation of this report has been assumed by Stantec to be correct. Stantec assumes no responsibility for any deficiency or inaccuracy in information received from others.

Conclusions made within this report consist of Stantec's professional opinion as of the time of the writing of this report, and are based solely on the scope of work described in the report, the limited data available and the results of the work. The conclusions are based on the conditions encountered by Stantec at the time the work was performed. Due to the nature of archaeological assessment, which consists of systematic sampling, Stantec does not warrant against undiscovered environmental liabilities nor that the sampling results are indicative of the condition of the entire property.

This report has been prepared for the exclusive use of the client identified herein and any use by any third party is prohibited. Stantec assumes no responsibility for losses, damages, liabilities or claims, howsoever arising, from third party use of this report. We trust this report meets your current requirements. Please do not hesitate to contact us should you require further information or have additional questions about any facet of this report.

Quality Review 

(signature)

Jeffrey Muir, BA **Jeffrey Muir, BA**

Independent Review 

(signature)

Tracie Carmichael, BA, B.Ed.

Appendix E Cultural Heritage Assessment Report, and Cultural Heritage Memo

DRAFT

Dawn-Enniskillen Pipeline Project Cultural Heritage Assessment Report



Prepared for:
Union Gas Limited
50 Keil Drive North,
PO Box 2001,
Chatham, ON N7M 5M1
Tel: (866) 949-1595 Ext. 5236954

Prepared by:
Stantec Consulting Ltd.
100-300 Hagey Boulevard
Waterloo ON N2L 0A4

File No. 160960981
August 1, 2017

Table of Contents

EXECUTIVE SUMMARY I

PROJECT PERSONNEL III

1.0 INTRODUCTION 1.1
1.1 PROJECT OVERVIEW 1.1
1.2 STUDY PURPOSE AND OBJECTIVES 1.1
1.3 ACTIVITY SUMMARY 1.2
1.4 TERMINOLOGY 1.3

2.0 METHODOLOGY 2.1
2.1 REGULATORY REQUIREMENTS 2.1
2.2 MUNICIPAL AND AGENCY CONSULTATION 2.2
2.3 FIELD PROGRAM 2.2
2.4 EVALUATION OF CULTURAL HERITAGE VALUE OR INTEREST 2.3
2.4.1 Ontario Regulation 9/06 ..... 2.3
2.5 ASSESSMENT OF PROJECT IMPACTS 2.3
2.6 MITIGATION STRATEGIES 2.4

3.0 HISTORICAL DEVELOPMENT 3.1
3.1 INTRODUCTION 3.1
3.2 PHYSIOGRAPHY 3.1
3.3 SURVEYS & EARLY SETTLEMENT 3.2
3.3.1 Lambton County 3.2
3.3.2 Township of Enniskillen 3.2
3.3.3 Township of Dawn 3.3
3.4 19TH CENTURY LAND USE 3.4
3.4.1 Township of Enniskillen 3.4
3.4.2 Township of Dawn 3.4
3.5 20TH CENTURY LAND USE 3.5
3.5.1 Township of Enniskillen 3.5
3.5.2 Township of Dawn 3.6

4.0 RESULTS 4.1
4.1 AGENCY AND MUNICIPAL CONSULTATION 4.1
4.2 FIELD PROGRAM 4.1
4.2.1 Potential Heritage Resources 4.1
4.2.2 OEB Guideline Indicators 4.15
4.3 EVALUATION OF CULTURAL HERITAGE VALUE OR INTEREST 4.16

5.0 EVALUATION OF ANTICIPATED IMPACTS AND MITIGATION OPTIONS 5.1
5.1 DESCRIPTION OF THE UNDERTAKING 5.1
5.2 RELATIONSHIP TO THE PROJECT LOCATION 5.1

5.3 ANTICIPATED IMPACTS 5.2
5.4 MITIGATION OPTIONS 5.3

6.0 RECOMMENDATIONS 6.1
6.1 DEPOSIT COPIES 6.1
6.2 ISOLATION AND BUFFER ZONES 6.1
6.3 ENVIRONMENTAL MONITORING AND REPORTING 6.2

7.0 CLOSURE 7.1

8.0 SOURCES 8.1

LIST OF TABLES

Table 1: Identified and Protected Heritage Resources 4.1
Table 2: Indicators of CHVI According to Section 4.3.4 of the OEB Guidelines 4.15
Table 3: Summary of Determination of Cultural Heritage Value or Interest 4.16
Table 4: Relationship of Heritage Resources to the Project Location 5.2
Table 5: Evaluation of Potential Impacts 5.2
Table 6: Evaluation of Mitigation and Avoidance Options 5.4

LIST OF FIGURES

Figure 1:Study Area and Project Location 1.5
Figure 2:Project Location, 1880 ..... 3.7
Figure 3:Overview of Potential Heritage Resources 4.3
Figure 4:Identified Heritage Resources 5.5

LIST OF PLATES

Plate 1: Double-front township system (Dean 1969: Plate 99) 3.2

LIST OF APPENDICES

APPENDIX A: CULTURAL HERITAGE RESOURCE EVALUATION FORMS

Executive Summary

In 2014, Union Gas retained Stantec to prepare a Cultural Heritage Assessment Report (CHAR) as part of an Environmental Report (ER) for the proposed Dawn-Enniskillen Pipeline Project (the Project). The study and ER are required to meet the intent of the 6th Edition (2011) of the Ontario Energy Board (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario* (Environmental Guidelines or Guidelines). Section 4.3.4 of the Environmental Guidelines require that where the Project may affect known or potential heritage resources, further studies may be required. In order to identify the presence of heritage resources within the Study Area, understand the potential impacts of the Project on these resources, and prepare mitigation strategies to minimize these impacts, it was determined that a Cultural Heritage Assessment Report (CHAR) would be prepared.

The study methodology is broadly based on guidelines provided by MTCS within InfoSheet #5 in *Heritage Resources in the Land Use Planning Process, Cultural Heritage and Archaeology Policies of the Ontario Provincial Policy Statement, 2005* (MTC 2006). The *OEB Environmental Guidelines* stipulate that pipeline proponents are responsible for demonstrating the appropriate level of due diligence regarding heritage resources. This involves both the identification of heritage resources and the assessment of impacts of the Project on these resources. According to the *OEB Environmental Guidelines*, due diligence should be exhibited by:

- *Recognizing cultural heritage resources that may be affected by pipeline development, identifying significant cultural heritage resources and understanding their cultural heritage value or interest;*
- *Assessing the effects or impacts that could result from proposed pipeline development; and*
- *Protecting cultural heritage resources by appropriate conservation, avoidance, and mitigation.*

The CHAR was composed of a program of archival research and municipal consultation focused on the Study Area. Listings of provincially and locally designated properties, districts and easements for each municipality were collected from the County of Lambton, the Ontario Heritage Trust (OHT), and the Ministry of Tourism, Culture and Sport (MTCS). Consultation with these interested agencies and municipalities within which the Project is proposed was undertaken to determine the presence of designated, listed, or registered heritage properties within the Study Area. A total of one Heritage Conservation District and one protected property were identified within the vicinity of the Study Area. Upon inspection, both were determined to be situated outside the Study Area.

A vehicular windshield survey was conducted on January 21, 2015 from publicly accessible roadways, unless specified otherwise. The survey was conducted by James Sebele, Cultural Heritage Specialist Assistant with Stantec. During the survey, the Study Area was surveyed for potential heritage resources, including both potential built heritage resources and components of cultural heritage landscapes. Where identified, these were photographed and their locations recorded. Characteristics of each potential heritage resource were noted while in the field and their locations recorded. A total of 15 individual properties were identified as containing potential heritage resources.

Where a Heritage resource was identified within or across the Project Location, an assessment of potential impacts was undertaken. Where potential impacts are identified, measures to mitigate the impact have been prepared. Mitigation options are required for the two and one half storey brick residence at 2070 Oil Heritage Road. Following analysis, it has been determined that the use of isolation and buffer zones is the preferred mitigation option to prevent negative indirect Project impacts.

Given the position of the heritage resources within the 50 metre buffer of the Project easement and TLU, it is recommended that a buffer zone be established to indicate where all construction activities must be avoided including, but not limited to, ground disturbance and the movement of equipment and people to and from the site. The buffer zone should be established where the Project easement and TLU are positioned within 10 metres of the residence and delineated with temporary fencing. If construction activities enter into the 10 metre buffer zone, all activities should cease immediately and a temporary 60 metre buffer zone surrounding the impacted area should be established where no construction activities should occur. A qualified building condition specialist should be retained to determine if any damage was incurred as a result of the construction activities. Only following approval from the building specialist, should construction activities resume at which point the 10 metre buffer should be re-established.

In addition, to assist in the retention of historic information, copies of this report should be deposited with local libraries and municipalities. Therefore, it is recommended that this report be deposited at the Oil Springs branch of the Lambton County Public Library and the County of Lambton Planning and Development Services.

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

Project Personnel

Project Manager:	Mark Knight, MA, MCIP, RPP
Heritage Consultant:	Meaghan Rivard, MA, CAHP
Task Manager:	Meaghan Rivard, MA, CAHP
Report Writer:	James Sebele, MA Lashia Jones, MA, CAHP Laura Walter, MA
GIS Specialist:	Patrick Worsell, BES, DGIS
Administrative Assistant:	Carol Naylor
Quality Reviewer:	Meaghan Rivard, MA, CAHP David Waverman, OALA, CSLA, AALA, CAHP
Independent Reviewer:	Tracie Carmichael, BA, B. Ed
Proponent Contact:	Doug Schmidt, Union Gas Limited Ryan Park, Union Gas Limited

1.0 INTRODUCTION

1.1 PROJECT OVERVIEW

In order to serve a growing demand for clean, affordable natural gas, Union Gas Limited (Union Gas) is proposing to construct a 48-inch diameter steel natural gas pipeline between the existing Union Gas Cuthbert Station located north of Bentpath Line, on Cuthbert Road in the Township of Dawn-Euphemia, Lambton County (with a connection into the existing Union Gas Dawn Compressor Station), and the existing Union Gas Enniskillen Station located north of Oil Springs Line, on Oakdale Road in the Township of Enniskillen, Lambton County (Dawn-Enniskillen) (the "Project"). Union Gas retained Stantec Consulting Ltd. (Stantec) to undertake an environmental study of the construction and operation of the proposed natural gas pipeline (Figure 1).

1.2 STUDY PURPOSE AND OBJECTIVES

The environmental study was completed to meet the intent of the 6th Edition (2011) of the Ontario Energy Board (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario* (Environmental Guidelines or Guidelines). Section 4.3.4 of the Environmental Guidelines require that where the Project may affect known or potential heritage resources, further studies may be required. In order to identify the presence of heritage resources within the Study Area, understand the potential impacts of the Project on these resources, and prepare mitigation strategies to minimize these impacts, it was determined that a Cultural Heritage Assessment Report (CHAR) would be prepared.

To meet these objectives, the CHAR:

- summarizes the historical context of the area surrounding the Project
- identifies properties protected under the *Ontario Heritage Act* through consultation with the local heritage planners and regulatory bodies
- identifies and describes potential heritage resources situated on properties within the Project Location based on a windshield survey of the Study Area
- evaluates the cultural heritage value or interest of potential heritage resources at the Project Location according to *Ontario Regulation (*O. Reg.*) 9/06* to determine the heritage resources within the Study Area
- identifies areas of potential impacts according to the Ministry of Tourism, Culture and Sport's InfoSheet #5 in *Heritage Resources in the Land Use Planning Process, Cultural Heritage and Archaeology Policies of the Ontario Provincial Policy Statement, 2005* (Ministry of Tourism and Culture 2006)
- establishes measures to mitigate negative direct or indirect impacts to heritage resources associated with construction and operation of the Project.

1.3 ACTIVITY SUMMARY

The pipeline construction process includes various activities as described below:

1. *Site Preparation*: The first crew to enter the construction site is typically the survey and staking crew who delineate the boundaries of the right of way (RoW) and temporary work areas. Safety fence is installed at the edge of the construction RoW where public safety considerations are required, and aspects of the traffic management plan are implemented (i.e., signs, vehicle access). Pre-tiling work is completed to accommodate agricultural drainage.
2. *Clearing*: The clearing crew braces and cuts fences crossing the RoW. This crew also clears vegetation and crops on the RoW to permit construction of the pipeline.
3. *Grading and Stripping*: The grading crew prepares the RoW for access by construction equipment. At this stage, the topsoil (on agricultural lands) or the duff layer (on natural lands) is stripped by bulldozers and graders then segregated so it will not be mixed with the subsoil later removed from the trench.
4. *Trenching*: Once the RoW has been graded, a trenching machine or hydraulic hoe can begin excavating a trench. Laneways and driveways are left over the trench as long as feasible where requested by the landowner. In agricultural areas, tiles that are cut during the trench excavation are flagged and repaired as quickly as practical.
5. *Stringing:* Subsequent to trenching, the stringing crew lays pipe on wooden skids adjacent to the trench area. In some cases, such as in agricultural areas, trenching is undertaken after stringing therefore allowing the stringing trucks to travel down the centre of the proposed trench to limit compaction.
6. *Pipe Fabrication and Lowering*: The pipe is bent as required and the welding crew welds the pipe into continuous lengths. The pipe welds are x-rayed and coated then inspected before the pipeline is lowered into the trench. Crews also install pipes under obstacles such as roads or watercourses through a variety of different means.
7. *Backfilling*: The backfilling crew backfills the originally excavated subsoil and topsoil over the pipe in the trench. In stony areas, the pipe may be sand-padded to protect the coating. In shallow water table areas, the pipeline may be weighted to provide negative buoyancy. In agricultural areas, after the trench is backfilled, a tiling crew repairs disturbed or broken tiles. Landowners with tile drainage are given the opportunity to inspect tile repairs. A tile consultant is retained to oversee tile repairs and the design of a header tile system if required and if not completed during pre-tiling.
8. *Hydrostatic Test*: The pipeline is tested hydrostatically. Water is typically drawn from nearby water sources such as watercourses or lakes, if available. Municipal water may at times also be used for hydrostatic testing. Upon completion of the hydrostatic testing, the pipeline is purged of air and packed with natural gas.

9. *Clean-Up and Restoration*: The clean-up crew is responsible for the restoration of the RoW and other work areas. On agricultural land, this may require decompaction of the subsoil (i.e., chisel ploughing) and stone picking to maintain productivity. In natural areas the clean-up crew undertakes restoration including re-seeding of the RoW and restoring ditch banks, watercourse crossings and wooded areas, and removing erosion and sediment controls.

1.4 TERMINOLOGY

Built Heritage Resource (BHR) as used herein refers to a single building, structure, monument, installation or remains determined to be of cultural heritage value or interest following evaluation according to O.Reg.9/06 or protected under the *Ontario Heritage Act* or listed by local, provincial or federal jurisdictions. This may include residences, barns, bridges, and similar features (based on definition provided in the 2014 *Provincial Policy Statement* (PPS) (Government of Ontario 2014).

Cultural Heritage Landscape (CHL) as used herein refers to a defined geographical area modified by human activities and determined to be of cultural heritage value or interest following evaluation according to O.Reg.9/06 or protected under the *Ontario Heritage Act* or listed by local, provincial or federal jurisdictions. This may include grouping(s) of individual heritage features such as structures, spaces, archaeological sites and natural elements, which together form an important type of heritage form, distinctive from that of its constituent elements or parts (based on definition provided in the PPS).

Heritage attributes as used herein refers to the components of a heritage resource that define its CHVI. These may include, but are not limited to, principal features, characteristics, context, and appearance of a heritage resource (based on definition provided in the PPS).

Heritage resource as used herein refers to built or cultural resources where cultural heritage value or interest (CHVI) has been determined according to O. Reg. 9/06. Prior to evaluation, resources identified to be 40 years of age or older are considered to be *potential* heritage resources. There are two categories of heritage resources: Built Heritage Resources and Cultural Heritage Landscapes. For the purposes of this report, the term heritage resource is used exclusively unless assessing the CHVI of a potential heritage resource.

Protected Heritage Property as used herein refers to properties which are designated under, or subject to an easement made under, the *Ontario Heritage Act*, as well as properties identified by provincial authorities and proscribed public bodies as a provincial heritage property. In addition, protected heritage property includes those identified by federal or international authorities as such including, but not limited to, Parks Canada or UNESCO (based on definition provided in the PPS).

Protected Property as used herein refers to Protected Heritage Properties as well as any property previously identified by municipal staff or provincial agencies as containing, or having the potential to contain, cultural heritage value or interest. This includes properties identified on municipal registers, lists, or inventories of potential heritage resources.

Project Location as used herein refers to any land or air space in, on, over, or under which part of the Union Gas easement and temporary land use (TLU) for the Project is proposed plus a 50 metre area surrounding the Project components. This includes structures such as the pipeline itself, as well as any temporary work areas (constructible areas) which are required to be utilized during the construction of the Project (Figure 1).

Study Area as used herein refers all properties through which the Project Location is proposed to pass through. This area was used to define the limit of site investigations (Figure 1).



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Revised: 2017-06-13 By: pworsell

June 2017
160960981

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Notes
1. Coordinate System: NAD 1983 UTM Zone 17N
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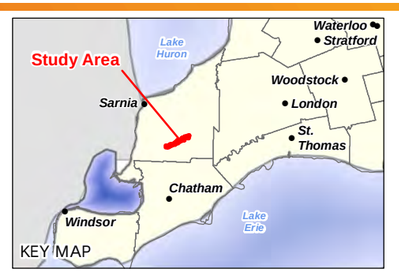
3. Orthoimagery © Mapcon, 2017. Imagery taken in 2010.

Legend
- Study Area
- Preliminary Preferred Pipeline Route
- Enniskillen Station
- Dawn Hub
- Identified Heritage Resource
- Oil Springs Heritage Conservation District Boundary
- Road
- Existing Dawn-Parkway System
- Hydro Corridor
- Municipal Boundary - Lower Tier
- Property Boundary



Client/Project
Union Gas Limited
Dawn-Enniskillen Pipeline Project

Figure No.
1

Title
Study Area & Project Location

2.0 METHODOLOGY

2.1 REGULATORY REQUIREMENTS

The study methodology is broadly based on guidelines provided by MTCS within InfoSheet #5 in *Heritage Resources in the Land Use Planning Process, Cultural Heritage and Archaeology Policies of the Ontario Provincial Policy Statement, 2005* (MTC 2006). As discussed briefly in Section 1.0, the *OEB Environmental Guidelines* make provisions for the consideration of heritage in the pipeline development planning stage of the Project. The *OEB Environmental Guidelines* stipulate that pipeline proponents are responsible for demonstrating the appropriate level of due diligence regarding heritage resources. This involves both the identification of heritage resources and the assessment of impacts of the Project on these resources. According to the *OEB Environmental Guidelines*, due diligence should be exhibited by:

- *Recognizing cultural heritage resources that may be affected by pipeline development, identifying significant cultural heritage resources and understanding their cultural heritage value or interest;*
- *Assessing the effects or impacts that could result from proposed pipeline development; and*
- *Protecting cultural heritage resources by appropriate conservation, avoidance and mitigation.*

(OEB 2011:34)

In addition to requirements outlined in the *OEB Environmental Guidelines*, provisions made under the revised 2014 *Provincial Policy Statement* (PPS) were also considered in the preparation of the study. Section 2.6 of the PPS addresses cultural heritage in the land use planning process and as such was considered. The applicable provisions include:

2.6.1 - Significant built heritage resources and significant cultural heritage landscapes shall be conserved.

2.6.3 - Planning authorities shall not permit development and site alteration on adjacent lands to protected heritage property except where the proposed development and site alteration has been evaluated and it has been demonstrated that the heritage attributes of the protected heritage property will be conserved.

(PPS 2014: 29)

In response to requirements outlined within Infosheet #5, the *OEB Environmental Guidelines*, and the PPS, Stantec has identified built heritage resources and cultural heritage landscapes; evaluated the impacts of the proposed undertaking on the resources and landscapes; and

provided options to mitigate those impacts and to conserve protected properties, if applicable.
Background History

The CHAR was composed of a program of archival research focused on the Study Area. To familiarise the study team with the Study Area, local historical resources were consulted, archival documents were reviewed, and a summary of the historical background of the local area was prepared. Specifically, historical mapping was consulted to identify the presence of structures, settlements, and other potential heritage resources in advance of the field program.

2.2 MUNICIPAL AND AGENCY CONSULTATION

Listings of provincially and locally designated properties, districts and easements for each municipality were collected from Lambton County, the Ontario Heritage Trust (OHT), and the MTCS. Consultation with these interested agencies and municipalities within which the Project is proposed was undertaken to determine the presence of designated, listed, or registered heritage properties within the Study Area.

Recognition of protected properties varies greatly and is dependent on the level of cultural heritage value or interest identified or, in some cases, the level of investigation undertaken. For the purpose of this study, any property previously identified by municipal staff or provincial agencies as containing, or having the potential to contain, cultural heritage value or interest was determined to be a protected property. Specific requirements pertaining to protected properties are described within the OEB Guidelines which emphasize that early identification allows the proponent to consider the impact the Project may have on protected heritage properties.

2.3 FIELD PROGRAM

A vehicular windshield survey was conducted on January 21, 2015 from publicly accessible roadways, unless specified otherwise. During the survey, the Study Area was surveyed for potential heritage resources, including both potential built heritage resources and components of cultural heritage landscapes. Where identified, these were photographed and their locations recorded. Characteristics of each potential heritage resource were noted while in the field and their locations recorded.

In general, buildings and structures of more than 40 years of age were evaluated during the survey for their potential to satisfy O.Reg.9/06 criteria. The use of the 40 year threshold is generally accepted by both the federal and provincial authorities as a preliminary screening measure for cultural heritage interest or value. This practice does not imply that all buildings and structures more than 40 years of age are inherently of significant heritage value, nor does it exclude exceptional examples constructed within the past 40 years of being of significant cultural heritage value.

2.4 EVALUATION OF CULTURAL HERITAGE VALUE OR INTEREST

The criteria for determining CHVI is defined by *Ontario Regulation 9/06*. Each potential heritage resource was considered both as an individual structure and as cultural landscape. Where CHVI was identified, a structure or landscape was assigned a CHR number and the property was determined to contain a heritage resource. Evaluations for each property are contained within Appendix A.

2.4.1 Ontario Regulation 9/06

In order to identify CHVI at least one of the following criteria must be met:

1. The property has design value or physical value because it,
    i. is a rare, unique, representative or early example of a style, type, expression, material or construction method,
    ii. displays a high degree of craftsmanship or artistic merit, or
    iii. demonstrates a high degree of technical or scientific achievement.
2. The property has historical value or associative value because it,
    i. has direct associations with a theme, event, belief, person, activity, organization or institution that is significant to a community,
    ii. yields, or has the potential to yield, information that contributes to an understanding of a community or culture, or
    iii. demonstrates or reflects the work or ideas of an architect, artist, builder, designer or theorist who is significant to a community.
3. The property has contextual value because it,
    i. is important in defining, maintaining or supporting the character of an area,
    ii. is physically, functionally, visually or historically linked to its surroundings, or
    iii. is a landmark.

2.5 ASSESSMENT OF PROJECT IMPACTS

Where a heritage resource was identified within or across the Project Location, an assessment of potential impacts as a result of the Project was undertaken. The assessment of potential impacts was undertaken according to InfoSheet #5 in *Heritage Resources in the Land Use Planning Process, Cultural Heritage and Archaeology Policies of the Ontario Provincial Policy Statement, 2005* (MTC 2006). Seven potential negative impacts have been identified, including, but not limited to:

- Destruction of any, or part of any, *significant heritage attributes* or features;

- Alteration that is not sympathetic, or is incompatible, with the historic fabric and appearance;
- Shadows created that alter the appearance of a *heritage attribute* or change the viability of a natural feature or plantings, such as a garden;
- Isolation of a *heritage attribute* from its surrounding environment, context or a *significant* relationship;
- Direct or indirect obstruction of *significant* views or vistas within, from, or of built and natural features;
- A change in land use such as rezoning a battlefield from open space to residential use, allowing new *development* or *site alteration* to fill in the formerly open spaces; and
- Land disturbances such as a change in grade that alters soils, and drainage patterns that adversely affect an *archaeological resource*.

(MTC 2006)

In addition to direct impacts related to destruction, this CHAR also evaluated the potential for indirect impacts resulting from the vibrations of construction and the transportation of Project components and personnel. Although the effect of traffic and construction vibrations on historic period structures is not fully understood, negative effects have been demonstrated on buildings with a setback of less than 40 metres from the curbside (Crispino and D'Apuzzo 2001; Ellis 1987; Rainer 1982; Wiss 1981). The proximity of Project components to heritage resources was considered in this assessment, particularly those within 50 metres, in order to encompass a wide enough buffer zone to account for built resources less than 40 metres from curbside or potential Project activities.

2.6 MITIGATION STRATEGIES

Mitigation strategies were prepared based on guidelines provided by both the MTCS and the OEB. The MTCS suggest methods of minimizing or avoiding negative direct or indirect impacts including, but not limited to:

- alternative development approaches
- isolating development and site alteration from significant built and natural features and vistas
- design guidelines that harmonize mass, setback, setting, and materials
- limiting height and density
- allowing only compatible infill and additions
- reversible alterations
- buffer zones, site plan control, and other planning mechanisms.

(MTC 2006)

In the case of pipeline projects, as discussed in more detail in Section 5.4, buffer zones and site plan controls are often the most appropriate method of mitigation when used in combination with alternative development approaches.

3.0 HISTORICAL DEVELOPMENT

3.1 INTRODUCTION

The Study Area is historically linked to Lambton County, the Township of Enniskillen and the Township of Dawn, now the Township of Dawn-Euphemia. The Study Area is comprised of a 16.5 kilometre (km) southwest-northeast corridor of land beginning approximately at the intersection of Dawn Valley Road and Bentpath Line and ending near the intersection of Oakdale Road and Oil Springs Line (Figure 1). The following sections outline the historical development of the land from the time of settlement to the 20th century.

3.2 PHYSIOGRAPHY

The Study Area is situated within the St. Clair Clay Plains physiographic region. The region is surrounded by the Bothwell sand plains to the south, the Ekfrid clay plains to the east and the Huron fringe to the north. The St. Clair Clay Plains consists of an extensive clay plain with little relief covering 5,880 square kilometres (km) throughout the province (Chapman and Putnam 1984:147). Lambton County is situated on a beveled till plain with better drainage then the surrounding areas (Chapman and Putnam 1984:148). That is not to say that drainage was not an issue. The area was mainly swamp before settlers arrived. The issue of drainage was addressed beginning in 1869 with the first *Ontario Drainage Act.* The act provided municipal and provincial funding to landowners for the construction of drains in southwestern Ontario (Burr 2006: 22). Throughout the late 19th to the early 20th century new innovations established effective drainage throughout the county to facilitate improved agriculture. The Township of Moore spent approximately $20,000 in 1880 on drainage and up to $200,000 a year by 1980 (Elford 1982:57). Still seen on the landscape today are numerous pump houses and windmills used to move water, deep ditches, and dykes. Within the Township of Enniskillen there are eight municipal drains located within the Study Area (Township of Enniskillen 2011).

The physiographic and soil characteristics of the St. Clair Clay Plains have influenced subsequent land use throughout its history. There are two main soils found in Lambton County; Brookston clay found in the wetter areas and Caistor clay found in the higher areas (Chapman and Putnam 1984:150). As a result, the soil tends to better produce grains and crops. Soybeans and wheat are the county's most produced products. The total crop area is approximately 77% while the remaining 13% is devoted to pasture (Chapman and Putnam 1984:150).

The Study Area is located within the Black Creek Subwatershed of the St. Clair River Watershed. The Black Creek is 580 km in length and its watershed covers 324 square km in the Townships of Enniskillen, Dawn-Euphemia, St. Clair, Brooke-Alvinston, and the Village of Oil Springs. The majority of the subwatershed is an open municipal drain, at 59%, while 16% of the creek is natural. To control the drainage of Black Creek, 63% of it has been systemically tiled (SCRCA 2013).

3.3 SURVEYS & EARLY SETTLEMENT

3.3.1 Lambton County

The Study Area is located within Lambton County, originally a part of Kent County which was created in 1792. The first townships that would eventually form part of Lambton County were surveyed in the 1820s and 1830s. Lambton County was created in 1849 within the United Counties of Kent and Lambton. In 1853, Lambton County separated from Kent County and became independent. Sarnia was appointed the County Seat in 1853 (Elford 1982:2-3).

Lambton County saw numerous population shifts since its creation. In 1834, the population was 1,728 and by 1851 it was 10,815. The 1850s experienced a large influx of people due to the oil boom. With oil, the railway expanded to the area resulting in the construction of the Great Western and Grand Trunk railways. The population of the County more than doubled in a decade and by 1861 the population was 24,916 (Elford 1982:5).

The boom bust cycle of oil continued through the latter half of the 19th century in various locations throughout Lambton County. By 1891, the population had peaked at 58,810. There was a decline in population for the next 40 years due to emigration to the United States and western Canada. The 1891 population figure was not reached again until after World War II. The development of chemical industries in the county led to another population increase, this time to 123,000 in 1980. A further wave of emigration to western Canada in 1982 led to a population decline to 118,500 (Elford 1982:5).

3.3.2 Township of Enniskillen

The northern portion of the Study Area is located within the Township of Enniskillen. Enniskillen was one of the ten townships surveyed in Lambton County during the 1820s and 1830s. Geographically, Enniskillen was surrounded by Moore Township to the west, Plympton Township to the north, Brooke Township to the east and Dawn Township to the south. The Township of Enniskillen was surveyed in 1833 by Deputy Surveyor Eliakim Malcom and was completed according to the Double-front survey system (Elford 1982:44). The Double-front system divides the land into ten equal 100 acre lots surrounded by roads (Plate 1).



Plate 1: Double-front township system (Dean 1969: Plate 99)

Generally, settlement of the township was slow as the land in the township was not accessible due to the forested swampy land that occupied much of the area. Settlers were not willing to risk disease venturing into the swamp areas until the discovery of oil in the mid-19th century. The swamp area was a barrier to agriculture, settlement, and road development in the township (Ontario Visual Heritage Project 2006). Only a few settlers, mainly British soldiers who had

completed their service came to the township during the 1830s. It was not until 1855, when the township had enough people to incorporate and have its own council (Elford 1982:44-45).

Early settlement in the Township of Enniskillen was centered in the community of Oil Springs, located northwest of the Study Area. Originally called Black Creek, the hamlet's name changed to Oil Springs with the discovery of oil in 1858. By 1896, Oil Springs was incorporated as a town and contained eight general stores, five blacksmith shops, two shoe shops, 25 carpenters, five hotels and a bank. The town growth was characterized by the boom and bust cycles of the oil industry with populations fluctuating dramatically. The population stabilized between 500 and 1,000 throughout the 19th century depending on the flow and price of oil (Elford 1982:111).

3.3.3 Township of Dawn

The south portion of the Study Area is located within the Township of Dawn. The Township of Dawn was surrounded by Sombra Township to the west, the Township of Enniskillen to the north, Euphemia Township to the east and Kent County to the south. The Township of Dawn was surveyed in 1821 by King's Deputy Surveyor Shubal Park and was completed according to the Double-front survey system with roads between each concession similar to Enniskillen (Elford 1982:41).

Settlement of Dawn Township was generally slow. Of all the townships in Lambton County, Dawn was the most sparsely settled and underdeveloped in 1880 due in part to the heavy dense soil and wooded lots without natural drainage. The township only had a population of 429 by 1850. With the clearing of additional land, the population grew to 1,758 in 1880 but the township remained the least settled and populated township of Lambton County, accounting for only 5% of the total county population (OAC 1880:267).

Early settlement in Dawn Township occurred primarily in the southeastern portions of the township. The presence of the Sydenham River in this corner of the township attracted settlement because of its use as a transportation route and source of milling power. The community of Florence was established along the Sydenham River and located on the southeastern border of Dawn Township abutting the Township of Euphemia (Figure 2). Florence was a small community that serviced the needs of the residents in both Dawn and Euphemia Township. By 1881, Florence had a general store, school, mill and a church (Belden 1880:5).

Settlement expanded in the last decade of the 19th century in Dawn resulting in the establishment of a numerous post offices in the early 20th century. The construction of a railway station at Edys Mills in 1885 spurred settlement as did widespread county led drainage initiatives. A post office was established there in 1892 followed by post offices in Beaver Meadow and Cuthbert in 1903 (Elford 1982:42).

3.4 19TH CENTURY LAND USE

3.4.1 Township of Enniskillen

Land use throughout the Study Area and surrounding region was and continues to be primarily agricultural in nature. In 1880, all the land in the Township of Enniskillen was considered to be first class for agriculture purposes with a total of 15,000 acres of cleared land. The main crops harvested in the township were wheat and oats (OAC 1880:267).

Located within the Study Area just northwest of the Project is Oil Springs. The discovery of oil at Oil Springs in 1858 saw an influx of new land owners to the township. Although land was sold at a premium, land owners who only sought oil did not develop the land as required choosing not to build ditches or clear the land. This resulted in the slow development of the township as a whole because roads were slow to be constructed so access was more challenging. As a result, the road network was very poor in the township and incomplete concession and side roads were common throughout the area. When new provincial legislation was introduced in the 1860s and 1870s that made it mandatory for landowners to develop their land, the township gradually saw the construction of proper concession and side roads.

The first major road built in the township was the Sarnia Plank Road, completed in 1865. This road angled northwest and provided the residents of Oil Springs a direct route to the large Town of Sarnia. It is still notable in the landscape today because it deviates from the typical grid pattern established by the original surveys where roads were laid out in a north south direction; the Sarnia Plank Road travels in a northwest to southeast direction.

Within the Study Area, roads were opened in the late 19th century to facilitate settlement. The 1880 Historical Atlas Map of the Township of Enniskillen shows only two property owners within the Study Area, situated within close proximity to the Village of Oil Springs (Figure 2). The map also displays the grid layout of the concession and side roads and what roads were opened by 1880. The currents roads within the Study Area that were opened at this time include portions of Aberfeldy Line, Gypsie Flats Road, Black Ash Road, Wanstead Road and Oil Springs Line.

In 1885, the Lake Erie, Essex and Detroit Railway Company extended its network of railways with the construction of a rail line through Oil Springs. Building on the railway established in the late 1850s, this line facilitated the movement of goods including oil and crops from the area to larger markets. Just north of the Study Area, the Erie and Niagara Railway Company constructed a railway that traveled west-east, connecting the Village of Courtright to St. Thomas, passing north of Oil Springs (Elford 1982:45).

3.4.2 Township of Dawn

The Township of Dawn was primarily a farming area with no incorporated municipalities and only a few small communities in the 19th century. In 1880, two-thirds of land in Dawn Township was considered to be first class for agriculture purposes (OAC 1880:257). This land was located in the

southeastern portions of the township. The chief crops and products produced in Dawn Township were peas, wool, and wheat (Elford 1982:42). Later in the 19th century, farms were established in the northern and western portions of Dawn Township as population began to grow.

The Dawn Township road network of in the 19th century was not well developed. The heavy clay and dense bush made road construction difficult and expensive. Evidence of this is depicted in Figure 2 where none of the concession roads were open for their entire length. Only portions of Sideroads 20, 25 and 30 were clear and open. The Study Area is located on Bentpath Line, formerly Sideroad 25. Based on historic mapping, the Study Area was located on the portion of the Sideroad that was not cleared as of 1880. It was not until the early 20th century that the township committed to improving roads (Elford 1982:43).

The Lake Erie, Essex and Detroit Railway Company built a railway in 1885 that reached Edys Mills, the small hamlet northeast of the Study Area. This railway serviced Edys Mills and the surrounding region as it provided a transportation and trade route to the City of Sarnia via Oil Springs and Petrolia. The railway proved to be important in the lumbering years of the area and continued to play an important economic role by making Edys Mills a shipping point for farm produce. Use of the railway was discontinued in 1966 (Elford 1982:43).

3.5 20TH CENTURY LAND USE

3.5.1 Township of Enniskillen

Land use in the township throughout the 20th century shifted from oil production to primarily agriculture. With improvements in drainage more land was converted to cash crop and expanded pasture areas were evident. Soybeans were the main crop grown followed by winter wheat, barley, and corn. By the latter half of the 20th century poultry, hog, and sheep raising increased (Elford 1982:46).

The road network of Enniskillen Township improved in the 20th century as roads began to be paved. Within the Study Area specifically, the former 4th Line became King's Highway 21 in 1927. In 1937, the former 10th Line, north of Oil Springs outside of the Study Area, became Highway 80 which connected Oil Springs to the west and east of the county (Bevers 2013:online). These two highways provided residents and travelers easy access to the township while also making Oil Springs a more central and convenient place to live. In general, throughout the 20th century, the small hamlets of the township began to shrink as people began to move to the larger settlement areas such as Oil Springs and Petrolia. When the hydro lines were added in the mid-20th along the roadways within the Study Area, they helped to frame the grid landscape, as corridor lines bisect at road intersections.

The population of the Enniskillen Township has been in continual flux throughout the 20th century. In 1951, the population was at 2,511, nearly half of what it was in 1901. Gradual growth of the

township, specifically the development of small neighbourhoods around Oil Springs and Petrolia, brought the population up to 3,340 in 1981 (Elford 1982:48).

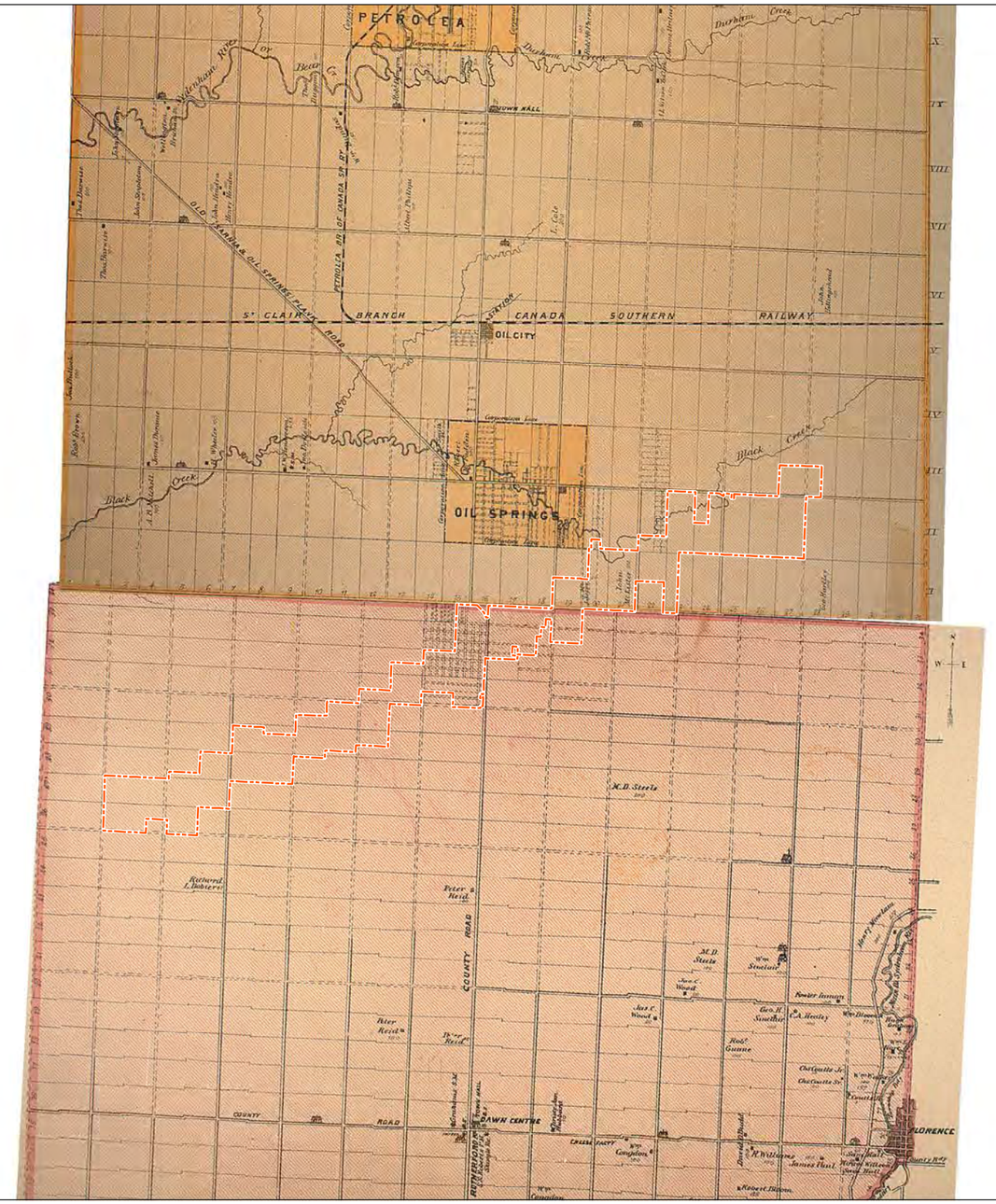
3.5.2 Township of Dawn

Land use throughout the 20th century in the Township of Dawn remained largely agricultural in nature. By 1924, nearly all of the land in Dawn Township was farmed with a total 500 farms. The main crops produced were soybeans, corn and hay (Elford 1982:42). Since drainage was still a problem in the township, more land was devoted to pasture resulting in an increase in beef production.

The road network in Dawn Township improved in the 20th century as roads began to be surfaced with stone by 1927. Full opening of roads helped spur the settlement of the township in the north and west areas and, as a result, population of the township grew. Similarly, to the Township of Enniskillen the addition of hydro lines in the mid-20th century along the roadways in the Study Area, also helped to frame the gridded landscape, as corridor lines bisect at road intersections.

The oil boom from the 19th century continued to influence land use in Dawn Township in the form of natural gas and, to a lesser extent, oil as well. From the 1930s to the present day on Lot 1 of Concession 25, Union Gas has been storing and transferring gas from its station in Dawn Township. As a result of the continual presence of natural gas found within the township, Dawn Township has many pipelines that traverse its landscape which can be seen today.

The population of Dawn Township has declined slightly towards the end of the 20th century. In 1980, the population totaled 1,796 – the lowest it had been since 1870 (Elford 1982:42). In 1991, the population was down to nearly 1,600 inhabitants.



Legend

Study Area

Notes

1. Not to scale.
2. Source for map: Dawn Township and Enniskillen Township maps from Illustrated Historical Atlas of the County of Lambton. Belden, H. and Co., 1880.

Client/Project

Union Gas Limited
Dawn-Enniskillen Pipeline Project

Figure No.

2

Title

Project Location, 1880

May 2017
160960981

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Revised: 2017-05-11 By: pworsell

4.0 RESULTS

4.1 AGENCY AND MUNICIPAL CONSULTATION

In order to identify protected properties, the MTCS, OHT, and the County of Lambton were consulted. As a result of the consultation, one designated property and one Heritage Conservation District were identified within the vicinity of the Study Area (see Table 1).

Deborah Hossack, Registrar, Register Developer, Heritage Advisor with the MTCS reported that there were no properties on the List of Provincial Heritage Properties within the vicinity of the Study Area. Michael Sawchuck, Manager, Acquisitions and Conservation Services with the OHT, reported that there is no heritage easement site in the vicinity of the Study Area. William Nywening, Planner in the Planning and Development Services Department at the County of Lambton, reported that there is one property designated under Part IV of the *Ontario Heritage Act* and one Heritage Conservation District designated under Part V of the *Ontario Heritage Act* in the vicinity of the Study Area. Upon further inspection, neither the designated property or district was determined to be situated within the Study Area (Table 1).

Table 1: Identified and Protected Heritage Resources

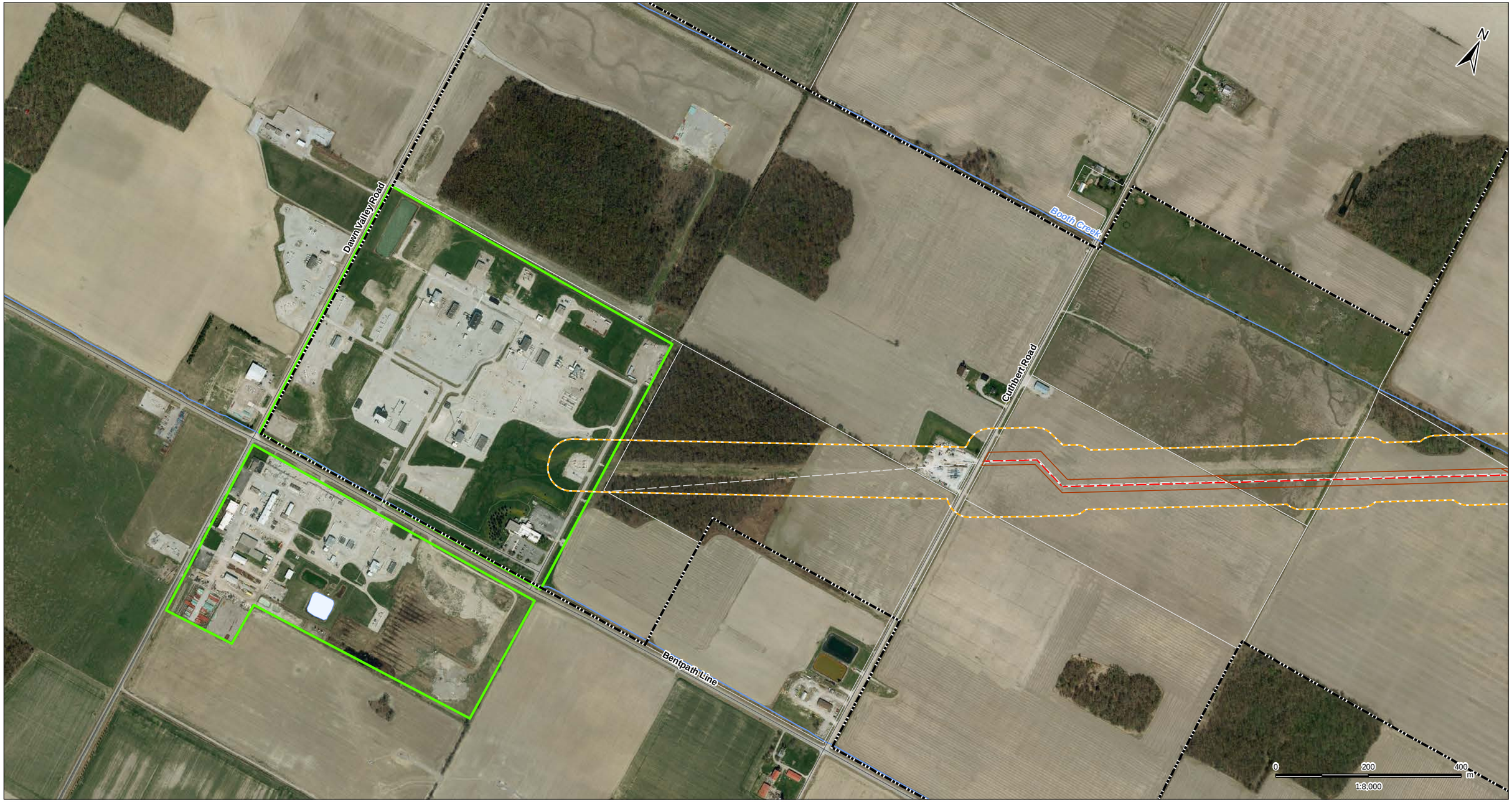
Location/Municipal Address	Level of Recognition	Relationship to the Study Area
2417 Kelly Road	Designated Part IV	Outside Study Area
Multiple Addresses – Oil Heritage Conservation District	Designated Part V	Outside Study Area

4.2 FIELD PROGRAM

4.2.1 Potential Heritage Resources

As described in Section 2.4, a windshield survey of the Study Area was undertaken to identify potential heritage resources situated within the Study Area and confirm the presence of previously identified protected properties. Where identified, the site was photographically documented from publicly accessible roadways. During the course of the survey, a total of 15 individual properties were identified as containing potential heritage resources. Of these, nine were constructed in the 19th century. The majority of these date to the late 19th century while only two are estimated to have been constructed in the mid-late 19th century. The 20th century construction was an even split between early and mid-20th century. Of the 15 properties, 14 contained residences and six of those also contained barns and outbuildings forming farmsteads.

As part of the survey, roadways were also examined to determine the potential of cultural heritage landscape value. As the Study Area runs on an angle from the Union Gas Cuthbert Station northeast to the Union Gas Enniskillen Station, it only contains small portions of roadways within the township. Some of these roadways are rural gravel roads with adjacent fields, woodlots and have drainage ditches. The largest sections of roadway that the Study Area crosses is along Aberfeldy Line and Oil Springs Line. On Aberfeldy Line between Gypsie Flats Road and Black Ash Road, the rural gravel road has a drainage ditch on its south side, with adjacent fields and woodlots. Within this section, only one mid-20th century structure faces the roadway. Given the length that was assessed, there is no potential for Aberfeldy Line within the Study Area to be a cultural heritage landscape. On Oil Springs Line between Wanstead Road and Oakdale Road, the asphalt roadway crosses a modern bridge over Black Creek, with a deep drainage ditch on its south side. Two potential heritage resources were identified facing the roadway. As the Oil Springs Line, within the Study Area has had modern alterations there is no potential as a cultural heritage landscape.



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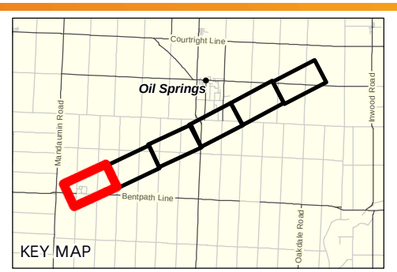
Legend
- Study Area
- Project Location
- Preferred Pipeline Route
- Pipeline Easement
- Dawn Hub
- Existing Dawn-Parkway System
- Road
- Watercourse
- Waterbody
- Municipal Boundary - Lower Tier



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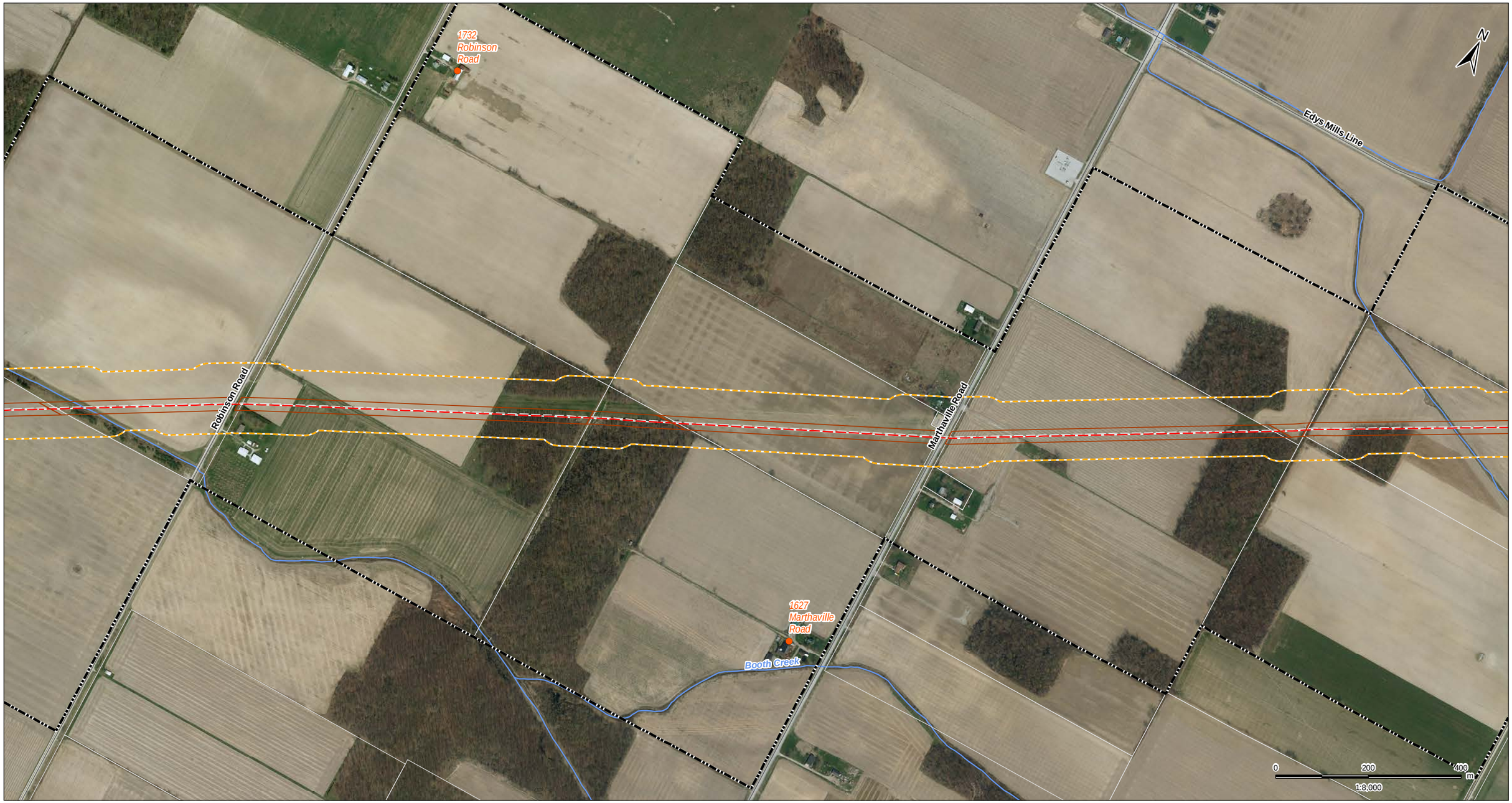
Union Gas Limited
Dawn-Enniskillen Pipeline Project

Figure No.
3.1

Title
Overview of Potential Heritage Resources



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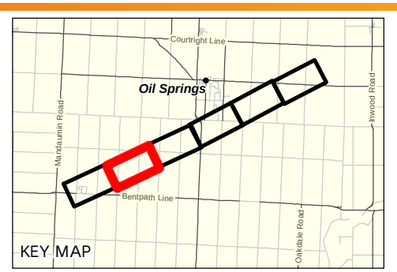
Legend
- Study Area
- Project Location
- Potential Heritage Resource
- Preferred Pipeline Route
- Pipeline Easement
- Existing Dawn-Parkway System
- Road
- Watercourse
- Municipal Boundary - Lower Tier



Client/Project
Union Gas Limited
Dawn-Enniskillen Pipeline Project

Figure No.
3.2

Title
Overview of Potential Heritage Resources



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Legend
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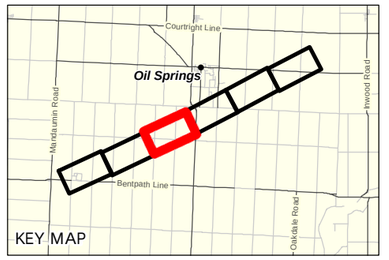
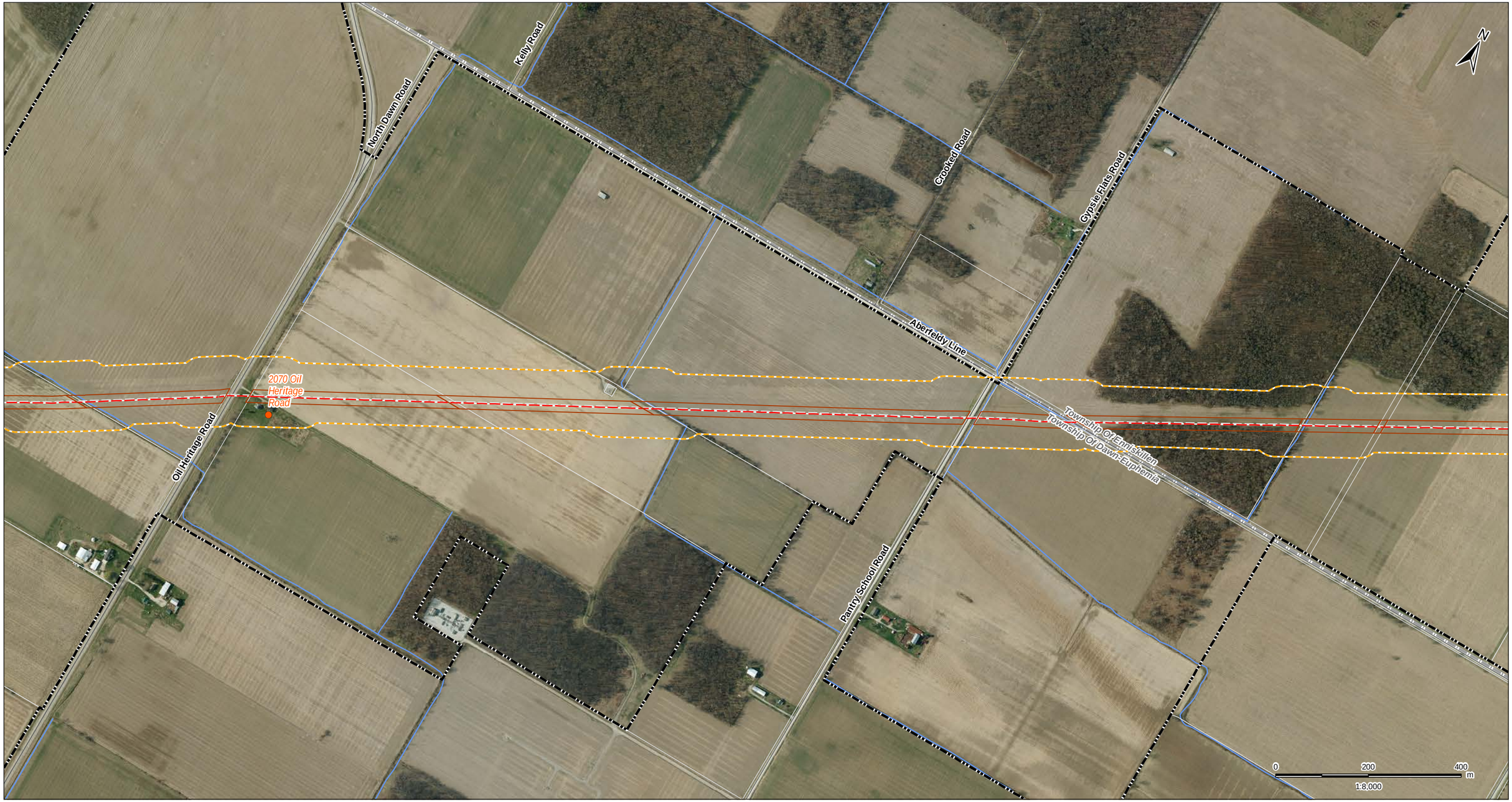
- Project Location
- Potential Heritage Resource
- Preferred Pipeline Route
- Pipeline Easement
- Existing Dawn-Parkway System
- Road
- Watercourse
- Municipal Boundary - Lower Tier



Client/Project
Union Gas Limited
Dawn-Enniskillen Pipeline Project

Figure No.
3.3

Title
Overview of Potential Heritage Resources



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Legend
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- Road
- Watercourse
- Municipal Boundary - Lower Tier

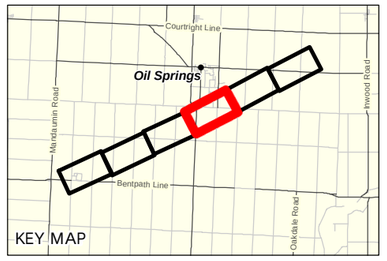

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Figure No.
3.4

Title
Overview of Potential Heritage Resources



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Legend
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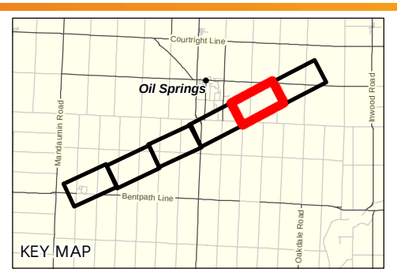
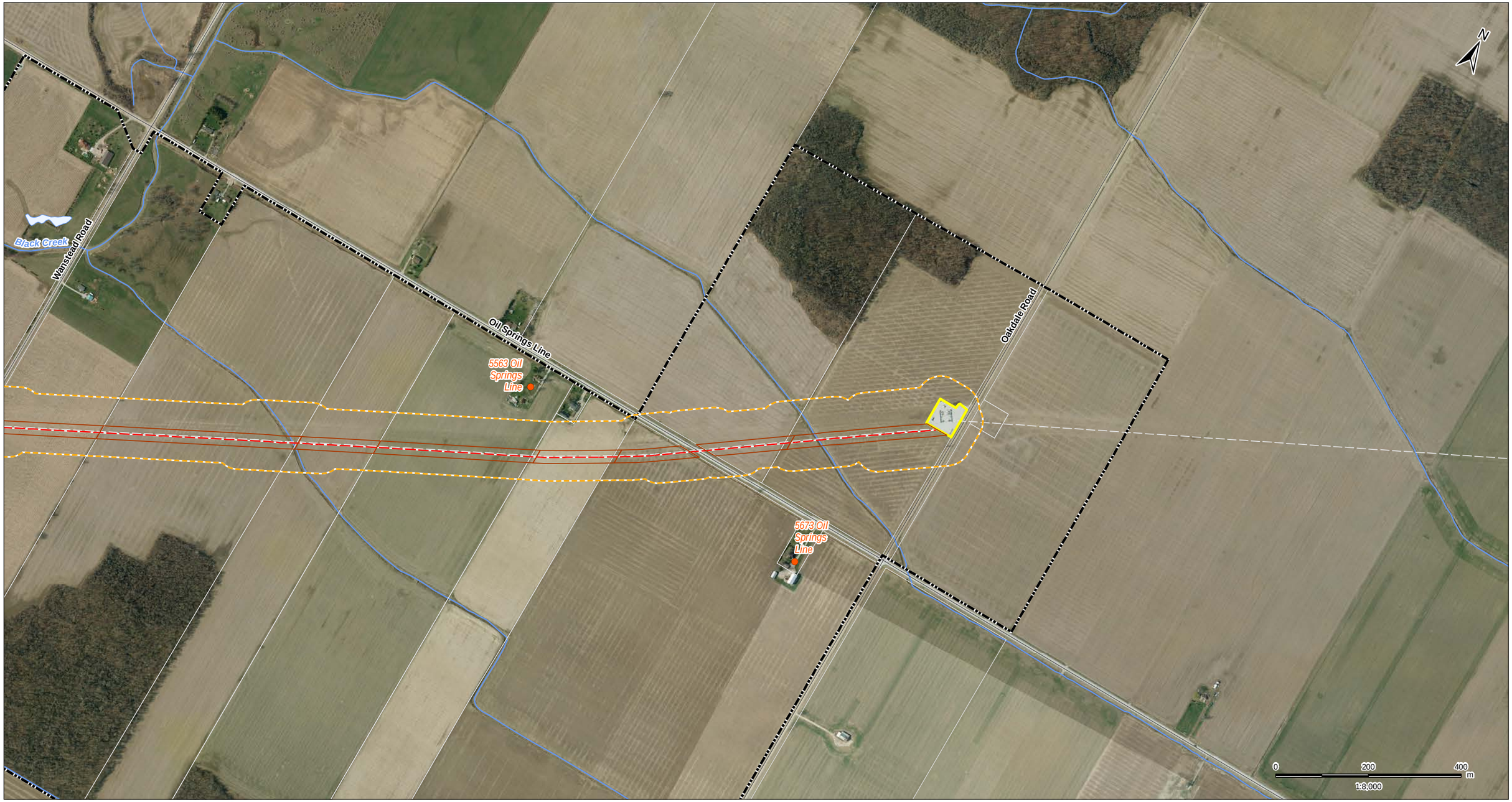
- Project Location
- Potential Heritage Resource
- Preferred Pipeline Route
- Pipeline Easement
- Existing Dawn-Parkway System
- Road
- Watercourse
- Waterbody
- Municipal Boundary - Lower Tier



Client/Project
Union Gas Limited
Dawn-Enniskillen Pipeline Project

Figure No.
3.5

Title
Overview of Potential Heritage Resources



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Legend
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- Preferred Pipeline Route
- Pipeline Easement
- Enniskillen Station
- Existing Dawn-Parkway System
- Road
- Watercourse
- Waterbody
- Municipal Boundary - Lower Tier

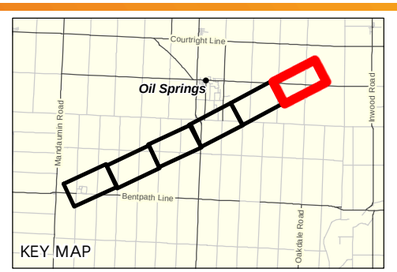

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Figure No.
3.6

Title
Overview of Potential Heritage Resources

4.2.2 OEB *Guideline* Indicators

Based on the field program, two indicators of cultural heritage value or interest according to Section 4.3.4 of the OEB *Guidelines* were identified (see Table 2). Where potential heritage resources are identified, evaluation of the cultural heritage value or interest according to O. Reg. 9/06 is required to confirm the presence of heritage resources. Where heritage resources are identified, the impacts of the Project on these resources must be assessed.

Table 2: Indicators of CHVI According to Section 4.3.4 of the OEB Guidelines

Indicators	Identified within the Study Area
Property designated under Part IV of the *Ontario Heritage Act*	Not Identified
A bridge on Ontario Heritage Bridge List	Not Identified
Property within a Heritage Conservation District designated under Part V of the *Ontario Heritage Act*	Not Identified
Property with an Ontario Heritage Trust or municipal heritage conservation easement	Not Identified
Property with a provincial or federal plaque	Not Identified
A National Historic Site	Not Identified
Property containing a registered archaeological site	Not Applicable*
Property with archaeological potential	Not Applicable*
Property listed on a municipal heritage register or the provincial register	Not Identified
Property adjacent to an identified heritage property	Not Identified
Property that has buildings or structures over 40 years old	Identified
Property within a Canadian Heritage River watershed	Not Identified
Property associated with a renowned architect or builder	Not Identified
Property containing or adjacent to a burial site or cemetery	Not Identified
Parkland	Not Identified
Land with distinctive landforms or geographic features	Not Identified
Historic transportation corridors (such as navigational canals, rail lines or trails, traditional Métis portage routes etc.)	Not Identified
Other human-made alterations to natural landscapes (such as earthworks, plantings, etc.)	Identified

*An Archaeological Assessment has been undertaken under separate cover. Archeological potential is considered beyond the scope of the current study.

4.3 EVALUATION OF CULTURAL HERITAGE VALUE OR INTEREST

Where a potential heritage resource was identified within the Study Area, an evaluation of the cultural heritage value or interest of the property was undertaken. Detailed evaluations are contained within Appendix A. As described in Section 2.5, each potential heritage resource was evaluated according to O. Reg. 9/06, the criteria for determining cultural heritage value or interest. There were 15 potential heritage resources identified, nine of which were determined to represent heritage resources. Table 3 summarizes the findings.

Table 3: Summary of Determination of Cultural Heritage Value or Interest

Municipal Address	CHVI	CHR Number
1732 Robinson Road	Yes	CHR-1
1713 Marthaville Road	No	N/A
1627 Marthaville Road	Yes	CHR-2
1686 Marthaville Road	No	N/A
1688 Marthaville Road	No	N/A
1736 Tramway Road	Yes	CHR-3
1777 Tramway Road	Yes	CHR-4
1833 Tramway Road	No	N/A
4164 Edys Mills Line	Yes	CHR-5
2070 Oil Heritage Road	Yes	CHR-6
2249 Crooked Line	No	N/A
Black Ash Road (Concession 1, Lot 21)	Yes	CHR-7
2382 Wanstead Road	No	N/A
5563 Oil Springs Line	Yes	CHR-8
5673 Oil Springs Line	Yes	CHR-9
Modified agricultural landscape within the Study Area	Yes	CHR-10

Generally, the characteristics of heritage resources are similar to those previously described for potential heritage resources (Sections 4.2.1 and 4.2.2). Approximately 22% of heritage resources were constructed prior to 1920 compared to 54% post-1920 while 22% have elements of both 19th and 20th century construction. In total there were ten farmsteads, ten residences and one standalone barn evaluated with ten farmsteads, three residences and one barn determined to be heritage resources. Most heritage resources contained timber frame barns, accounting for 64% of the resources identified.

5.0 EVALUATION OF ANTICIPATED IMPACTS AND MITIGATION OPTIONS

5.1 DESCRIPTION OF THE UNDERTAKING

In response to the growing demand for natural gas, Union Gas is proposing to install a natural gas pipeline between the existing Union Gas Dawn Compressor Station located at the intersection of Bentpath Line and Dawn Valley Road in the Township of Dawn-Euphemia and the existing Enniskillen Transmission Station located at Oakdale Road in the Township of Enniskillen. While the alignment for the new pipeline is expected to follow the existing easement of the Dawn-Parkway System, the final construction easement, or temporary land use, will be determined by Union Gas at a later date. As described in Section 1.3, the pipeline construction process involves the following activities:

- surveying and staking
- clearing
- grading and stripping
- stringing
- trenching
- pipe fabrication and lowering
- backfilling
- hydrostatic test
- clean-up and restoration

It is anticipated that the proposed undertaking will be contained entirely within the easement and TLU as depicted in Figure 1. The Project will also be situated entirely underground and will run parallel to a preexisting pipeline. Therefore, much of the clearing, grading and stripping will occur in areas previously disturbed by the original pipeline.

5.2 RELATIONSHIP TO THE PROJECT LOCATION

Given the proposed undertaking, the evaluation of potential impacts was undertaken where a component of the heritage resource was positioned within the Project Location. The position within the Project Location was used as a measure of potential impacts which would result from the proposed undertaking as described in Section 5.1. This determination was based on the presence of a pre-existing pipeline and based on the understanding that conditions would be returned to those identified at the time of the site visit. The positions of each heritage resources are considered in relation to the Project Location in Table 4.

Table 4: Relationship of Heritage Resources to the Project Location

Municipal Address	CHR Number	Relationship to the Project Location
1732 Robinson Road	CHR-1	Outside the Project Location
1627 Marthaville Road	CHR-2	Outside the Project Location
1736 Tramway Road	CHR-3	Outside the Project Location
1777 Tramway Road	CHR-4	Outside the Project Location
4164 Edys Mills Line	CHR-5	Outside the Project Location
2070 Oil Heritage Road	CHR-6	Within the Project Location
Black Ash Road (Concession 1, Lot 21)	CHR-7	Outside the Project Location
5563 Oil Springs Line	CHR-8	Outside the Project Location
5673 Oil Springs Line	CHR-9	Outside the Project Location
Modified agricultural landscape within the Study Area	CHR-10	Sections outside and within Project Location

5.3 ANTICIPATED IMPACTS

Where a heritage resource was determined to be situated within the Project Location, the impacts of the proposed undertaking were evaluated. The impacts, both direct and indirect were evaluated according to InfoSheet #5 in *Heritage Resources in the Land Use Planning Process, Cultural Heritage and Archaeology Policies of the Ontario Provincial Policy Statement, 2005* (included in the MTCS Ontario Heritage Toolkit). See Section 2.6 for further discussion of impacts assessed and discussed in Table 5.

Table 5: Evaluation of Potential Impacts

Address	Direct Impact		Indirect Impact					Discussion
	Destruction	Alteration	Shadows	Isolation	Obstruction	Change in Land Use	Land Disturbances	
2070 Oil Heritage Road (CHR-6)	NA	NA	NA	NA	NA	NA	I	The two and one half brick residence was determined to be situated within the 50 metre buffer but outside of the easement and TLU. The position of the barn outside of the area of direct impact minimizes the potential of destruction as a result of Project construction. However, its position within the buffer suggests the potential for indirect impacts resulting from land disturbance during construction activities. Therefore, mitigation measures must be prepared to mitigate potential indirect impacts.

Table 5: Evaluation of Potential Impacts

Address	Direct Impact		Indirect Impact					Discussion
	Destruction	Alteration	Shadows	Isolation	Obstruction	Change in Land Use	Land Disturbances	
Modified agricultural landscape within the Study Area	NA	NA	NA	NA	NA	NA	NA	The proposed pipeline is to follow the existing easement of the Dawn-Parkway System, and no further permanent alterations are anticipated for the installation of the pipeline that would alter or otherwise impact heritage attributes of the modified agricultural landscape. Therefore, no mitigation measures are required.

*I = Potential Impact Anticipated, NA = Not Anticipated

5.4 MITIGATION OPTIONS

Where potential impacts are identified, either direct or indirect, measures to mitigate them have been prepared. The impetus for avoidance of impacts comes from two sources, the *OEB Environmental Guidelines* and the PPS (see Section 2.1). The former requires that cultural heritage resources be protected by "appropriate conservation, avoidance and mitigation", while the latter requires conservation of "significant" heritage resources as well as "heritage attributes of the protected heritage property" (see Section 2.1 for full excerpts of requirements). When combined, precautions are required to conserve heritage resources through avoidance and mitigation where the potential for a Project to impact heritage resources has been identified. Therefore, the below mitigation options have been developed to provide for the conservation of heritage attributes of all heritage resources. These are based on mitigation or avoidance measures developed by the MTCS and contained within InfoSheet #5 in *Heritage Resources in the Land Use Planning Process, Cultural Heritage and Archaeology Policies of the Ontario Provincial Policy Statement, 2005* (included in the MTCS Ontario Heritage Toolkit). See Section 2.7 for further discussion of mitigation methods assessed.

The proposed undertaking involves installation of a pipeline belowground and adjacent to a previously constructed pipeline. As the land will be returned to its current state and above ground features installed only where existing currently features exist; all anticipated impacts are related to the construction phase of the Project. Generally, retention *in situ* is the preferred option when addressing any structure where CHVI has been identified, even if limited. Where potential impacts have been identified, components of heritage resources are positioned within the 50 metre buffer but outside the easement and TLU where project activities are anticipated. As a result, CHR-6 is not at risk of removal and will be retained intact. Therefore, a preventive approach to mitigation measures will best serve to reduce the risk of indirect impacts. Table 6 contains a summary of the evolution of mitigation options.

Table 6: Evaluation of Mitigation and Avoidance Options

Methods	Discussion
Alternative Development	The current approach involves minimal land disturbance and generally follows the path of a pre-existing pipeline.
Isolation of Development	Isolation of Project construction activities from CHR-6 will prevent unanticipated direct and indirect impacts.
Harmonization of Design Guidelines	The Project will not introduce any above ground features outside of existing features and will return the landscape to current conditions. These existing features are not located within, or adjacent to, cultural heritage resources. Therefore, no additional design guidelines are required.
Limitation of Construction	The Project will not introduce any above ground features outside of existing features and will return the landscape to current conditions. These existing features are not located within, or adjacent to, cultural heritage resources. Therefore, no limitations on height or density of construction are required.
Compatible Additions	The Project will not introduce any above ground features outside of existing features and will return the landscape to current conditions. These existing features are not located within, or adjacent to, cultural heritage resources. Therefore, compatible additions are not required.
Reversible Alterations	The Project will not introduce any above ground features outside of existing features and will return the landscape to current conditions. These existing features are not located within, or adjacent to, cultural heritage resources. Therefore, alterations to the landscape do not need to be considered.
Planning Mechanisms	Various planning mechanisms have been introduced to the Project in order to evaluate impacts of the Project on multiple aspects of the surrounding environment. As these mechanisms pertain to heritage resources, the use of a 50 metre buffer surrounding the easement and TLU is the most significant planning mechanism. The use of buffer zones on construction maps to indicate where a heritage resource is positioned within the Project Location will indicate to construction crews the need for complete avoidance of construction activities in the vicinity of the CHR. The depiction of buffer zones on construction mapping should be used only where a heritage resource has been identified within the 50 metre zone. Where this occurs physical markers will be used during Project activities to demarcate the appropriate buffer zone.



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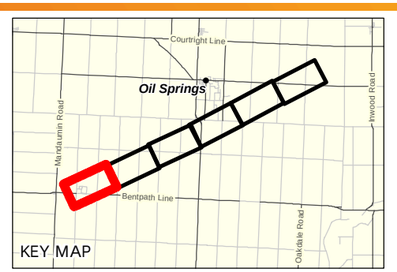
Legend
- Study Area
- Project Location
- CHR-10
- Preferred Pipeline Route
- Pipeline Easement
- Dawn Hub
- Existing Dawn-Parkway System
- Road
- Watercourse
- Waterbody
- Municipal Boundary - Lower Tier



Client/Project
Union Gas Limited
Dawn-Enniskillen Pipeline Project

Figure No.
4.1

Title
Identified Heritage Properties



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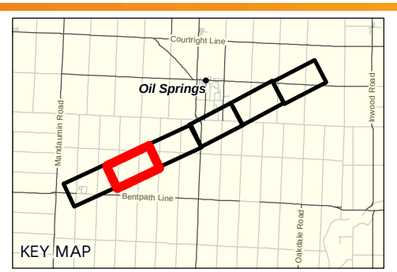
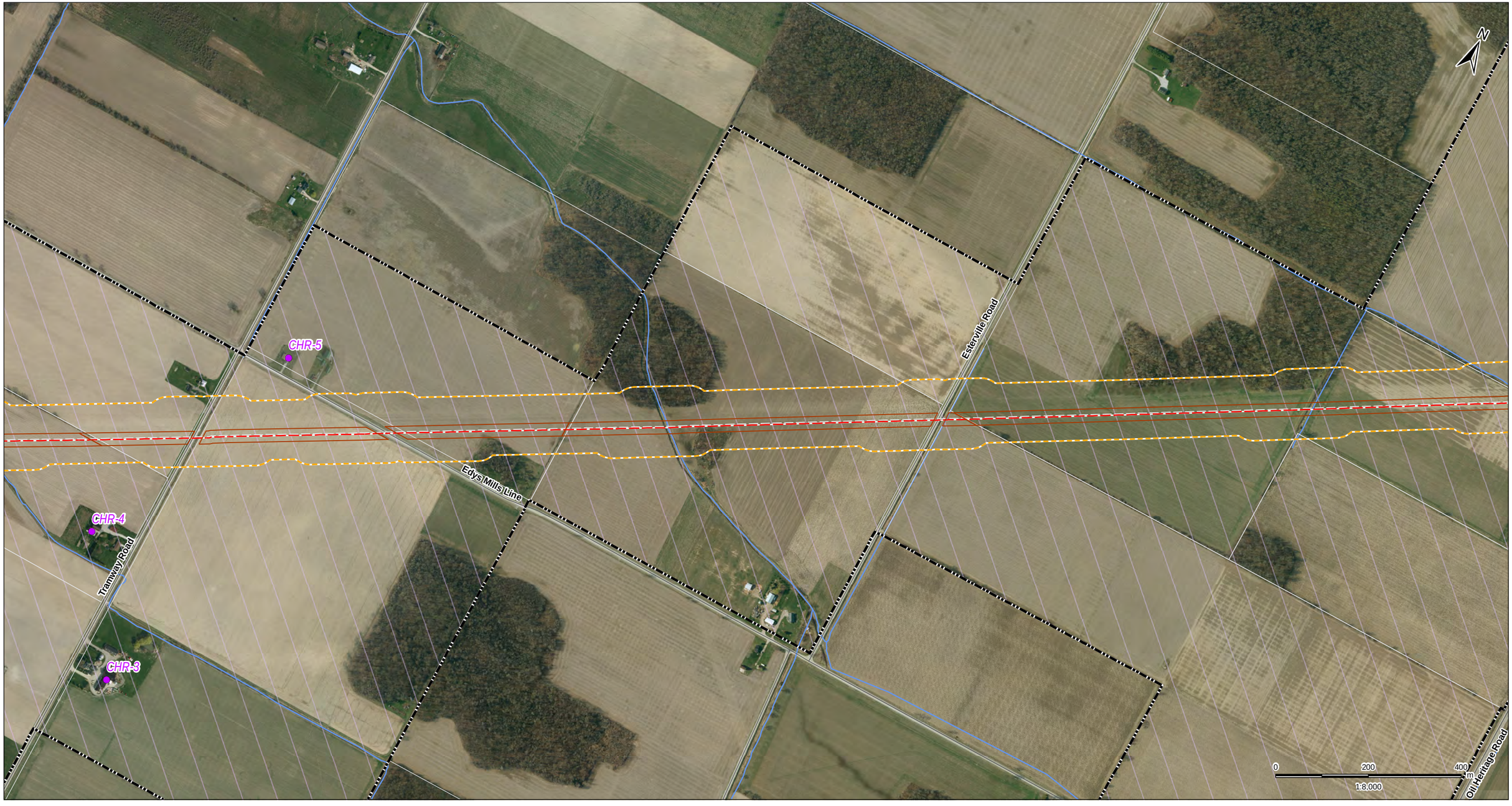
Legend
- Study Area
- Project Location
- Identified Heritage Property
- CHR-10
- Preferred Pipeline Route
- Pipeline Easement
- Existing Dawn-Parkway System
- Road
- Watercourse
- Municipal Boundary - Lower Tier



Client/Project
Union Gas Limited
Dawn-Enniskillen Pipeline Project

Figure No.
4.2

Title
Identified Heritage Properties



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Legend
- Study Area
- Project Location
- Identified Heritage Property
- CHR-10
- Preferred Pipeline Route
- Pipeline Easement
- Existing Dawn-Parkway System
- Road
- Watercourse
- Municipal Boundary - Lower Tier

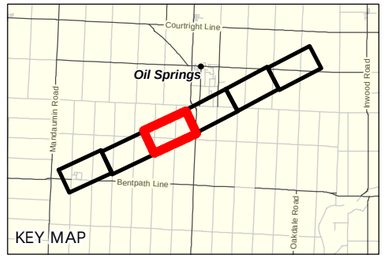

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Figure No.
4.3

Title
Identified Heritage Properties



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Legend
- Study Area
- Project Location
- Identified Heritage Property
- CHR-10
- Preferred Pipeline Route
- Pipeline Easement
- Existing Dawn-Parkway System
- Road
- Watercourse
- Municipal Boundary - Lower Tier

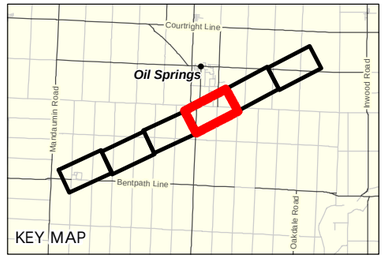

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Figure No.
4.4

Title
Identified Heritage Properties



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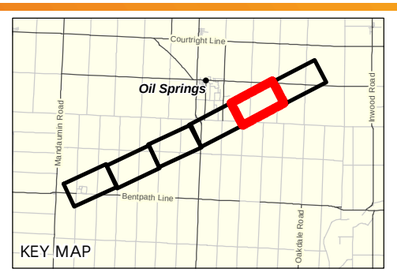
Legend
- Study Area
- Project Location
- Identified Heritage Property
- CHR-10
- Preferred Pipeline Route
- Pipeline Easement
- Existing Dawn-Parkway System
- Road
- Watercourse
- Waterbody
- Municipal Boundary - Lower Tier



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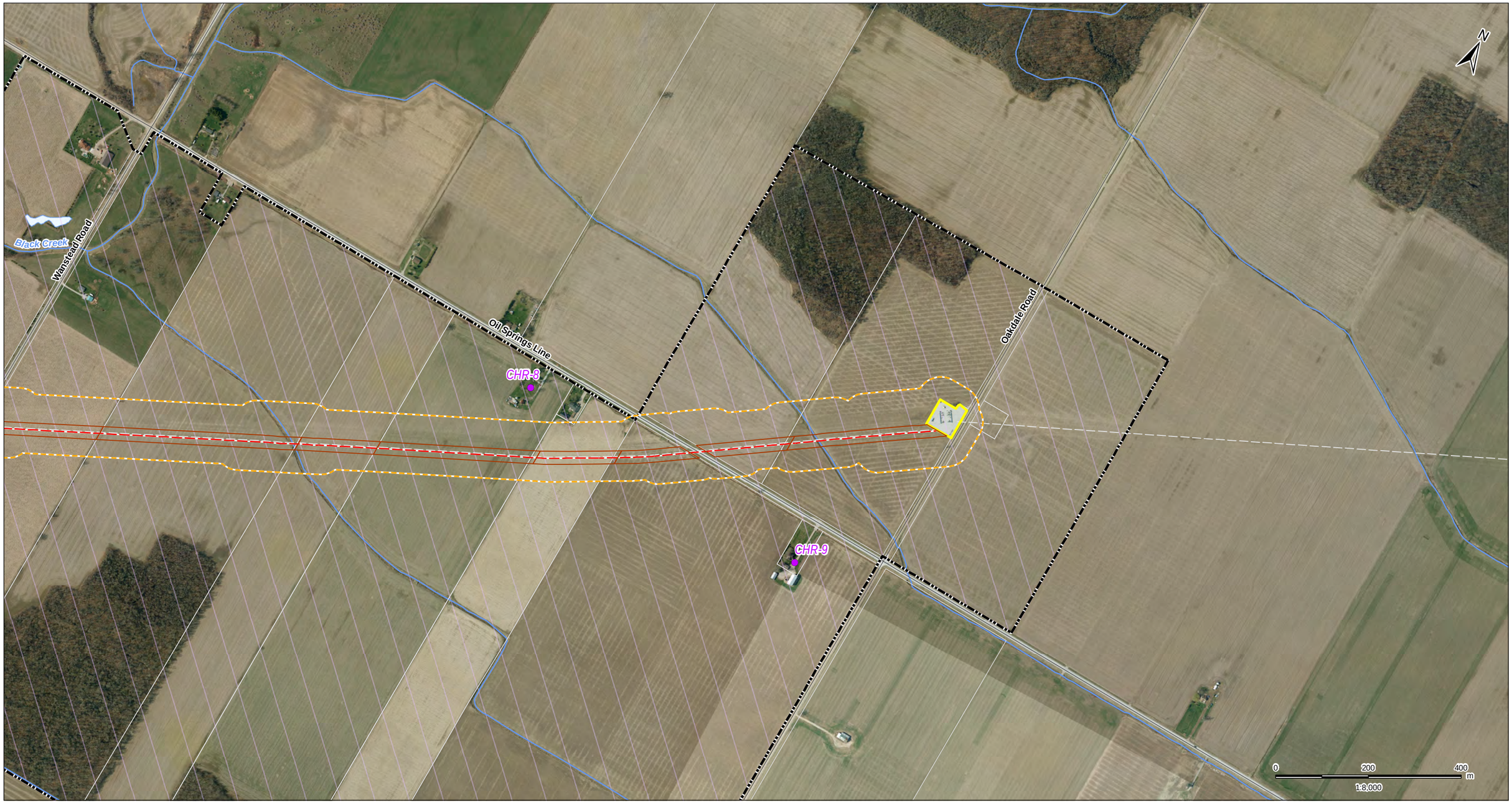
Dawn-Enniskillen Pipeline Project

Figure No.
4.5

Title
Identified Heritage Properties



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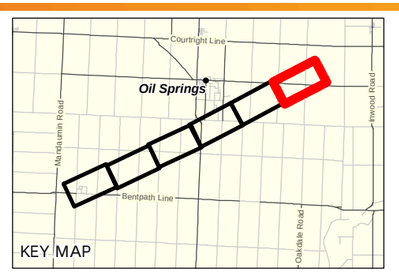
Legend
- Study Area
- Project Location
- Identified Heritage Property
- CHR-10
- Preferred Pipeline Route
- Pipeline Easement
- Enniskillen Station
- Existing Dawn-Parkway System
- Road
- Watercourse
- Waterbody
- Municipal Boundary - Lower Tier



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Dawn-Enniskillen Pipeline Project

Figure No.
4.6

Title
Identified Heritage Properties

6.0 RECOMMENDATIONS

6.1 DEPOSIT COPIES

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

Lambton County Public Library, Oil Springs Branch
4596 Oil Springs Road
Oil Springs, Ontario N0N 1P0

Planning and Development Services, County of Lambton
789 Broadway Street, Box 3000
Wyoming, ON N0N 1T0

6.2 ISOLATION AND BUFFER ZONES

Components of one heritage resource, the two and one half storey brick residence at 2070 Oil Heritage Road, was determined to be situated within the 50 metre buffer of the Project easement and TLU. In order to prevent negative indirect Project impacts, the heritage resource should be isolated from Project activities. It is recommended that site plan controls be put in place prior to construction to prevent potential indirect impacts as a result of the Project. The site plan controls shall include fencing to indicate where Project activities are restricted as described below. These controls should be indicated on all construction mapping and communicated to the construction team leads.

Given the position of the heritage resources within the 50 metre buffer of the Project easement and TLU, it is recommended that a buffer zone be established to indicate where all construction activities must be avoided including, but not limited to, ground disturbance and the movement of equipment and people to and from the site. The buffer zone should be established where the Project easement and TLU are positioned within 10 metres of the residence and delineated with temporary fencing. If construction activities enter into the 10 metre buffer zone, all activities should cease immediately and a temporary 60 metre buffer zone surrounding the impacted area should be established where no construction activities should occur. A qualified building condition specialist should be retained to determine if any damage was incurred as a result of the construction activities. Only following approval from the building specialist, should construction activities resume at which point the 10 metre buffer should be re-established.

6.3 ENVIRONMENTAL MONITORING AND REPORTING

Union Gas' on-site inspection team should monitor that buffer zone fencing, outlining the limit of the construction footprint and subsequent setback from heritage features, is maintained throughout construction and post-construction rehabilitation. It is anticipated that, as a condition of project approval, the Ontario Energy Board will require post-construction monitoring reports; such reports will document the implementation and effectiveness of environmental mitigation and protective measures, including the installation and maintenance of site plan controls.

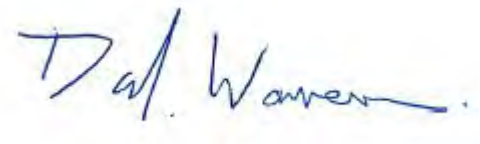
7.0 CLOSURE

This report has been prepared for the sole benefit of the Union Gas Limited, and may not be used by any third party without the express written consent of Stantec Consulting Ltd. Any use which a third party makes of this report is the responsibility of such third party.

We trust this report meets your current requirements. Please do not hesitate to contact us should you require further information or have additional questions about any facet of this report.

Yours truly,

STANTEC CONSULTING LTD.



David Waverman, OALA, CSLA, AALA, CAHPMA
Senior Landscape Architect
Tel: (519) 780-8117
Fax: (519) 579-6733
Cell: (226) 339-9027
David.Waverman@Stantec.com



Tracie Carmichael, BA, B. Ed
Senior Associate, Environmental Services
Tel: (519) 645-6575
Fax: (519) 645-6575
Cell: (226) 927-3586
Tracie.Carmichael@stantec.com

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APPENDIX A: CULTURAL HERITAGE RESOURCE EVALUATION FORMS

Stantec

Municipal Address: 1732 Robinson Road

Former Township or County: Dawn Township

Municipality: Township of Dawn-Euphemia

Resource Type: Farmstead

Associated Dates: Mid to late 19th century

Relationship to Project: North of project



Description: The property contains a farmstead comprised of a residence, barn and multiple outbuildings surrounded by agricultural fields under cultivation.

The residence is a two-and-one-half storey, side gable structure with a medium pitched roof. The residence is clad with red brick and sits on a concrete foundation.

On the front façade of the residence, there is an enclosed porch with a front gable covering. On the south end of the residence, is a brick chimney stack. The offset placement of the windows suggests modification from the original residence.

There is one barn and multiple modern outbuildings situated at the rear of the residence. The timber frame barn has a medium pitched roof and has a concrete foundation.

Evaluation of Cultural Heritage Value or Interest According to O. Reg. 9/06:

Design or Physical Value: Residence is characteristic of mid-19th century vernacular design. Barn design and materials are representative of 19th century barn construction and design.

Historical or Associative Value: None identified.

Contextual Value: The location of the buildings on the property in relation to each other, the road, and the surrounding agricultural fields physically and functionally link the structures to their surroundings.

Identified Heritage Attributes: Residence: two-and-one-half storey, side gable, clad in red brick. Barn: timber frame, medium pitched roof. Property: relationship between residence, outbuildings and agricultural fields.

Identification of CHVI: Yes

Completed by (name): James Sebele

Date Completed: July 23, 2015

Heritage Resource/Landscape Number: CHR-1

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Municipal Address: 1713 Marthaville Road

Former Township or County: Dawn Township

Municipality: Township of Dawn-Euphemia

Resource Type: Residence

Associated Dates: Late 19th

Relationship to Project: North of project

Description: The property contains a residence surrounded by trees.



The residence is a one-and-one-half storey, cross gabled structure with a medium pitched roof. The residence has modern siding and a concrete foundation. A covered entranceway is visible on the north façade of the building as well as an entrance on the south side of the building.

There is a modern outbuilding situated northeast of the residence.

Evaluation of Cultural Heritage Value or Interest According to O. Reg. 9/06:

Design or Physical Value: None identified.

Historical or Associative Value: None identified.

Contextual Value: None identified.

Identified Heritage Attributes: None identified.

Identification of CHVI: No

Completed by (name): James Sebele

Date Completed: July 23, 2015

Heritage Resource/Landscape Number: N/A

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Municipal Address: 1627 Marthaville Road

Former Township or County: Dawn Township

Municipality: Township of Dawn-Euphemia

Resource Type: Farmstead

Associated Dates: Late 19th century

Relationship to Project: South of project

Description: The property contains a farmstead comprised of a residence, barn, silo and multiple outbuildings surrounded by agricultural fields under cultivation.

The residence is a one-and-one-half storey, side gable structure with a medium pitched roof. The residence is clad in modern siding with a portion of brick siding surrounding the front entrance, and sits on a concrete foundation.

On the front façade of the residence is a covered porch and a shed dormer door that opens to a small second level deck. Attached to the rear of the residence is a one-and-one-half storey front gable addition with windows and a brick chimney stack. A small one storey addition with a sloped roof is attached to the rear of the front gable addition.

A barn, silo and multiple modern outbuildings are situated at the rear of the residence. The red timber frame barn has a medium pitched roof and an undetermined foundation. A covered addition is attached to the south side of the barn. A concrete silo is situated behind the barn.

Evaluation of Cultural Heritage Value or Interest According to O. Reg. 9/06:

Design or Physical Value: Barn design and materials are representative of 19th century barn construction and design.

Historical or Associative Value: None identified.

Contextual Value: The location of the buildings on the property in relation to each other, the road, and the surrounding agricultural fields physically and functionally link the structures to their surroundings.

Identified Heritage Attributes: Barn: red timber frame, medium pitched roof. Property: Relationship between outbuildings and agricultural fields.

Identification of CHVI: Yes

Completed by (name): James Sebele

Date Completed: July 23, 2015

Heritage Resource/Landscape Number: CHR-2







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Municipal Address: 1686 Marthaville Road

Former Township or County: Dawn Township

Municipality: Township of Dawn Euphemia

Resource Type: Residence

Associated Dates: Early to mid-20th century

Relationship to Project: South of project



Description: The property contains a residence and an outbuilding surrounded by trees.

The residence is a one-and-one-half story side gable structure with a medium pitched roof. The residence has modern siding and a concrete foundation.

The residence has a shed dormer window and a brick chimney stack positioned at the centre of the front façade. A wooden deck, which leads to a door, is attached to the north side of the residence.

A modern outbuilding is situated at the rear of the residence.

Evaluation of Cultural Heritage Value or Interest According to O. Reg. 9/06:

Design or Physical Value: None identified.

Historical or Associative Value: None identified.

Contextual Value: None identified.

Identified Heritage Attributes: None identified.

Identification of CHVI: No

Completed by (name): James Sebele

Date Completed: July 23, 2015

Heritage Resource/Landscape Number: N/A

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Municipal Address: 1688 Marthaville Road

Former Township or County: Dawn Township

Municipality: Township of Dawn-Euphemia

Resource Type: Residence

Associated Dates: Mid-20th century

Relationship to Project: South of project

Description: The property contains a residence and outbuilding surrounded by trees.



The residence is a one storey, side gabled structure with a low pitched roof. The residence has modern siding and a concrete foundation. On the front façade of the residence, are two doors and five windows. A projecting bay window with three panes is visible on the south side of the residence.

A modern outbuilding it situated at the rear of the residence.

Evaluation of Cultural Heritage Value or Interest According to O. Reg. 9/06:

Design or Physical Value: None identified.

Historical or Associative Value: None identified.

Contextual Value: None identified.

Identified Heritage Attributes: None identified.

Identification of CHVI: No

Completed by (name): James Sebele

Date Completed: July 23, 2015

Heritage Resource/Landscape Number: N/A

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Municipal Address: 1736 Tramway Road

Former Township or County: Dawn Township

Municipality: Township of Dawn-Euphemia

Resource Type: Farmstead

Associated Dates: Late 19th century

Relationship to Project: South of project

Description: The property contains a farmstead comprised of a residence, barn, silo and multiple outbuildings surrounded by agricultural fields under cultivation.



The residence is a one-and-one-half storey structure with a medium hip on gable roof with multiple gable windows. The residence has modern siding and a rusticated concrete block foundation.

The residence has an enclosed porch with multiple windows. Multiple one storey additions are attached to the rear and north side of the residence. A detached side gable garage is situated south of the residence.



At the rear of the residence is a barn, silo and multiple modern outbuildings and a barn. The large red timber frame barn has a gambrel roof with roof ridge cupolas and an undetermined foundation.

Evaluation of Cultural Heritage Value or Interest According to O. Reg. 9/06:

Design or Physical Value: Barn design and materials are representative of 19th century barn construction and design.

Historical or Associative Value: None identified.

Contextual Value: The location of the buildings on the property in relation to each other, the road, and the surrounding agricultural fields physically and functionally link the structures to their surroundings.

Identified Heritage Attributes: Barn: timber frame, gambrel roof, roof ridge cupolas. Property: relationship of barn and outbuildings and agricultural fields.

Identification of CHVI: Yes

Completed by (name): James Sebele

Date Completed: July 23, 2015

Heritage Resource/Landscape Number: CHR-3

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Municipal Address: 1777 Tramway Road

Former Township or County: Dawn Township

Municipality: Township of Dawn-Euphemia

Resource Type: Farmstead

Associated Dates: Mid-20th century (residence), Late 19th century (Barn)

Relationship to Project: South of project

Description: The property contains a farmstead comprised of a residence, barn, silo and multiple outbuildings surrounded by agricultural fields under cultivation.

The residence is a modern one storey side gable residence with a low hipped roof. The residence is clad in yellow brick siding and has a concrete foundation.

At the rear of the residence is a barn, silo and multiple modern outbuildings. The timber frame barn has a gambrel roof and an undetermined foundation. Note: view of barn obstructed by tree in photos.

Evaluation of Cultural Heritage Value or Interest According to O. Reg. 9/06:

Design or Physical Value: Barn design and materials are representative of 19th century barn construction and design.

Historical or Associative Value: None identified.

Contextual Value: The location of the buildings on the property in relation to each other, the road, and the surrounding agricultural fields physically and functionally link the structures to their surroundings.

Identified Heritage Attributes: Barn: timber frame, gambrel roof. Relationship between barn, outbuildings and agricultural fields.

Identification of CHVI: Yes

Completed by (name): James Sebele

Date Completed: July 23, 2015

Heritage Resource/Landscape Number: CHR-4





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Municipal Address: 1833 Tramway Road

Former Township or County: Dawn Township

Municipality: Township of Dawn-Euphemia

Resource Type: Residence

Associated Dates: Early to mid-20th century

Relationship to Project: North of project

Description: The property contains a residence, an outbuilding and a shed surrounded by trees.



The residence is a one storey structure with a medium pitched cross-hipped roof. The residence has modern siding and a concrete foundation.

On the front façade of the residence is a single front entrance door, and three trios of windows.

There is a modern outbuilding with two bay doors and a shed situated south of the residence.

Evaluation of Cultural Heritage Value or Interest According to O. Reg. 9/06:

Design or Physical Value: None identified.

Historical or Associative Value: None identified.

Contextual Value: None identified.

Identified Heritage Attributes: None identified.

Identification of CHVI: No

Completed by (name): James Sebele

Date Completed: July 23, 2015

Heritage Resource/Landscape Number: N/A

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Municipal Address: 4164 Edys Mills Line

Former Township or County: Dawn Township

Municipality: Township of Dawn-Euphemia

Resource Type: Farmstead

Associated Dates: Late 19th century

Relationship to Project: North of project

Description: The property contains a farmstead comprised of a residence, barn and multiple outbuildings.

The residence is a one storey structure with a medium pitch hipped roof and symmetrical front façade. The residence has modern siding and a concrete foundation. A one storey addition with a sloped roof is attached to the rear of the residence.



Situated at the rear of the residence is a barn and multiple outbuildings. The timber frame barn has a medium pitched roof and an undetermined foundation.



Evaluation of Cultural Heritage Value or Interest According to O. Reg. 9/06:

Design or Physical Value: Single storey residence with symmetrical façade and hipped roof. Barn design and materials are representative of 19th century barn construction and design.

Historical or Associative Value: None identified.

Contextual Value: The location of the buildings on the property in relation to each other, the road, and the surrounding agricultural fields physically and functionally link the structures to their surroundings.

Identified Heritage Attributes: Residence: single storey, symmetrical façade, hipped roof. Barn: timber frame, medium pitched roof. Relationship between residence, barn, outbuildings and agricultural fields.

Identification of CHVI: Yes

Completed by (name): James Sebele

Date Completed: July 23, 2015

Heritage Resource/Landscape Number: CHR-5

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Municipal Address: 2070 Oil Heritage Road

Former Township or County: Dawn Township

Municipality: Township of Dawn-Euphemia

Resource Type: Residence (Abandoned)

Associated Dates: Late 19th century

Relationship to Project: South or project



Description: The property contains a residence and an outbuilding.

The residence is a two-and-one-half storey structure with a medium pitch hip and gable roof. The residence is clad in brick and has a concrete foundation.

The residence has a projecting front gable with an attic window contained within a triangular pediment that has modern siding. The residence has an inset wooden deck that leads to a front door. A brick chimney stack protrudes from the roof.

A modern outbuilding is situated at the rear of the residence.

Evaluation of Cultural Heritage Value or Interest According to O. Reg. 9/06:

Design or Physical Value: Residence is representative of late 19th century vernacular residential design.

Historical or Associative Value: None identified.

Contextual Value: None identified.

Identified Heritage Attributes: Residence: two-and-one-half, projecting front gable.

Identification of CHVI: Yes

Completed by (name): James Sebele

Date Completed: July 23, 2015

Heritage Resource/Landscape Number: CHR-6

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Municipal Address: 2249 Crooked Line

Former Township or County: N/A

Municipality: Township of Enniskillen

Resource Type: Residence

Associated Dates: Mid-20th century

Relationship to Project: North of project

Description: The property contains a residence and multiple outbuildings surrounded by trees.

The residence is a one storey structure with a low pitched side gable roof. The residence has modern siding and a concrete foundation.

On the front façade of the residence there is a single door and three rectangular windows. On the East side of the residence is a wooden deck that leads to an entry door.

Situated at the rear of the residence are two timber outbuildings with gambrel roofs.

Evaluation of Cultural Heritage Value or Interest According to O. Reg. 9/06:

Design or Physical Value: None identified.

Historical or Associative Value: None identified.

Contextual Value: None identified.

Identified Heritage Attributes: None identified.

Identification of CHVI: No

Completed by (name): James Sebele

Date Completed: July 23, 2015

Heritage Resource/Landscape Number: N/A





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Municipal Address: No address (Black Ash Road; Concession 1, Lot 21)

Former Township or County: N/A

Municipality: Township of Enniskillen

Resource Type: Barn

Associated Dates: Late 19th century

Relationship to Project: South of project

Description: The property contains a barn surrounded by agricultural fields under cultivation.

The timber frame barn has a medium pitched gable roof and a concrete foundation. On the south side of the barn is one large bay door while on the east side there are three large bay doors.

Evaluation of Cultural Heritage Value or Interest According to O. Reg. 9/06:

Barn design and materials are representative of 19th century barn construction and design.

Historical or Associative Value: None identified.

Contextual Value: The location of the buildings on the property in relation to each other, the road, and the surrounding agricultural fields physically and functionally link the structures to their surroundings.

Identified Heritage Attributes: Barn: timber frame, medium pitched gable roof. Relationship between barn and agricultural fields.

Identification of CHVI: Yes

Completed by (name): James Sebele

Date Completed: July 23, 2015

Heritage Resource/Landscape Number: CHR-7





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Municipal Address: 2382 Wanstead Road

Former Township or County: N/A

Municipality: Township of Enniskillen

Resource Type: Residence

Associated Dates: Early to mid 20th century

Relationship to Project: South of project

Description: The property contains a residence and multiple outbuildings surrounded by trees.



The residence is a one-and-one-half storey structure with a low pitched side gable roof. The residence has modern siding and a concrete foundation.

The residence appears to have many modifications as indicated by the irregular roof lines that encircle the first storey. On the front façade there is a large patio door, while on the north facade, there is an entry door and two windows.

A modern outbuilding is situated north of the residence.

Evaluation of Cultural Heritage Value or Interest According to O. Reg. 9/06:

Design or Physical Value: None identified.

Historical or Associative Value: None identified.

Contextual Value: None identified.

Identified Heritage Attributes: None identified.

Identification of CHVI: No

Completed by (name): James Sebele

Date Completed: July 24, 2015

Heritage Resource/Landscape Number: N/A

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Municipal Address: 5563 Oil Springs Line

Former Township or County: N/A

Municipality: Township of Enniskillen

Resource Type: Residence

Associated Dates: Late 19th

Relationship to Project: North of project

Description: The property contains a residence surrounded by trees.

The residence is a one-and-one-half storey side gable structure with a medium pitched roof. The residence has modern siding and a concrete foundation.

The residence has a projecting gable with a single window on the upper storey and a window with three panes on the lower storey. On the east façade of the residence is a second pointed gable with window. On the west side of the residence is a brick chimney stack. A porch with wooden deck leads to the front entry door.





Evaluation of Cultural Heritage Value or Interest According to O. Reg. 9/06:

Design or Physical Value: Residence is representative of late 19th century vernacular residential design. The residence has Gothic Revival architectural features such as its multiple gables with windows.

Historical or Associative Value: None identified.

Contextual Value: The location of the building on the property in relation to the road, and the surrounding agricultural fields physically and functionally link the structures to their surroundings.

Identified Heritage Attributes: Residence: one-and-one-half, side gable, multiple gables with windows. Relationship between residence, road and agricultural fields.

Identification of CHVI: Yes

Completed by (name): James Sebele

Date Completed: July 24, 2015

Heritage Resource/Landscape Number: CHR-8

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Municipal Address: 5673 Oil Springs Line

Former Township or County: N/A

Municipality: Township of Enniskillen

Resource Type: Farmstead

Associated Dates: Mid to late 19th century

Relationship to Project: South of project

Description: The property contains a farmstead comprised of a residence, barn, silo and multiple outbuildings surrounded by agricultural fields under cultivation.



The residence is a one-and-one-half storey structure with a medium pitched side gable roof. The residence is symmetrical in design and has modern siding and a concrete foundation.

The residence appears to have a one storey addition with a sloped roof that projects from the east side of the residence. This addition has a covered porch with a wooden deck.



Situated east of the residence is a barn. The large raised timber frame barn has a medium pitched roof and a rusticated concrete block foundation. A small addition is attached to the west side of the barn. An uncapped silo is situated at the rear of the barn.

Evaluation of Cultural Heritage Value or Interest According to O. Reg. 9/06:

Design or Physical Value: Residence is characteristic of mid to late 19th century vernacular design in its proportions, symmetrical design and medium roof pitch. Barn design and materials are representative of 19th century barn construction and design.

Historical or Associative Value: None identified.

Contextual Value: The location of the buildings on the property in relation to each other, the road, and the surrounding agricultural fields physically and functionally link the structures to their surroundings.

Identified Heritage Attributes: Residence: one and one half storey, medium pitch with symmetrical front façade. Barn: timber frame, medium pitched roof, rusticated concrete block foundation. Property: relationship between the buildings and agricultural fields.

Identification of CHVI: Yes

Completed by (name): James Sebele

Date Completed: July 24, 2015

Heritage Resource/Landscape Number: CHR-9

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Municipal Address: Study Area

Former Township or County: N/A

Municipality: Townships of Enniskillen and Dawn

Resource Type: Modified Agricultural Landscape

Associated Dates: Late 19th to Mid-20th century

Relationship to Project: Sections within Project Location

Description: The Study Area contains a modified agricultural landscape within a grid pattern. The grid pattern was influenced by the survey of the Townships of Enniskillen and Dawn in the 1820s and 1830s and the later layout of the hydro lines in the mid-20th century. The Study Area contains rural gravel roadways, that also influence the grid pattern of the landscape.

To address the issue of drainage, the landscape displays specific controls including pump houses, windmills, deep ditches and dykes.

The modified agricultural landscape extends beyond the Study Area in the two townships.





Evaluation of Cultural Heritage Value or Interest According to O. Reg. 9/06:

Design or Physical Value: None identified.

Historical or Associative Value: Supports the broader agricultural setting of the Townships of Enniskillen and Dawn. Influenced by settlement patterns, road development, drainage techniques and hydro lines.

Contextual Value: Connected to the rural agricultural landscape character of the Townships of Enniskillen and Dawn.

Identified Heritage Attributes: Landscape: Grid layout of agricultural fields and hydro lines, rural gravel roadways, and drainage controls including pumphouses, windmills, deep ditches and dykes.

Identification of CHVI: Yes

Completed by (name): Laura Walter

Date Completed: July 21, 2017

Heritage Resource/Landscape Number: CHR-10

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Stantec

Memo

To: Enbridge Gas Ontario

From: Frank Smith, MA, CAHP;
Julia Richards, MA
Stantec Consulting Ltd.

Project/File: 160901400

Date: October 5, 2026

Reference: Dawn Parkway System Renewal Project: Dawn to Enniskillen

1 Introduction

Enbridge Gas Ontario (Enbridge Gas) is considering the removal of the existing 16.7-kilometre Nominal Pipe Size (NPS) 26-inch diameter natural gas pipeline within the Township of Dawn-Euphemia and the Township of Enniskillen. The Study Area consists of the existing pipeline at the Enbridge Gas Dawn Natural Gas Storage and Transportation Facility (the Dawn Hub), located at Bentpath Line and Dawn Valley Road, and the existing Enbridge Gas Enniskillen Station located north of Oil Springs Line on Oakdale Road. The project will replace and construct a new NPS 48-inch diameter natural gas pipeline (via lift and lay) (Figure 1).

To facilitate this Project, Enbridge Gas retained Stantec to prepare a *Cultural Heritage Memo* for the Study Area. The need to consider known and potential built heritage resources (BHRs) and cultural heritage landscapes (CHLs) is defined by Section 4.3.4 of the *Ontario Energy Board (OEB) Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Projects and Facilities in Ontario* (OEB Guidelines) (OEB 2023).

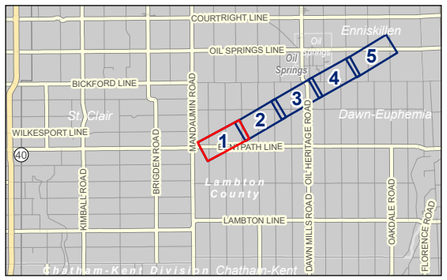
The Study Area was previously assessed for known and potential BHRs and CHLs in a *Cultural Heritage Assessment Report* (CHAR) prepared by Stantec in 2017 (Stantec 2017). The objectives of this Memo are to summarize the findings of the CHAR, re-affirm the BHRs and CHLs identified in the CHAR, identify and screen new potential and known

Reference: Dawn Parkway System Renewal Project: Dawn to Enniskillen

BHRs and CHLs within the Study Area, assess potential impacts resulting from the Project, and recommend future actions.

To screen for known or potential cultural heritage value or interest (CHVI), this Memo follows the *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes: A Checklist for the Non-Specialist* (the Checklist) published by the Ministry of Citizenship and Multiculturalism (MCM) in 2016 and last updated in 2022 (MCM 2022). Potential impacts, both direct and indirect, are assessed using the seven potential negative effects to BHRs and CHLs identified in the OEB Guidelines (OEB 2023).





Legend

- Study Area
- Enbridge Station/Valve
- Proposed Pipeline
- Existing Pipeline
- Watercourse (Permanent)
- Constructed Drain
- Parcel Boundary (PIN)
- Waterbody

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Notes

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Stantec

Project Location
Township of Dawn-Euphemia

REVA
Prepared by AWhite on 2026-09-24
Technical Review by JRichards on 2026-09-24

Client/Project
ENBRIDGE GAS INC.
DAWN SYSTEM RENEWAL PROJECT
DAWN TO ENNISKILLEN

Figure No.
1.1

Title
Study Area

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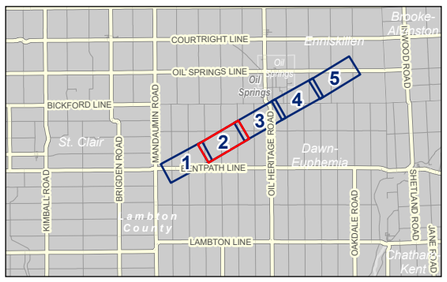

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Legend

- Study Area
- Proposed Pipeline
- Existing Pipeline
- Watercourse (Permanent)
- Constructed Drain
- Parcel Boundary (PIN)

0 100 200 m

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Project Location
Township of Dawn-Euphemia

REVA
Prepared by AWhite on 2026-09-24
Technical Review by JRichards on 2026-09-24

Client/Project
ENBRIDGE GAS INC.
DAWN SYSTEM RENEWAL PROJECT
DAWN TO ENNISKILLEN

Figure No.
1.2

Title
Study Area

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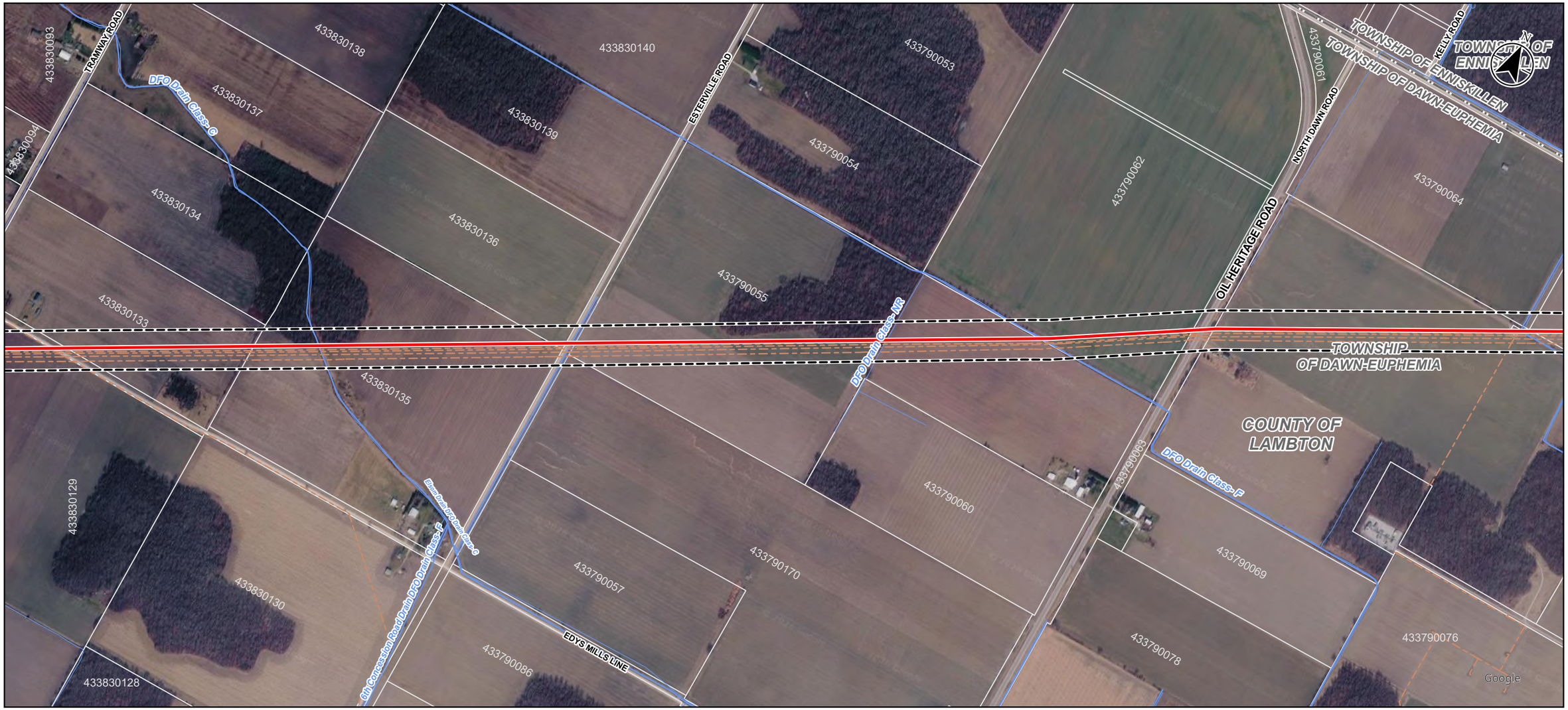

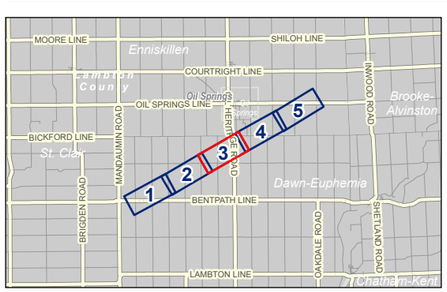

Legend

- Study Area
- Proposed Pipeline
- Existing Pipeline
- Watercourse (Permanent)
- Constructed Drain
- Parcel Boundary (PIN)

0 100 200 m

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Project Location
Township of Dawn-Euphemia

REVA
Prepared by AWhite on 2026-09-24
Technical Review by JRichards on 2026-09-24

Client/Project
ENBRIDGE GAS INC.
DAWN SYSTEM RENEWAL PROJECT
DAWN TO ENNISKILLEN

Figure No.
1.3

Title
Study Area

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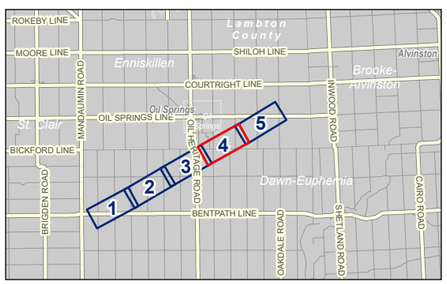

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Legend

- Study Area
- Proposed Pipeline
- Existing Pipeline
- Watercourse (Permanent)
- Constructed Drain
- Parcel Boundary (PIN)
- Waterbody

0 100 200 m

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Project Location
Township of Dawn-Euphemia

REVA
Prepared by AWhite on 2026-09-24
Technical Review by JRichards on 2026-09-24

Client/Project
ENBRIDGE GAS INC.
DAWN SYSTEM RENEWAL PROJECT
DAWN TO ENNISKILLEN

Figure No.
1.4

Title
Study Area

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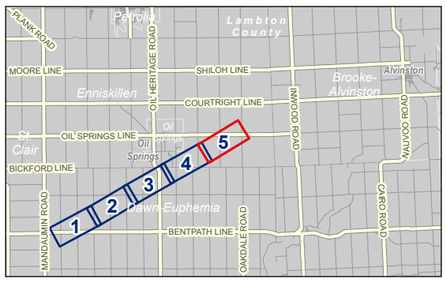

Legend

- Study Area
- Enbridge Station/Valve
- Proposed Pipeline
- Existing Pipeline
- Watercourse (Permanent)
- Constructed Drain
- Parcel Boundary (PIN)

0 100 200 m

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Project Location
Township of Dawn-Euphemia

REVA
Prepared by AWhite on 2026-09-24
Technical Review by JRichards on 2026-09-24

Client/Project
ENBRIDGE GAS INC.
DAWN SYSTEM RENEWAL PROJECT
DAWN TO ENNISKILLEN

Figure No.
1.5

Title
Study Area

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Figure placeholder

2 Methodology

2.1 Municipal and Agency Information Requests

Requests for information from municipalities, agencies, and heritage-based organizations in the area within which the Project is proposed were undertaken to determine the presence of listed, designated, or otherwise identified heritage properties within the Study Area. Stantec issued information requests to the Township of Dawn-Euphemia, the Village of Oil Springs, the Ontario Heritage Trust (OHT), and the MCM. Consultation with the public and Indigenous communities is carried out as part of the broader environmental study process. Should BHRs or CHLs be identified by the public or Indigenous communities, they will be incorporated into the finalized version of the Memo. For this study, properties previously known by municipal staff or provincial agencies as containing or having the potential to contain CHVI were determined to be potential heritage properties.

2.2 Screening of Cultural Heritage Value or Interest

In general, buildings and structures of more than 40 years of age were screened during the survey using the criteria prescribed in the MCM *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes* (the MCM Criteria) (MCM 2022) and professional judgement. This included a field program to re-affirm the findings of the CHAR and to identify and screen additional known and potential BHRs and CHLs within the Study Area.

A vehicular windshield survey was conducted on August 18, 2026, by Paige Murray and Julia Richards, Cultural Heritage Specialists with Stantec. The weather conditions were sunny and hot. The windshield survey was conducted from the publicly accessible right-of-way (RoWs), unless specified otherwise.

For the purposes of this memo, the resource number used in the CHAR is carried forward into this memo for consistency. These resources are identified with a cultural heritage resource number (CHR) and 2017, to denote its identification in the CHAR (e.g. CHR-1 2017). Where a new known or potential BHR or CHL was identified, the structure or landscape was assigned a BHR/CHL number as applicable and 2026, to denote it was not included in the CHAR (e.g. BHR-1 2026).

2.3 Assessment of Impacts

Where a component of a known or potential BHR or CHL was situated within the Study Area, the impacts of the proposed undertaking were evaluated. The impacts, both direct and indirect, are evaluated according to the possible effects or impacts resulting from the development of a hydrocarbon project that could affect cultural heritage resources as outlined in the OEB Guidelines.

Seven potential negative effects have been identified in the OEB Guidelines (OEB 2023), including:

1. Destruction or removal of any—or part of any—significant heritage attributes or features
2. Alteration that is not sympathetic, or is not compatible, with heritage character or appearance
3. Isolation of heritage attributes or features from their surrounding environment, context or a significant relationship
4. Visual intrusions, direct or indirect obstruction of significant views or vistas from, within, or to a built or natural feature
5. Shadows created by new development that alter the appearance or character of a heritage resource
6. A change in physical character, such as when development fills in formerly open spaces, or when significant vegetation is removed

7. Ground disturbances or land alterations, such as a change in grade, alteration of soil composition or drainage patterns that could adversely affect a cultural heritage resource

The potential for negative impacts resulting from vibration due to construction and operation activities and the transportation of Project components and personnel were also evaluated. Although the existing effect of traffic and construction vibrations on historical period structures is not fully known, negative effects have been demonstrated on buildings with a setback of less than 40 metres from the curbside (Crispino and D'Apuzzo 2001; Ellis 1987; National Park Service 2001; Rainer 1982; Wiss 1981). The proximity of Project components to previously identified or potential BHRs and CHLs was considered in this assessment, particularly those within 50 metres from the proposed pipeline alignment, to encompass a wide enough buffer zone to account for built resources less than 40 metres from curbside or potential Project activities. The 50-metre buffer represents a conservative approach to effects identification.

3 Review of Cultural Heritage Assessment Report

What follows is a high-level summary of the histories of the former Townships of Dawn and Enniskillen from survey and settlement to the 20th century. More detailed and complete histories are contained in the 2017 CHAR.

3.1 Historical Context Summary

The Study Area is located in the Township of Dawn-Euphemia and the Village of Oil Springs, both lower tier municipalities within the County of Lambton, an upper tier municipality. Historically, the Study Area is situated within parts of Lots 26-27, Concession 2; Lots 27-28, Concession 3; Lots 28-29, Concession 4; Lots 29-30, Concession 5; Lots 30-31, Concession 6; Lots 31-33, Concession 7; Lots 33-34, Concession 8; Lot 34, Concession 9 in the former Township of Dawn and parts of Lots

19-23, Concession 1; Lots 22-27, Concession 2; and Lots 26-27, Concession 3 in the former Township of Enniskillen, County of Lambton.

3.1.1 Township of Dawn

The Township of Dawn was surveyed in 1821 by Shubai Park using the double front system. Compared to other townships in Lambton County, Dawn was slow to develop due to its landscape, with heavy dense soil and wooded lots with no natural drainage. By the mid-19th century, the population was relatively low at 429 and had little land under cultivation. The population peaked at 1,758 by 1880, which was the lowest in Lambton County at the end of the 19th century (Elford 1982: 41).

Population growth and land cultivation was hindered by poor road conditions such that sections of the township were impassable. By the end of the 1920s, road improvement programs began as roads were paved with gravel (Elford 1982: 41).

In the mid-20th century, gas was found in Dawn Township and became a dominant industry in the township in addition to agriculture (Elford 1982: 76). Oil production continued in the township until the 1940s, when the wells were generally depleted (Elford 1982: 76). From the 1930s until the present day, Lot 1 on Concession 25 was used for storage and transference of gas (Elford 1982: 76).

In 1998, due to municipal restructuring combining townships, the Township of Euphemia and the Township of Dawn amalgamated to form the new lower-tier municipality of the Township of Dawn-Euphemia. The population of Dawn-Euphemia was recorded as 1,967 in 2016, a decrease of 4% since 2011 (Statistics Canada 2021).

3.1.2 Township of Enniskillen

The Township of Enniskillen was surveyed in 1832 by Lewis Burwell. Settlement began in 1833 with the first settlers being United Empire Loyalists and military veterans (County of Lambton 2010: 7). The Township of Enniskillen experienced little population growth

between 1835 and 1859 due to the swampy conditions of the landscape which hindered farming (Armstrong 2019: 23).

With the discovery of oil at Oil Springs in 1858, the Township of Enniskillen developed a booming oil industry which led to a population increase in the latter half of the 19th century (Burr 2005: 279; County of Lambton 2010: 14-15). Oil production in the township increased such that by 1866 there were an estimated 1,500 wells in operation (County of Lambton 2010: 13). The success of the oil industry in the township was aided by the introduction of the Great Western Railway in 1866 (Elford 1968: 78).

At the beginning of the 20th century, Enniskillen remained largely agricultural and experienced a population decline (Dominion Bureau of Statistics 1953). The population continued to decline throughout the 20th century which was typical of many rural communities within Ontario in the 20th century as urban centres grew and attracted workers.

3.2 Summary of Identified BHRs/CHLs

The field program for the CHAR was completed on January 21, 2015. The field program photographed and noted the location of known and potential BHRs and CHLs within the Study Area. A total of 10 properties were identified as BHRs or CHLs in the CHAR. Table 1 summarizes the findings of the field program completed for the CHAR.

Table 1 Identified BHRs/CHLs in the CHAR

Municipal Address	Type of Resource	Reference Number
1732 Robinson Road	BHR: Farmstead	CHR-1 (2017)
1627 Marthaville Road	BHR: Farmstead	CHR-2 (2017)
1736 Tramway Road	BHR: Farmstead	CHR-3 (2017)
1777 Tramway Road	BHR: Farmstead	CHR-4 (2017)

Municipal Address	Type of Resource	Reference Number
4164 Edys Mills Line	BHR: Farmstead	CHR-5 (2017)
2070 Oil Heritage Road	BHR: Residence (Noted as abandoned in CHAR)	CHR-6 (2017)
N/A - Black Ash Road (Lot 21, Concession 1)	BHR: Barn	CHR-7 (2017)
5563 Oil Springs Line	BHR: Residence	CHR-8 (2017)
5673 Oil Springs Line	BHR: Farmstead	CHR-9 (2017)
Modified Agricultural Landscapes within the Study Area	CHL: Comprised of agricultural landscape with grid layout, utilities, gravel roads, and drainage controls	CHR-10 (2017)

4 Municipal and Agency Information Requests

To identify known or potential heritage resources, the MCM, OHT, and Township of Dawn-Euphemia, and the Village of Oil Springs were contacted. The results of the information requests are summarized in Table 2.

Table 2 Municipal and Agency Information Request Summary

Organization	Contact	Results
MCM	Mariana Kimi Nito, Heritage Advisor mariana.nito@ontario.ca	Consultation email sent on September 23, 2026. Response pending.
OHT	Samuel Bayefsky, Real Property Coordinator samuel.bayefsky@ heritagetrust.on.ca	Consultation email sent on September 23, 2026. Response pending.

Organization	Contact	Results
Township of Dawn-Euphemia	admin@dawneuphemia.on.ca	Consultation email sent on September 23, 2026. Response pending.
Village of Oil Springs	info@oilsprings.ca	Consultation email sent on September 23, 2026. Response pending.

5 Re-Affirmation of 2017 CHAR Findings and Identification of Additional Known and Potential Built Heritage Resources and Cultural Heritage Landscapes

As previously discussed, a field program was completed to re-affirm the findings of the CHAR and identify additional known and potential BHRs and CHLs within the Study Area. BHRs and CHLs from the 2017 CHAR and additional known and potential BHRs and CHLs were documented from publicly accessible roadways, and their locations were digitally recorded using ESRI's ArcGIS Field Maps application.

The Study Area can be characterized by its rural landscape with largely 19th century and a few 20th century farmsteads and agricultural fields (Photo 1 and Photo 2). The majority of the roads within the Study Area are gravel with little to no shoulder. Interspersed with agricultural fields are mature trees forming dense windbreaks (Photo 3). There are also deep ditches built into the landscape near the shoulders of the road (Photo 4).

Reference: Dawn Parkway System Renewal Project: Dawn to Enniskillen



Photo 1 Representative photo of rural landscape, looking north on Cuthbert Road



Photo 2 Representative photo of agricultural fields, looking west on Robinson Road



Photo 3 Representative photos showing mature trees, looking north on Pantry School Road



Photo 4 Representative photo showing ditches, looking west on Oil Springs Line

A total of 15 properties or landscapes were inventoried. This includes the 10 CHRs identified in the CHAR (Table 3) and two additional BHRs identified in 2026 (Table 4) The location of these CHRs and BHRs are depicted in Figure 2. CHR-10 (2017) is located throughout the township and does not have a specific address, because of this it is not represented in Figure 2.

Reference: Dawn Parkway System Renewal Project: Dawn to Enniskillen

Table 3 Re-Affirmation of Built Heritage Resources and Cultural Heritage Landscapes Identified in the CHAR

Reference Number	Type of Property	Description and Review of CHVI	Current Photograph
CHR-1 (2017)	Farmstead	The property contains a farmstead comprising a residence, barn, and multiple outbuildings surrounded by agricultural fields under cultivation. The residence is a two-and-one-half storey, side gable roof clad in asphalt shingles. The exterior is clad in red brick. The barn is a timber frame structure. The CHAR identified that the residence has potential design value as a representative mid-19th century Ontario vernacular structure and the barn has potential design value as a representative 19th century barn. The property also has potential contextual value for its physical and functional links to its surroundings. **Based on the field program completed for the Memo, the property retains the potential CHVI identified in the CHAR**.	
CHR-2 (2017)	Farmstead	The property contains a farmstead comprising a residence, barn, silo, and multiple outbuildings surrounded by agricultural fields under cultivation. The residence is a one-and-one-half storey, side gable roof clad in asphalt shingles. The exterior is clad in siding and brick. A barn, silo and multiple modern outbuildings are situated at the rear of the residence. The barn is a timber frame structure. The CHAR identified that the barn has potential design value as a representative of 19th century barn in its construction and design. The property also has potential contextual value for its location of the buildings in relation to each other, the road, and the surrounding agricultural fields that physically and functionally link the structures to their surroundings. **Based on the field program completed for the Memo, the property retains the potential CHVI identified in the CHAR.**	

Reference: Dawn Parkway System Renewal Project: Dawn to Enniskillen

Reference Number	Type of Property	Description and Review of CHVI	Current Photograph
CHR-3 (2017)	Farmstead	The property contains a farmstead comprising a residence, barn, silo, and multiple outbuildings surrounded by agricultural fields under cultivation. The residence is a one-and-one-half storey structure clad in siding. At the rear of the residence is a barn, silo, and multiple modern outbuildings and a barn. The barn is clad in timber and has a gambrel roof. The CHAR identified the barn as having potential design value as a representative of 19th century barn in its construction and design. The property also has contextual value for its location of the buildings on the property and the relation to each other, the road, and the surrounding agricultural fields that physically and functionally link the structures to their surroundings. **Based on the field program completed for the Memo, the property retains the potential CHVI identified in the CHAR.**	
CHR-4 (2017)	Farmstead	The property contains a farmstead comprising a residence, barn, silo, and multiple outbuildings surrounded by agricultural fields under cultivation. The residence is a one storey side gable residence with a hip roof clad in asphalt shingles. The exterior of the residence is clad in yellow brick. At the rear of the residence is a barn, silo, and multiple modern outbuildings. The timber frame barn has a gambrel roof. The CHAR identified the barn as having potential design value as a representative of 19th century barn in its construction and design. The property also has contextual value for its location of the buildings on the property and the relation to each other, the road, and the surrounding agricultural fields that physically and functionally link the structures to their surroundings. **Based on the field program completed for the Memo, the property retains the potential CHVI identified in the CHAR.**	

Reference: Dawn Parkway System Renewal Project: Dawn to Enniskillen

Reference Number	Type of Property	Description and Review of CHVI	Current Photograph
CHR-5 (2017)	Farmstead	The property contains a farmstead comprising a residence, barn and multiple outbuildings. The residence is a one storey structure with a hip roof clad asphalt shingles and the exterior is clad in siding. Situated to the rear of the residence is a barn and multiple outbuildings. The barn is a timber frame barn with a front facing gable roof. The property parcel also now includes a second residence that was likely built in the late 20th to early 21st century. The residence was likely built in the late 19th century. The CHAR identified the residence as having potential design value as a single storey residence with a symmetrical façade and hip roof. The barn also has potential design value as a representative example of a 19th century barn in its construction and design. The property also has potential contextual value for its location of the buildings on the property and the relation to each other, the road, and the surrounding agricultural fields that physically and functionally link the structures to their surroundings. **Based on the field program completed for the Memo, the property retains the potential CHVI identified in the CHAR.**	
CHR-6 (2017)	Residence (Abandoned)	The property contains a residence and an outbuilding. The residence is a two and one half storey structure with a hip and gable roof clad in asphalt shingles and the exterior is clad in brick. There is a modern outbuilding situated at the rear of the residence. The CHAR identified the residence as having potential design value as a representative example of late 19th century vernacular residence. **Based on the field program completed for the Memo, the property retains the potential CHVI identified in the CHAR.**	

Reference: Dawn Parkway System Renewal Project: Dawn to Enniskillen

Reference Number	Type of Property	Description and Review of CHVI	Current Photograph
CHR-7 (2017)	Barn	The property contains a barn surrounded by agricultural fields under cultivation. The timber frame barn has a gable roof. The CHAR identified the barn as having potential design value as a representative example of a 19th century barn in its construction and design. The property also has potential contextual value for its location of the buildings on the property and the relation to each other, the road, and the surrounding agricultural fields that physically and functionally link the structures to their surroundings. **Based on the field program completed for the Memo, the property retains the potential CHVI identified in the CHAR.**	
CHR-8 (2017)	Residence	The property contains a residence. The residence is a one-and-one-half storey side gable roof clad in asphalt shingles and the exterior of the structure is clad in siding. The CHAR identified the residence as having potential design value as a representative example of a late 19th century vernacular structure with Gothic Revival design influences. The property also has potential contextual value for its location of the buildings on the property and the relation to each other, the road, and the surrounding agricultural fields that physically and functionally link the structures to their surroundings. **Based on the field program completed for the Memo, the property retains the potential CHVI identified in the CHAR.**	

Reference: Dawn Parkway System Renewal Project: Dawn to Enniskillen

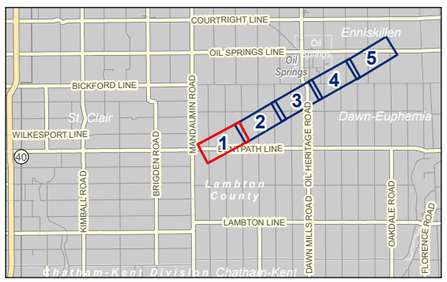
Reference Number	Type of Property	Description and Review of CHVI	Current Photograph
CHR-9 (2017)	Farmstead	The property contains a farmstead comprising a residence, barn, silo and multiple outbuildings surrounded by agricultural fields under cultivation. The residence is a one-and-one-half storey structure with a side gable roof clad in asphalt shingles and the exterior is clad in siding. Since the 2017 CHAR, a wrap around porch has been added to the front and side façades. Situated east of the residence is a barn. The barn is clad in timber frame and is raised. The CHAR identified the residence as having potential design value as characteristic of mid to late 19th century vernacular residence. The barn also has potential design value as a representative example of 19th century barn in its construction and design. The property also has potential contextual value for its location of the buildings on the property and the relation to each other, the road, and the surrounding agricultural fields that physically and functionally link the structures to their surroundings. **Based on the field program completed for the Memo, the property retains the potential CHVI identified in the CHAR.**	
CHR-10 (2017)	Modified Agricultural Landscape	The Study Area contains a modified agricultural landscape within a grid pattern. The grid pattern was influenced by the survey of the Townships of Enniskillen and Dawn in the 1820s and 1830s and the later layout of the hydro lines in the mid-20th century. The Study Area contains rural gravel roadways that also influence the grid pattern of the landscape. To address the issue of poor drainage that hindered settlement and agriculture these ditches were added in the late 19th to early 20th century, the landscape contains specific controls including pump houses, windmills, deep ditches and dykes. The modified agricultural landscape extends beyond the Study Area in the two townships. The CHAR identified potential historical value for the Study Area as it supports the broader agricultural setting of the Townships of Enniskillen and Dawn. These ditches also have potential historical value as their construction was influenced by settlement patterns and subsequently informed road development and hydro lines. They are examples of relevant drainage techniques available in the late 19th and early 20th centuries. This modified agricultural landscape also has potential contextual value as it is connected to the rural agricultural landscape of the Townships of Enniskillen and Dawn. **Based on the field program completed for the Memo, the property retains the potential CHVI identified in the CHAR.**	

Reference: Dawn Parkway System Renewal Project: Dawn to Enniskillen

Table 4 Additional Built Heritage Resources and Cultural Heritage Landscapes

Reference Number	Type of Property	Address	Previous Heritage Recognition	Description of Known or Potential CHVI	Photograph
BHR-1 (2026)	Residence	1523 Cuthbert Road	Identified during field review	This property contains a residence, barn, and outbuildings. The residence is a one and one half storey structure with a front facing gable roof clad in asphalt shingles. The exterior of the residence is clad in siding and contains replacement windows. There is a shed roof addition to the south façade, clad in siding. The foundation is obscured. The barn is a side facing gable roof with a vertical wood siding board. Based on construction materials and available historic mapping the residence was likely built between 1880 and 1913. The property has potential design value as a representative example of a late 19th to early 20th century Ontario vernacular residence.	
BHR-2 (2026)	Barn	2110 Pantry School Road	Identified during field review	This property contains a residence, barn, and outbuildings. The residence appears to be built in the late 20th century and does not have potential for CHVI. The barn has a side facing gable roof with a metal roof and vertical wood siding. The foundation appears to be concrete block. Based on available historic mapping, the barn was likely constructed between 1900 and 1920. The property has potential design value as a representative example of an early 20th century Ontario barn.	





Legend

- Study Area
- Built Heritage Resource
- Enbridge Station/Valve
- Proposed Pipeline
- Existing Pipeline
- Watercourse (Permanent)
- Constructed Drain
- Parcel Boundary (PIN)
- Waterbody

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Stantec

Project Location
Township of Dawn-Euphemia

REVA
Prepared by AWhite on 2026-09-24
Technical Review by JRichards on 2026-09-24

Client/Project
ENBRIDGE GAS INC.
DAWN SYSTEM RENEWAL PROJECT
DAWN TO ENNISKILLEN

Figure No.
2.1

Title
Previously Identified and Potential Built Heritage Resources and Cultural Heritage Landscapes

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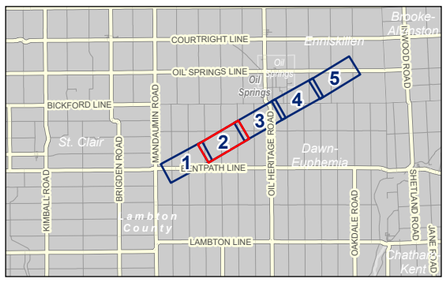

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Legend

- Study Area
- Cultural Heritage Resource
- Proposed Pipeline
- Existing Pipeline
- Watercourse (Permanent)
- Constructed Drain
- Parcel Boundary (PIN)

0 100 200 m

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Project Location
Township of Dawn-Euphemia

REVA
Prepared by AWhite on 2026-09-24
Technical Review by JRichards on 2026-09-24

Client/Project
ENBRIDGE GAS INC.
DAWN SYSTEM RENEWAL PROJECT
DAWN TO ENNISKILLEN

Figure No.
2.2

Title
Previously Identified and Potential Built Heritage Resources and Cultural Heritage Landscapes

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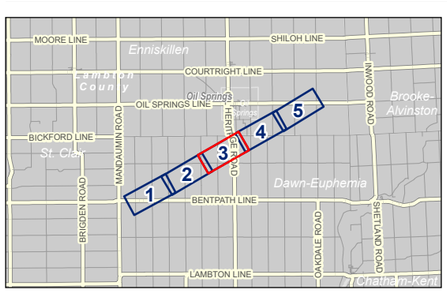

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Legend

- Study Area
- Cultural Heritage Resource
- Proposed Pipeline
- Existing Pipeline
- Watercourse (Permanent)
- Constructed Drain
- Parcel Boundary (PIN)

0 100 200 m

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Project Location
Township of Dawn-Euphemia

REVA
Prepared by AWhite on 2026-09-24
Technical Review by JRichards on 2026-09-24

Client/Project
ENBRIDGE GAS INC.
DAWN SYSTEM RENEWAL PROJECT
DAWN TO ENNISKILLEN

Figure No.
2.3

Title
Previously Identified and Potential Built Heritage Resources and Cultural Heritage Landscapes

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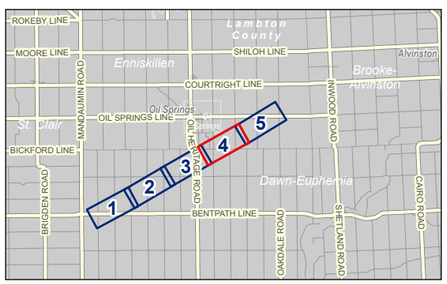

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Legend

- Study Area
- Cultural Heritage Resource
- Built Heritage Resource
- Proposed Pipeline
- Existing Pipeline
- Watercourse (Permanent)
- Constructed Drain
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- Waterbody

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Project Location
Township of Dawn-Euphemia

REVA
Prepared by AWhite on 2026-09-24
Technical Review by JRichards on 2026-09-24

Client/Project
ENBRIDGE GAS INC.
DAWN SYSTEM RENEWAL PROJECT
DAWN TO ENNISKILLEN

Figure No.
2.4

Title
Previously Identified and Potential Built Heritage Resources and Cultural Heritage Landscapes

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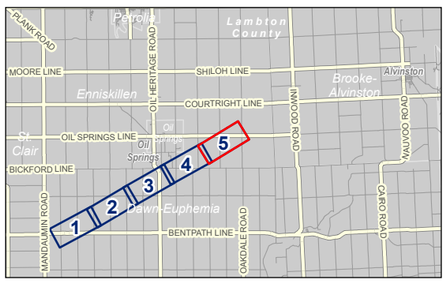

Legend

- Study Area
- Cultural Heritage Resource
- Enbridge Station/Valve
- Proposed Pipeline
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- Watercourse (Permanent)
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Project Location
Township of Dawn-Euphemia

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Prepared by AWhite on 2026-09-24
Technical Review by JRichards on 2026-09-24

Client/Project
ENBRIDGE GAS INC.
DAWN SYSTEM RENEWAL PROJECT
DAWN TO ENNISKILLEN

Figure No.
2.5

Title
Previously Identified and Potential Built Heritage Resources and Cultural Heritage Landscapes

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6 Preliminary Impact Assessment

6.1 Description of Proposed Undertaking

The Project construction process includes various activities as described below:

- **Site Preparation and Clearing**: The first activity is typically the survey and staking, which delineates the boundaries of the road allowance and temporary work areas where necessary. Next, the temporary work areas are cleared of brush and trees, if necessary. Safety barriers are then installed at the limits of the temporary work areas where public safety considerations are required, and aspects of the Traffic Management Plan are implemented (i.e., signs, vehicle access).
- **Pipeline Installation:** Following site preparation and clearing, the pipeline may be installed by one of the following methods:
  - **Horizontal Directional Drilling (HDD):** This trenchless pipeline installation method involves creating entry and exit pits on either side of a feature (such as roads), drilling a pilot hole and reaming the hole to the required size with the aid of drilling fluid, and then pulling the pipeline back through the hole.
  - **Trenching:** This pipeline installation method involves excavation of a trench, lowering the pipeline into place, and backfilling the trench. During backfilling the originally excavated subsoil is placed over the pipe in the trench. In stony areas, the pipe may be sand padded to protect the coating. In shallow water table areas, the pipeline may be weighted to provide negative buoyancy.
- **Pressure Testing:** The pipeline will be pressure tested by filling the pipe with nitrogen or water. The pipeline will be held at a high pressure for a set period of time, per the requirements of CSA Z662-19 Clause 8 and applicable Enbridge Gas specifications for pressure testing.

Clean-Up and Restoration: This will include the restoration of all work areas disturbed during construction. Erosion and sediment controls (ESC) installed during construction (if required) will be removed. Re-seeding of any grassed areas, landscaping, repair and restoration of roads and sidewalks, and laneway and driveway rehabilitation will all be completed.

6.2 Identification of Preliminary Potential Project Specific Impacts and Proposed Mitigation Measures

The results of the preliminary impact assessment and preparation of mitigation measures are presented in Table 5. Distances provided are based on the distance of the BHR or CHL from the Project Location (proposed pipeline alignment) and not the property parcel boundary.

Reference: Dawn Parkway System Renewal Project: Dawn to Enniskillen

Table 5 Preliminary Impact Assessment and Mitigation Measures

Reference Number	Location	Previous Heritage Recognition	Type and Description of Potential/Anticipated Impact	Mitigation
CHR-1 (2017)	1732 Robinson Road	Identified in 2017 CHAR	**No Impacts Anticipated:** The residence and barn are located adjacent to the Project Location. Construction activities are proposed more than 602 metres north of the residence and barn. Therefore, the property is not at risk of direct or indirect impacts, and no mitigation measures or further cultural heritage studies are required.	**Continued avoidance is recommended.**
CHR-2 (2017)	1627 Marthaville Road	Identified in 2017 CHAR	**No Impacts Anticipated:** The barn is located adjacent to the Project Location. Construction activities are proposed more than 436 metres south of the barn. Therefore, the property is not at risk of direct or indirect impacts, and no mitigation measures or further cultural heritage studies are required.	**Continued avoidance is recommended.**
CHR-3 (2017)	1736 Tramway Road	Identified in 2017 CHAR	**No Impacts Anticipated:** The barn is located adjacent to the Project Location. Construction activities are proposed more than 503 metres south of the barn. Therefore, the property is not at risk of direct or indirect impacts, and no mitigation measures or further cultural heritage studies are required.	**Continued avoidance is recommended.**
CHR-4 (2017)	1777 Tramway Road	Identified in 2017 CHAR	**No Impacts Anticipated:** The barn is located adjacent to the Project Location. Construction activities are proposed more than 206 metres south of the barn. Therefore, the property is not at risk of direct or indirect impacts, and no mitigation measures or further cultural heritage studies are required.	**Continued avoidance is recommended.**

Reference: Dawn Parkway System Renewal Project: Dawn to Enniskillen

Reference Number	Location	Previous Heritage Recognition	Type and Description of Potential/Anticipated Impact	Mitigation
CHR-5 (2017)	4164 Edys Mills Line	Identified in 2017 CHAR	**Indirect:** The residence is located adjacent to the Project Location. Construction activities are proposed within 25 metres of the identified CHR. The position of the residence within 25 metres has the potential for indirect impacts resulting from vibration damage during construction activities.	**Preferred Option:** Avoid the CHR by establishing a buffer zone around the residence to limit construction activity to more than 50 metres away. This should use appropriate preventive measures such as mapping the CHR on construction maps and temporary fencing. Staging and laydown areas should also be non-invasive and avoid the CHR. Where avoidance is not feasible, the alternative option should be applied. **Alternative Option:** Where construction activities are anticipated within the 50-metre buffer zone, a pre-construction vibration assessment by a qualified engineer is recommended to determine if vibration monitoring or site plan controls are required.
CHR-6 (2017)	2070 Oil Heritage Road	Identified in 2017 CHAR	**Indirect:** The residence is located adjacent to the Project Location. Construction activities are proposed within 7 metres of the identified CHR. The position of the residence within 7 metres has the potential for indirect impacts resulting from vibration damage during construction activities.	**Preferred Option:** Avoid the CHR by establishing a buffer zone around the residence to limit construction activity to more than 50 metres away. This should use appropriate preventive measures such as mapping the CHR on construction maps and temporary fencing. Staging and laydown areas should also be non-invasive and avoid the CHR. Where avoidance is not feasible, the alternative option should be applied. **Alternative Option:** Where construction activities are anticipated within the 50-metre buffer zone, a pre-construction vibration assessment by a qualified engineer is recommended to determine if vibration monitoring or site plan controls are required.
CHR-7 (2017)	Black Ash Road Lot 21 Concession 1	Identified in 2017 CHAR	**No Impacts Anticipated:** The barn is located adjacent to the Project Location. Construction activities are proposed more than 126 metres north of the barn. Therefore, the property is not at risk of direct or indirect impacts, and no mitigation measures or further cultural heritage studies are required.	**Continued avoidance is recommended.**

Reference: Dawn Parkway System Renewal Project: Dawn to Enniskillen

Reference Number	Location	Previous Heritage Recognition	Type and Description of Potential/Anticipated Impact	Mitigation
CHR-8 (2017)	5563 Oil Springs Line	Identified in 2017 CHAR	**Indirect:** The residence is located adjacent to the Project Location. Construction activities are proposed within 22 metres of the identified CHR. The position of the residence within 22 metres has the potential for indirect impacts resulting from vibration damage during construction activities.	**Preferred Option:** Avoid the CHR by establishing a buffer zone around the residence to limit construction activity to more than 50 metres away. This should use appropriate preventive measures such as mapping the CHR on construction maps and temporary fencing. Staging and laydown areas should also be non-invasive and avoid the CHR. Where avoidance is not feasible, the alternative option should be applied. **Alternative Option:** Where construction activities are anticipated within the 50-metre buffer zone, a pre-construction vibration assessment by a qualified engineer is recommended to determine if vibration monitoring or site plan controls are required.
CHR-9 (2017)	5673 Oil Springs Line	Identified in 2017 CHAR	**No Impacts Anticipated:** The residence is located adjacent to the Project Location. Construction activities are proposed more than 280 metres east of the residence. Therefore, the property is not at risk of direct or indirect impacts, and no mitigation measures or further cultural heritage studies are required.	**Continued avoidance is recommended.**
CHR-10 (2017)	Modified Agricultural Landscapes	Identified in 2017 CHAR	**No Impacts Anticipated:** The proposed pipeline is to follow the existing easement of the Dawn-Parkway System, and no further permanent alterations are anticipated for the installation of the pipeline that would alter or otherwise impact potential heritage attributes of the modified agricultural landscape. Therefore, no mitigation measures are required.	**Continued avoidance is recommended.**
BHR-1 (2026)	1523 Cuthbert Road	Identified during field review	**No Impacts Anticipated:** The residence is located adjacent to the Project Location. Construction activities are proposed more than 110 metres northeast of the residence. Therefore, the property is not at risk of direct or indirect impacts, and no mitigation measures or further cultural heritage studies are required.	**Continued avoidance is recommended.**

Reference: Dawn Parkway System Renewal Project: Dawn to Enniskillen

Reference Number	Location	Previous Heritage Recognition	Type and Description of Potential/Anticipated Impact	Mitigation
BHR-2 (2026)	2110 Pantry School Road	Identified during field review	**No Impacts Anticipated:** The barn is located adjacent to the Project Location. Construction activities are proposed more than 405 metres southeast of the barn. Therefore, the property is not at risk of direct or indirect impacts, and no mitigation measures or further cultural heritage studies are required.	**Continued avoidance is recommended.**

7 Recommendations

Historical research, municipal and agency data requests, and the field program completed for this memo identified a total of 10 CHRs (2017) and two BHRs. This includes 10 CHRs previously identified in the 2017 CHAR and two additional BHRs identified in 2026. Following an assessment of impacts, properties with potential risk for indirect impacts due to vibration damage were identified for:

- CHR-5 4164 Edys Mills Line
- CHR-6 2070 Oil Heritage Road
- CHR-8 5563 Oil Springs Line

The preferred option is to avoid the CHRs and BHRs by establishing a buffer zone around the resources to avoid construction activity within 50 metres of the CHRs and BHRs. This should use appropriate preventive measures such as mapping on construction maps or plans and temporary fencing. Staging and laydown areas should also be selected to be non-invasive and avoid the built heritage resource or cultural heritage landscape.

Where avoidance is not feasible, the alternative option should be applied. If the 50-metre buffer cannot be avoided, the alternative option to mitigate this risk is for a qualified building condition specialist or engineer to develop a strategy to carry out condition surveys and vibration monitoring, where required. The purpose of the condition surveys is to establish baseline conditions of structures prior to construction activities occurring within their vicinity, and the vibration monitoring is to be used as a precautionary measure against excessive impacts which may cause shifts in foundations, walls, masonry, or historic finishes.

The pre-condition survey may include screening activities to identify critical properties and determine appropriate vibration levels based on building type, age, and condition. Vibration monitoring may consist of random confirmatory vibration monitoring during

construction at the most critical properties. A post-condition survey should be carried out on an as-needed basis to be determined by a qualified building condition specialist or engineer to confirm no historic foundations, walls, masonry, or historic finishes were damaged due to vibration effects.

8 Limitations and Use

The conclusions in the Memo titled Dawn Parkway System Renewal Project: Dawn to Enniskillen are Stantec's professional opinion, as of the time of the Memo, and concerning the scope described in the Memo. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not take into account any subsequent changes. The Memo relates solely to the specific project for which Stantec was retained and the stated purpose for which the Memo was prepared. The Memo is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from Enbridge Gas (the "Client") and third parties in the preparation of the Memo to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This Memo is intended solely for use by the Client in accordance with Stantec's contract with the Client. While the Memo may be provided by the Client to applicable authorities having jurisdiction and to other third parties in connection with the project, Stantec disclaims any legal duty based upon warranty, reliance or any other theory to any third party, and will not be liable to such third party for any damages or losses of any kind that may result.

Reference: Dawn Parkway System Renewal Project: Dawn to Enniskillen

Respectfully,

Stantec Consulting Ltd.

Digitally signed by Richards, Julia
Date: 2026.10.06 14:01:13 -04'00'

Julia Richards, MA
Cultural Heritage Specialist
Mobile: (226) 559-1463
julia.richards@stantec.com

Digitally signed by Smith, Frank
Date: 2026.10.06 14:22:44 -04'00'

Frank Smith, MA, CAHP
Cultural Heritage Specialist
Mobile: (226) 448-7417
frank.smith@stantec.com

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Appendix F Significant Wildlife Habitat Assessment

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Appendix F Significant Wildlife Habitat Assessment for the Dawn-Enniskillen Project Study Area

Seasonal Concentration Areas

Candidate Wildlife Habitat	Criteria	Methods	Potential Habitat Present in the Study Area?
Waterfowl Stopover and Staging Area (Terrestrial)	Fields with sheet water or utilized by tundra swans during spring (mid-March to May), or annual spring melt water flooding found in any of the following Community Types: Meadow (ME), Thicket (TH). Agricultural fields with waste grains are commonly used by waterfowl, and these are not considered SWH unless used by Tundra swans in the Long Point, Rondeau, Lake St. Clair, Grand Bend and Point Pelee Areas.	ELC surveys were used to assess features within the Study Area that may support waterfowl stopover and staging areas (terrestrial).	Absent. No low-lying areas to support SWH for waterfowl stopover and staging areas (terrestrial) were observed in meadows, thickets and agricultural fields in the Study Area.
Waterfowl Stopover and Staging Area (Aquatic)	The following Community Types: Meadow Marsh (MAM), Shallow Marsh (MAS), Shallow Aquatic (SA), Deciduous Swamp (SWD). Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. The combined area of the ELC ecosites and a 100 m radius area is the SWH. Sewage treatment ponds and storm water ponds do not qualify as a SWH; however, a reservoir managed as a large wetland or pond/lake does qualify.	ELC surveys were used to assess features within the Study Area that may support waterfowl stopover and staging areas (aquatic).	Absent. Suitable open water habitat to support SWH for waterfowl stopover and staging areas (aquatic) was absent Study Area.
Shorebird Migratory Stopover Area	Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats. Great Lakes coastal shorelines, including groynes and other forms of amour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October. Sewage treatment ponds and storm water ponds do not qualify as a significant wildlife habitat. The following community types: Meadow Marsh (MAM), shoreline (SH), or Sand Dune (SB).	ELC surveys and wildlife habitat assessments were used to assess features within the Study Area that may support migratory shorebirds.	Absent. Suitable shoreline habitat to support large aggregations of shorebirds was absent from the Study Area.
Raptor Wintering Area	At least one of the following Forest Community Types: Deciduous Forest (FOD), Mixed Forest (FOM) or Coniferous Forest (FOC), in combination with one of the following Upland Community Types: Meadow (ME), Thicket (TH), Savannah (SV), Woodland (WOD) (<60% cover) that are >20 ha and provide roosting, foraging and resting habitats for wintering raptors. Upland habitat (ME, TH, SV, WOD), must represent at least 15 ha of the 20 ha minimum size.	ELC surveys and GIS analysis were used to assess features within the Study Area that may support wintering raptors.	Absent. Meadow and thickets in the Study Area were not of sufficient size to support SWH for raptor wintering areas.

Candidate Wildlife Habitat	Criteria	Methods	Potential Habitat Present in the Study Area?
Bat Hibernacula	Hibernacula may be found in caves, mine shafts, underground foundations and karsts. May be found in these Community Types: Crevice (CCR), Cave (CCA).	ELC surveys were used to assess features within the Study Area that may support bat hibernacula.	Absent. No suitable cave or underground habitat was observed in the Study Area to support SWH for bat hibernacula.
Bat Maternity Colonies	Maternity colonies considered significant wildlife habitat are found in forested ecosites. Either of the following Community Types: Deciduous Forest (FOD), Mixed Forest (FOM), Coniferous Forest (FOC), Deciduous Swamp (SWD), Mixed Forest (SWM) and Coniferous Forest (SWC) that have wildlife trees >10 cm diameter at breast height (dB). Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH). Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3 or class 1 or 2. Northern Myotis prefer contiguous tracts of older forest cover for foraging and roosting in snags and trees. Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred.	ELC surveys were used to assess features within the Study Area that may support bat maternity colonies. A roost tree suitability assessment was performed on trees in the Project Footprint and up to 60m from the Project Footprint.	**Potentially Present:** forest communities in the Study Area provide candidate SWH for bat maternity colonies.
Turtle Wintering Areas	Snapping and Midland Painted turtles utilize ELC community classes: Swamp (SW), Marsh (MA) and Open Water (OA). Shallow water (SA), Open Fen (FEO) and Open Bog (BOO). Northern Map turtle- open water areas such as deeper rivers or streams and lakes can also be used as over-wintering habitat. Water has to be deep enough not to freeze and have soft mud substrate. Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate dissolved oxygen.	ELC surveys and wildlife habitat assessments were used to assess features within the Study Area that may support areas of permanent standing water but not deep enough to freeze.	**Potentially Present:** watercourses in the Study Area may provide candidate SWH for turtle wintering.
Snake Hibernacula	Hibernation occurs in sites located below frost lines in burrows, rock crevices, broken and fissured rock and other natural features. Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover. Any ecosite in southern Ontario other than very wet ones may provide habitat. The following Community Types may be directly related to snake hibernacula: Talus (TA), Rock Barren (RB), Crevice (CCR), Cave (CCA), and Alvar (RBOA1, RBSA1, RBTA1).	ELC surveys and wildlife habitat assessments were used to assess features within the Study Area that may support snake hibernacula.	**Potentially Present**: Suitable features for snake hibernacula may occur in the Study Area.

Candidate Wildlife Habitat	Criteria	Methods	Potential Habitat Present in the Study Area?
Colonial-Nesting Bird Breeding Habitat (Bank and Cliff)	Eroding banks, sandy hills, borrow pits, steep slopes, sand piles, cliff faces, bridge abutments, silos, or barns found in any of the following Community Types: Meadow (ME), Thicket (TH), Bluff (BL), Cliff (CL). Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles. Does not include a licensed/permitted Mineral Aggregate Operation.	ELC surveys and wildlife habitat assessments were used to assess features within the Study Area that may support colonial bird breeding habitat.	Absent. No eroding banks, steep slopes, soil piles, cliff faces, or cliff faces were observed in the Study Area during the site visit.
Colonial-Nesting Bird Breeding Habitat (Tree/Shrubs)	Identification of stick nests in any of the following Community Types: Mixed Swamp (SWM), Deciduous Swamp (SWD), Treed Fen (FET). The edge of the colony and a minimum 300 m area of habitat or extent of the Forest Ecosite containing the colony or any island <15.0 ha with a colony is the SWH. Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used.	ELC surveys and wildlife habitat assessments were used to assess features within the Study Area that may support colonial bird breeding habitat (Trees/Shrubs).	Absent. No wetland communities or stick nests were observed in the Study Area during the site visit.
Colonial-Nesting Bird Breeding Habitat (Ground)	Any rocky island or peninsula within a lake or large river. For Brewer's Blackbird close proximity to watercourses in open fields or pastures with scattered trees or shrubs found in any of the following Community Types: Meadow Marsh (MAM1-6), Shallow Marsh (MAS1-3), Meadow (ME), Thicket (TH), Savannah (SV).	ELC surveys and wildlife habitat assessments were used to assess features within the Study Area that may support colonial bird breeding habitat (Ground).	Absent. No rocky islands or peninsulas were present in the Study Area.
Migratory Butterfly Stopover Areas	Located within 5 km of Lake Ontario. A combination of ELC communities, one from each land class is required: Field (ME, TH) and Forest (FOC, FOM, FOD). Minimum of 10 ha in size with a combination of field and forest habitat present.	ELC surveys and GIS analysis were used to assess features within the Study Area that may support migratory butterfly stopover areas.	Absent. The Study Area is not located within 5km of Lake Ontario, and there were no suitable combination of field and forest habitat to support SWH for migratory butterfly stopover areas.
Landbird Migratory Stopover Areas	The following community types: Forest (FOD, FOM, FOC) or Swamp (SWC, SWM, SWD). Woodlots must be >10 ha in size and within 5 km of Lake Ontario – woodlands within 2 km of Lake Ontario are more significant.	ELC surveys and GIS analysis were used to assess features within the Study Area that may support landbird migratory stopover areas.	Absent. The Study Area is not located within 5km of Lake Ontario and there were no forest communities of sufficient size to support SWH for landbird migratory stopover areas.

Candidate Wildlife Habitat	Criteria	Methods	Potential Habitat Present in the Study Area?
Deer Winter Congregation Areas	Woodlots typically >100 ha in size unless determined by the MNR as significant. (If large woodlots are rare in a planning area >50 ha). All forested ecosites within Community Series: FOC, FOM, FOD, SWC, SWM, SWD. Conifer plantations much smaller than 50 ha may also be used.	No studies required as the MNR delineates this habitat.	Absent. No deer winter congregation areas were identified on MNR mapping (MNR 2025b) within the Study Area. Fox Creek Woods Wetland, occurs four kilometers from the proposed pipeline route and is mapped as a deer wintering area. Fox Creek Wood Wetland is outside of the Study Area.

Rare Vegetation Communities

Candidate Wildlife Habitat	Criteria	Methods	Potential Habitat Present in the Study Area?
Cliffs and Talus Slopes	A Cliff is vertical to near vertical bedrock >3 m in height. A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris. Any ELC Ecosite within Community Series: TAO, TAS, TAT, CLO, CLS, CLT. Most cliff and talus slopes occur along the Niagara Escarpment.	ELC surveys were used to assess features within the Study Area that would be considered cliffs or talus slopes.	Absent. There were no cliff ELC Ecosites observed in the Study Area during the site visit.
Sand Barrens	Sand barrens typically are exposed sand, generally sparsely vegetated and cause by lack of moisture, periodic fires and erosion. Vegetation can vary from patchy and barren to tree covered but less than 60%. Any of the following Community Types: SBO1 (Open Sand Barren Ecosite), SBS1 (Shrub Sand Barren Ecosite), SBT1 (Treed Sand Barren Ecosite).	ELC surveys were used to assess features within the Study Area that would be considered to be sand barrens.	Absent. There were no sand barren ELC Ecosites observed in the Study Area during the site visit.

Candidate Wildlife Habitat	Criteria	Methods	Potential Habitat Present in the Study Area?
Alvars	An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plant. Undisturbed alvars can be phytol- and zoogeographically diverse, supporting many uncommon or are relict plant and animal species. Vegetation cover varies from patchy to barren with a less than 60% tree cover. Any of the following Community Types: ALO1(Open Alvar Rock Barren Ecosite), ALS1 (Alvar Shrub Rock Barren Ecosite), ALT1 (Treed Alvar Rock Barren Ecosite), FOC1 (Dry-Fresh Pine Coniferous Forest), FOC2 (Dry-Fresh Cedar Coniferous Forest), CUM2 (Bedrock Cultural Meadow), CUS2 (Bedrock Cultural Savannah), CUT2-1 (Common Juniper Cultural Alvar Thicket), or CUW2 (Bedrock Cultural Woodland). An Alvar site >0.5 ha in size.	ELC surveys were used to assess features within the Study Area that would be considered to be alvar communities.	Absent. There were no alvar ELC Ecosites observed in the Study Area during the site visit.
Old-growth Forest	Old-growth forests tend to be relatively undisturbed, structurally complex, and contain a wide variety of trees and shrubs in various age classes. These habitats usually support a high diversity of wildlife species. No minimum size criteria t in any of the following Community Types: FOD (Deciduous Forest), FOM (Mixed Forest), FOC (Coniferous Forest). Forests greater than 120 years old and with no historical forestry management was the main criteria when surveying for old-growth forests.	ELC surveys were used to assess features within the Study Area that would be considered to be old-growth forest communities.	Absent. There were no old-growth ELC Ecosites observed in the Study Area during the site visit.
Savannahs	A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%. In Ecoregion 6E, known Tallgrass Prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario). Any of the following Community Types: TPS1 (Dry-Fresh Tallgrass Mixed Savannah Ecosite), TPS2 (Fresh-Moist Tallgrass Deciduous Savannah Ecosite), TPW1 (Dry-Fresh Black Oak Tallgrass Deciduous Woodland Ecosite), TPW2 (Fresh-Moist Tallgrass Deciduous Woodland Ecosite), CUS2 (Bedrock Cultural Savannah Ecosite).	ELC surveys were used to assess features within the Study Area that would be considered to be savannah communities.	Absent. There were no savannah ELC Ecosites observed in the Study Area during the site visit.

Candidate Wildlife Habitat	Criteria	Methods	Potential Habitat Present in the Study Area?
Tall-grass Prairies	A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has <25% tree cover. In Ecoregion 6E, known Tallgrass Prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario). Any of the following Community Types: TPO1 (Dry Tallgrass Prairie Ecosite), TPO2 (Fresh-Moist Tallgrass Prairie Ecosite).	ELC surveys were used to assess features within the Study Area that would be considered to be tall-grass communities.	Absent. There were no tall-grass prairie ELC Ecosites observed in the Study Area during the site visit.
Other Rare Vegetation Communities	Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG.	ELC surveys were used to assess features within the Study Area that would be considered to be other rare vegetation communities.	Absent. There were no rare ELC vegetation communities observed in the Study Area during the site visit.

Specialized Habitat for Wildlife

Candidate Wildlife Habitat	Criteria	Methods	Potential Habitat Present in the Study Area?
Waterfowl Nesting Area	All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1, MAS2, MAS3, SAS1, SAM1, SAF1, MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, SWT1, SWT2, SWD1, SWD2, SWD3, SWD4. Note: includes adjacency to Provincially Significant Wetlands.	ELC surveys were used to assess features within the Study Area that may support nesting waterfowl. Habitats adjacent to wetlands without standing water were not considered candidate SWH.	Absent. Suitable wetland habitat is absent form the Study Area.
Bald Eagle and Osprey nesting, Foraging, and Perching Habitat	Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. Nests located on man-made objects are not to be included as SWH (e.g., telephone poles and constructed nesting platforms). ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands.	ELC surveys and wildlife habitat assessments were used to assess features within the Study Area that may support nesting, foraging and perching habitat for large raptors.	Absent. No large stick nests were observed in the Study Area.

Candidate Wildlife Habitat	Criteria	Methods	Potential Habitat Present in the Study Area?
Woodland Raptor Nesting Habitat	All natural or conifer plantation woodland/forest stands combined >30 ha and with >4 ha of interior habitat. Interior habitat determined with a 200 m buffer. Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers hawk nest along forest edges sometimes on peninsulas or small off-shore islands. May be found in all forested ELC Ecosites. May also be found in SWC, SWM, SWD and CUP3.	ELC surveys, wildlife habitat assessments and GIS analysis were used to assess features within the Study Area that may support nesting habitat for woodland raptors.	Absent. Large forests with interior habitat are absent from the Study Area.
Turtle Nesting Areas	Exposed mineral soil (sand or gravel) areas adjacent (<100 m) or within the following ELC Ecosites: MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, SAS1, SAM1, SAF1, BOO1, FEO1. Best nesting habitat for turtles is close to water, away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals. For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH. Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used.	ELC surveys, wildlife habitat assessments and GIS analysis were used to assess features within the Study Area that may support turtle nesting areas.	Absent. Suitable wetland communities are absent from the Study Area.
Seeps and Springs	Seeps/Springs are areas where ground water comes to the surface. Often they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs. Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system.	ELC surveys were used to assess features within the Study Area that may support seeps/springs.	Absent. Headwater areas were absent from the Study Area.
Amphibian Breeding Habitat (Woodland)	All Ecosites associated with these ELC Community Series; FOC, FOM, FOD, SWC, SWM, SWD. Presence of a wetland, lake, or pond within or adjacent (within 120 m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians. Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat.	ELC surveys were used to assess features within the Study Area that may support woodland breeding amphibians.	**Potentially Present:** Forest habitat within the Study Area may support amphibian breeding through the presence of small unmapped wetlands and vernal pools.

Candidate Wildlife Habitat	Criteria	Methods	Potential Habitat Present in the Study Area?
Amphibian Breeding Habitat (Wetland)	ELC Community Classes SW, MA, FE, BO, OA and SA. Wetland areas >120 m from woodland habitats. Wetlands and pools (including vernal pools) >500 m^2 (about 25 m diameter) supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNR mapping and could be important amphibian breeding habitats. Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators. Bullfrogs require permanent water bodies with abundant emergent vegetation.	ELC surveys were used to assess features within the Study Area that may support wetland breeding amphibians.	Absent. Suitable wetland habitat is absent from the Study Area**.**

Species of Conservation Concern

Candidate Wildlife Habitat	Criteria	Methods	Potential Habitat Present in the Study Area?
Marsh Bird Breeding Habitat	All wetland habitats with shallow water and emergent aquatic vegetation. May include any of the following Community Types: Meadow Marsh (MAM), Shallow Aquatic (SA), Open Bog (BOO), Open Fen (FEO), or for Green Heron: Swamp (SW), Marsh (MA) and Meadow (ME) Community Types.	ELC surveys were used to identify marshes with shallow water and emergent vegetation that may support marsh breeding birds.	Absent. Suitable habitat absent from the Study Area.
Woodland Area-sensitive Bird Breeding Habitat	Habitats >30ha where interior forest is present (at least 200 m from the forest edge); typically >60 years old. These include any of the following Community Types: Forest (FO), Treed Swamp (SW).	ELC surveys and GIS analysis were used to determine whether woodlots that occurred within the Study Area that were >30 ha with interior habitat present (>200 m from edge).	Absent. There were no large woodlands in the Study Area to support SWH for woodland area sensitive bird breeding habitat.
Open Country Bird Breeding Habitat	Grassland areas > 30 ha, not Class 1 or Class 2 agricultural lands, with no row-cropping or hay or livestock pasturing in the last 5 years, in the following Community Type: Meadow (ME).	ELC surveys and GIS analysis were used to identify grassland communities within the Study Area that may support area-sensitive breeding birds.	Absent. Meadows in the Study Area were not of sufficient size to support SWH for open country bird breeding habitat.
Shrub/Early Successional Bird Breeding Habitat	Old field areas succeeding to shrub and thicket habitats >10 ha, not Class 1 or Class 2 agricultural lands, with no row-cropping or intensive hay or livestock pasturing in the last 5 years, in the following Community Types: Thickets (TH), Savannahs or Woodlands (WOD).	ELC surveys and GIS analysis were used to identify large communities that may support shrub/early successional breeding birds.	Absent. Thickets in the Study Area were not of sufficient size to support SWH for shrub/early successional bird breeding habitat.

Candidate Wildlife Habitat	Criteria	Methods	Potential Habitat Present in the Study Area?
Terrestrial Crayfish	Meadow marshes and edges of shallow marshes (no minimum size). Vegetation communities include MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, MAS1, MAS2, MAS3. Construct burrows in marshes, mudflats, meadows. Can be found far from water.	ELC surveys and wildlife habitat assessments were used to identify shallow marsh and meadow marsh communities that may support Terrestrial Crayfish within the Study Area.	Absent. Marshes to support SWH for terrestrial crayfish were absent from the Study Area.
Special Concern and Rare Wildlife Species	All special concern and provincially rare (S1-S3, SH) plant and animal species (SOCC) within potential to occur in the Study Area.	ELC surveys were used to identify suitable habitat for each potential SOCC listed in Table 3.6.	Potentially Present. Potential habitat for the following SOCC was identified in the Study Area: Midland Painted Turtle, Snapping Turtle, Barn Swallow, Bobolink, Common Nighthawk, Eastern Meadowlark, Eastern Wood-Pewee, Red-headed Woodpecker, Wood Thrush, Carolina Vetch, Muskingum Sedge, Ravenfoot Sedge, Shumard Oak, Two-flowered Dwarf-dandelion, Blue-tipped Dancer, Monarch/Milkweed, Tawny Emperor

Animal Movement Corridors

Candidate Wildlife Habitat	Criteria	Methods	Potential Habitat Present in the Study Area?
Amphibian Movement Corridor	Corridors may be found in all ecosites associated with water. Determined based on identifying significant amphibian breeding habitat (wetland).	Identified after Amphibian Breeding Habitat is confirmed. Movement corridors should be considered when amphibian breeding habitat is confirmed as SWH from Amphibian Breeding Habitat.	Absent. Candidate SWH for amphibian breeding habitat (wetland) was absent from the Study Area.

Appendix G DFO- Enbridge Gas Generic Watercourse Crossing Drawings

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Generic Sediment Control Plan – Horizontal Directional Drill

This Plan is applicable to Enbridge Gas Inc. (EGI) workers and Contractors involved in HDD activities. It establishes best management practices to prevent and/or mitigate an unauthorized death of fish or harmful alteration, disruption or destruction (HADD) of fish and fish habitat or the impairment of water quality from an inadvertent release of drilling fluid or sedimentation in the vicinity of, or beneath, watercourses. **NOTE:** There is a Duty to Notify and Duty to Take Corrective Measures to report death of fish or a HADD of fish habitat to DFO.

Drilling fluid is typically composed of bentonite clay-water mixture, which is considered non-toxic/hazardous, however, if it is released to a watercourse, there is the potential for the drilling fluid to adversely impact fish and invertebrates. EGI recognizes the need to protect downstream water users, as well as aquatic species and their habitat, from sedimentation. As such, extensive planning prior to, and constant vigilance during, construction operations are essential.

Conditions for use

- Work is taking place outside of Critical Habitat including any identified riparian areas
- Work is taking place at least 30m from any watercourse that has aquatic species at risk
- Work is taking place at least 15m from any watercourse

Planning and Pre-Construction

The following precautionary measures should be implemented to minimize the risk of an inadvertent release or sedimentation during HDD activities:

- Select a pipeline route to minimize the number of watercourse crossings;
- If possible, schedule HDD activities during low flow times;
- Ensure watercourse crossing permits and approvals are obtained, reviewed and remain on-site throughout the duration of the project;
- Where necessary, EGI will notify the required regulatory authorities (i.e. Conservation Authority) prior to the watercourse crossing;
- Ensure that all construction personnel are aware of this contingency plan prior to the commencement of drilling activity;
- Conduct a feasibility assessment (i.e. geotechnical assessment) to assess the suitability of subsurface conditions (if required);
- Maximize distance of HDD entry and exit points from the watercourse and ensure they are at least 10 m from a watercourse if aquatic species at risk are not present in 30 m if present; and
- Maximize depth of the drill path beneath the watercourse.

Construction Mitigation Measures

The steps and precautions that follow should be completed when conducting HDD activities beneath, or in the vicinity of, a watercourse:

- Clearly flag the expected drill path prior to commencing any drilling operations, to facilitate monitoring for potential drilling fluid releases.
- Assign personnel to monitor the drill path for inadvertent returns of drilling fluid or sedimentation.
- Fluid volumes, annular pressure and cutting returns will be continuously monitored to ensure potential drilling fluid losses are detected and addressed immediately. Dedicated personnel should be assigned to continuously monitor drilling pressure and fluid volumes.
- Ensure an approved spill kit is on site and readily available, as per the Spill Response Procedure.
- Sediment control measures (i.e. silt fencing, SiltSoxx™, etc.) should be set-up prior to initiating HDD operations to contain potential releases of drilling fluid, sediment-laden groundwater or run-off along the proposed drill path. Sediment control measures shall be installed:
- Around entry and exit pits;
- Around drilling fluid containment pits;
- Surrounding spoil piles;
- Between all HDD operations and watercourse as identified on this drawing;
- Over-excavate the entry and exit pits to create drilling fluid sump pits;
- Drilling fluid must be contained in entry and exit pits (sump pits) and as they are filled, drilling fluids should be promptly removed and/or removed at the completion of HDD operations at an approved location;
- All vehicles, machinery and other equipment shall not enter the water. There must be no fording of any watercourse;
- If possible, refueling of equipment should not occur within a minimum of 30 m from a watercourse, however, if required, secondary containment must be used around the refuelling area to prevent entry into the watercourse; and
- If necessary, ensure dewatering occurs through a 'sediment-bag' and utilizes other erosion and sediment control (ESC) measures, as required, and is released greater than 30 m from the top-of-bank into a vegetated area.

During HDD operations, workers should keep enough spill response material on-site and readily available to contain any inadvertent releases of drilling fluid or release of sediment-laden groundwater, including (but not limited to):

- Sandbags
- Filter cloth (i.e. silt fence)
- T-Posts
- Corrugated culverts
- Numerous 5-gallon pails
- Vacuum trucks
- Straw bales
- Snow fencing
- Sediment control lots (i.e. SiltSoxx™) or equivalent
- Polyethylene sheets
- Shovels

In addition to the above, for larger watercourse crossings, the following materials should also be kept on-site:

- Turbidity curtains
- Floating sediment boom
- Trash pumps complete with sufficient lengths of leak-free hose, suction heads, and fish screens

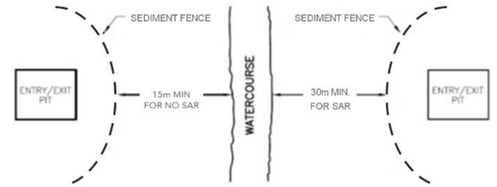
Contingency Plan for Inadvertent Release

Bank and Riparian Zone Areas

The steps that follow should be completed when pipeline installation by HDD is occurring adjacent to a watercourse bank or riparian zone and drilling fluid is identified along the drill path.

- HDD operations should stop immediately and spill containment be established using EGI's approved methods including, but not limited to:
- Straw bales and sediment control fencing;
- Sandbags and polyethylene sheets;
- Containment pits, rings and/or absorbent booms;
- Vacuum trucks; and,
- Site re-grading (berms).
- The EGI Supervisor and Environmental Inspector (if applicable) must be notified of the inadvertent release of drilling fluid or sedimentation.
- The EGI Supervisor must follow the reporting requirements outlined in the Spill Response Procedure and at a minimum, contact, the Environmental Advisor at **1-855-336-2056** to ensure regulatory reporting requirements are met and to ensure clean-up operations are completed.
- If in doubt, report the spill. At a minimum, the following information will be required when reporting to the Environmental Advisor:
  1. Date and time of spill
  2. How the spill occurred
  3. Location of spill
  4. Type of material spilled
  5. Volume of material spilled
  6. Any impacts from the spill
  7. Immediate spill response actions
  8. Photographs
- Contact an approved environmental consultant to support spill cleanup and restoration, if deemed necessary based on the extent and impacts of the release.
- Workers including the EGI Inspector, Environmental Advisor and Contractor and Environmental Inspector (if used) should check for the root cause of release and identify potential solutions including (but not limited to):
- Reducing the pressure of slurry flow (i.e. excavate pressure relief pits);
- Reducing the speed of drill rotation;
- Reducing the speed of drill rod advancement;
- Moving the drill location (laterally, depth, etc.); and,
- Utilizing water to replace the bentonite drilling fluid, if site conditions allow.
- Any substantial deviation (i.e. installation method, crossing location/depth) from approved pipeline construction drawings must be resubmitted to the respective regulatory agencies (i.e. Conservation Authority) prior to resuming work.
- Residual drilling fluid must be removed by shovel or vacuum truck. Clean-up activities must minimize further disruption to the bank and riparian zone area.
- Any damage must be repaired, such as settlement and/or heaving.
- HDD activities may resume when preventative actions have been implemented and all parties are satisfied with the approach (i.e. EGI Supervisor, Environmental Advisor, Environmental Inspector and regulatory authorities [if involved]).

Minimum Horizontal Directional Drill Setback and Depth



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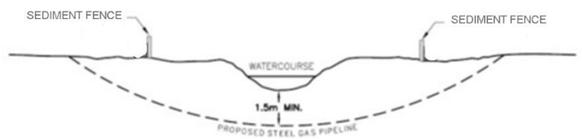
NOTES

- SEDIMENT FENCE TO BE SET UP A MINIMUM OF 15m FROM A NO SPECIES AT RISK WATERCOURSE AND 30m FOR A SPECIES AT RISK WATERCOURSE.
- HORIZONTAL DIRECTIONAL DRILL TO BE SET UP BEHIND SEDIMENT FENCE.
- MINIMUM OF 1.5m COVER FROM TOP OF PIPE TO BED OF WATERCOURSE.
- ALL DISTURBED AREAS TO BE RESTORED TO PRE-CONSTRUCTION CONDITIONS OR AS CLOSE AS POSSIBLE.



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Watercourses

In addition to the above steps and precautions for bank and riparian zone areas, the following should be completed when pipeline installation by HDD is occurring beneath a watercourse and drilling fluid is identified or suspected in the watercourse itself:

- Where leakage of drilling fluids is suspected in a watercourse (i.e. sediment plume) operations should stop immediately and a visual inspection be conducted to verify the presence and extent. All necessary steps should be taken to minimize the impacts.
- Containment and clean-up activities must be initiated as soon as possible, where appropriate.
- Where the release is small with no visible sediment plume it should be allowed to dissipate naturally. Clean-up efforts within the watercourse may potentially be disruptive and cause further suspension of sediment in the water column than if the release were left to dissipate.
- Where the release is large with a visible sediment plume extending beyond the drilling site, the Environmental Advisor must be contacted to retain an environmental consultant to monitor the turbidity levels of the plume and associated potential impacts. In addition, the location of the inadvertent release should be isolated from the watercourse by installing a cofferdam or other containment system by utilizing the following materials:
  - Sandbags and polyethylene sheets;
  - Siltsoxx™, filter cloth (silt fence), straw bales;
  - Corrugated culverts; and/or,
  - Turbidity curtains.
  - The following materials can be used to control and clean up the release:
  - Shovels and 5-gallon pails (if conditions are dry)
  - Trash pumps with hose, suction head and fish screens; and/or
  - Vacuum trucks.
- If subsequent drilling attempts result in additional inadvertent returns of drilling fluid, the crossing should be halted, the Supervisor contact the Environment Department at **1-855-336-2056** and refer to the Contingency Plan for Installation Alternatives below.

Contingency Plan for Installation Alternatives

If EGI is unable to use HDD methodology to install the pipeline even with the mitigation implemented above, construction activities must be suspended, and the Environmental and/or Permit Advisor must be contacted to discuss alternate crossing methods. Any changes to the permitted crossing method may require permit amendments or government agency approval.

EGI should consider the following (from most to least preferred):

- Further geotechnical investigations to revise the pipeline alignment or depth
- Implement another crossing method as outlined in the Enbridge Gas Inc. and Department of Fisheries and Oceans Agreement Related to Watercourse Crossings for Pipeline Construction and Maintenance in Ontario (EGI DFO Agreement)
- Implement another crossing method such as a Non-Isolated Trench/Wet Open Cut method (work area is not isolated from flowing water)

Once the crossing method is reviewed by all internal parties and has been revised, the revised crossing method must be resubmitted for review and approval to the respective regulatory agencies (i.e. Conservation Authority, DFO [if required]) prior to resuming work.

Death of Fish or Harmful Alteration, Disruption or Destruction of Fish Habitat (HADD)

- If death of fish or HADD has occurred due to failure of this plan, a restoration plan should be developed and implemented by the company in consultation with and upon receipt of approval from the respected Conservation Authority and the DFO.

If a HADD occurs, notification are required as per the Contingency Plan for Inadvertent Release section above. **NOTE:** There is a Duty to Notify and Duty to Take Corrective Measures to report death of fish or a HADD to DFO.

Restoration

The following conditions should be considered when restoring any areas impacted by an inadvertent release of drilling fluid:

- Ensure the drilling exit and entry pits are cleaned of drilling fluid and the fluids are disposed of at an approved location.
- Any disturbed areas adjacent to the watercourse should be seeded, covered with erosion control matting (or equivalent) and restored as close as possible to pre-construction condition.
- All seeding and vegetation replacement will be with native species and as directed by the landowner or regulator (as required).
- If post-construction monitoring reveals erosion, remedial work will be taken as quickly as possible.
- If there is insufficient time in the growing season, the site should be stabilized (i.e. cover exposed soils with erosion control matting) and seeded the following spring.
- Maintain effective erosion and sediment controls until revegetation of disturbed areas is achieved, then remove the control measures.
- All debris and garbage shall be removed from the construction site to an approved location.

NOTES

ENBRIDGE

LOCATION

ALL HORIZONTAL DIRECTIONAL DRILL CROSSINGS IN ONTARIO

DRAWING TITLE

GENERIC SEDIMENT CONTROL PLAN HORIZONTAL DIRECTIONAL DRILL

SCALE	DATE
NTS	DECEMBER 2021
FILE No.	**PROJECT No.**

DRAWN	CHECKED	DRAWING	REV
GTH			0

APPROVED

Generic Sediment Control Plan - Temporary Vehicle Crossings

This plan sets out the measures that will be taken by Enbridge Gas Inc. (EGI) and its contractors to control downstream sediment to the lowest level practically achievable during the construction, use and removal of temporary vehicle water crossing at any watercourse (e.g., streams, rivers and ponds). The conditions and techniques set out on this plan are to be followed unless approved otherwise by the Department of Fisheries and Oceans (DFO).

General Measures

EGI must use materials, construction practices, mitigation techniques and monitoring of operations at every water crossing in order to prevent the unauthorized harmful alteration, disruption or destruction of fish habitat or the impairment of water quality. General measures are available at https://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures-eng.html. Vehicle crossings typically include temporary bridges (e.g., Bailey bridges, log stringer bridges) and winter crossings such as ice bridges and snow fills. The following requirements apply to any watercourse and areas adjacent to it:

- Temporary vehicle crossings to be in place no longer than a single restricted activity timing window.
- Use existing vehicle access across watercourses wherever possible.
- Prior to removal of the low vegetative cover, effective mitigation techniques for erosion and sediment control must be in place to protect water quality. Limit the areal extent of disturbance to the minimum needed for construction and delay grubbing to immediately prior to grading operations.
- Prior to commencing the installation of temporary vehicle crossings, local weather stations will be monitored to determine whether any precipitation is forecasted. If practical work will be delayed until weather conditions are favourable. If necessary, to proceed with work under unfavourable conditions, EGI will exercise due diligent.
- Vehicle crossing structures capable of handling anticipated high water flows during the construction period will be used. See guidelines below on sizing of water opening.
- Coarse cobbles, sandbags, geotextile liners and/or curb stringers will be used to protect culvert and ramp approach fills from erosion and to prevent sediment from entering a watercourse.
- On the approaches to vehicle crossing structures, road ditches constructed for drainage control will incorporate the necessary erosion and sedimentation control measures (e.g., silt fence, check dams) to prevent sediment from entering a watercourse.
- Except during construction of the crossing, EGI will not obstruct any watercourse so as to impede the free movement of water and fish.
- All exposed mineral soil must be graded to a stable slope and treated as quickly as possible to prevent erosion and sediment from entering a watercourse.
- All temporary vehicle crossing structures will be removed upon completion of construction. Banks and approaches will be restored and stabilized immediately upon removal of a vehicle crossing structure.
- The area around water crossings is to be regularly monitored and if erosion problems develop, immediate action is to be taken with appropriate treatments and completed as quickly as possible. Accumulated sediment is to be removed regularly from sediment control mitigations.
- Equipment fording will only be allowed if the Code of Practice can be met. It is available at https://www.dfo-mpo.gc.ca/pnw-ppe/codes/temporary-crossings-traversees-temporaires-eng.html.
- The Company will be held responsible for implementation of this plan. Any questions regarding the implementation of this plan should be directed towards the Environmental Advisor assigned to the project.

Sizing of Water Opening

It is important that the size of the water opening be selected so the structure can safely pass flood flows that can reasonably be expected to occur during the life of the crossing. **These structures must also allow for fish passage at all times except during the pipeline installation.** Any one of the following methods can be followed:

- Install a bridge that clear spans the watercourse from top of bank to top of bank where banks are defined (i.e. ordinary high water mark), and ensure adequate freeboard to allow for anticipated increase in stream discharge and passage of debris. In cases where banks are undefined: use cribbing or other footing material to hold the bridge and ensure adequate freeboard to allow for anticipated increase in steam discharge and passage of debris.
- Maximum culvert length will be 12.2 m (40 ft).
- Conduct a hydrology and hydraulics analysis to determine theoretical opening size. The design flow will be the two year flood (Q2), unless the culvert is to be left in place through the spring freshet, in which case the theoretical opening size will be based on the five year flood (Q5).
- Culvert sizes may also be selected to be the same as nearby culverts that have been in place for many years and have performed satisfactorily.
- If culverts are used, the approved size or equivalent multiple culverts must be installed. If multiple culverts are used a low-flow channel through one culvert must be established.

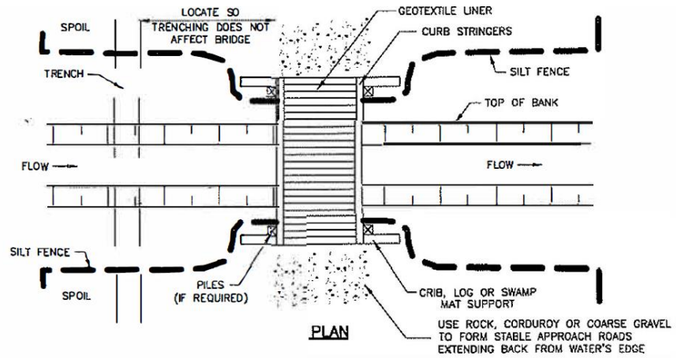
Detailed Construction Sequence - Temporary Bridges

In general terms, the following sequence of construction and mitigation measures will be followed at all temporary bridges.

Conditions for use

- The temporary bridge is no greater than one lane wide.
- The crib, log or swamp mat support is above the ordinary high water mark.

1. Generally, there are no restrictions on timing for the construction of clear-span structures as they do not involve in-water work. However, if there are any activities with the potential to disrupt fish or fish habitat (e.g., in-water crossing of watercourse by machinery), these should be undertaken outside of the restricted activity timing windows.
2. Install the bridge in a manner that will minimize sediment entering the watercourse. Stringers must be engineered to support the loads expected on the bridge. Curbs at least 150 mm high must be installed along the edge of the deck and if necessary, the deck lined with geotextile to contain mud on the bridge. Fasteners connecting components must be strong enough to hold them in position during the life of the bridge.
3. Road approaches leading to the bridges must be raised and stable, so equipment loads are supported a sufficient distance back from the watercourse to reduce sediment entering the watercourse from equipment. This may require using materials such as gravel, rock or corduroy. If cuts are needed to obtain a satisfactory grade, they are to be dug with side ditches and stable slopes. Erosion and sediment control measures are to be installed to keep sediment from entering the watercourse (e.g., check dams, filler cloth, rip rap, seed and mulch, sediment traps, etc.)
4. While the bridge is in use, any buildup of sediment on the bridge deck or approaches that has the potential to enter the watercourse is to be scraped off and disposed of in an approved location.
5. Temporary crossings will be removed as quickly as possible when no longer required. Surplus gravel and bridge materials are to be removed from the crossing area and stabilized above the floodplain in an approved location. The watercourse bed and banks are to be restored to a stable angle and protected with erosion resistant material compatible with flow velocity (e.g., coarse gravel or rip rap). Measures such as berms or logs may be needed to prevent sediment laden water from entering the watercourse.
6. Vegetate any disturbed areas by planting and seeding native trees, shrubs or grasses and cover such areas with mulch or erosion control matting to prevent soil erosion and to help seeds germinate.



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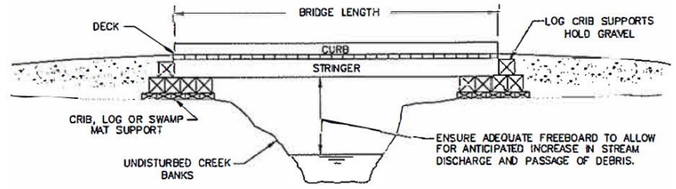
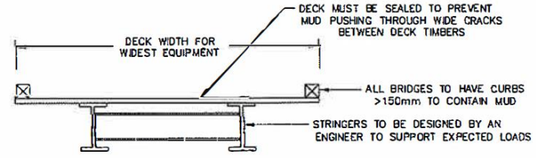


BRIDGE PROFILE



TYPICAL STEEL BRIDGE SECTION

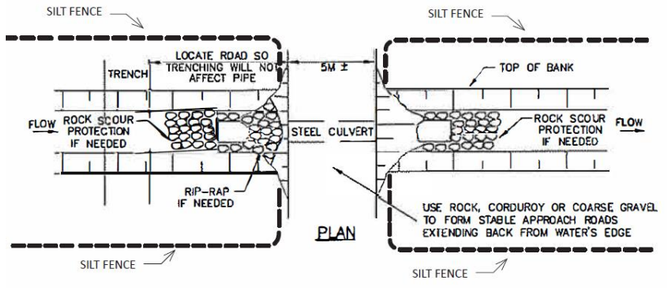
Detailed Construction Sequence - Temporary Culverts

Conditions for use

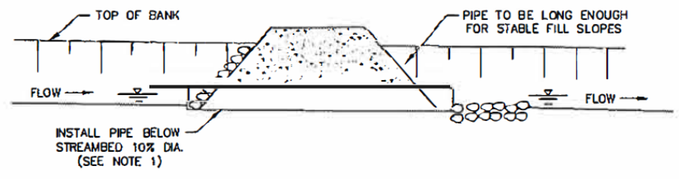
- The use of explosives is not required to complete the works, undertakings and activities
- Fish passage is maintained during the works, undertakings and activities
- No sensitive habitat exists at the crossing location
- The temporary culvert does not result in the draining of upland ponded or wetland features
- The culverts have a maximum length of no longer than 12.2m (40ft)
- The installation and removal of culverts must occur within a single allowable activity timing window

In general terms, the following sequence of construction and mitigation measures will be followed at all temporary culverts. Pre-, during-, and post-construction photographs showing the culvert location will be taken.

1. Install culvert pipe of diameter and length as per the Sizing of Water Opening requirements to ensure for stable fill slopes and safe vehicle/equipment passage. Culvert invert is to be set to allow a minimum of 10cm water depth for fish passage. Culvert installation can be done in flowing water as long as the installation occurs outside the restricted activity timing window. Culvert backfill and fill for the road is to be course granular or rock fill material. Erosion protection may be needed on the upstream road fill slope and if scour is possible, rip rap is to be placed in the watercourse upstream and downstream of the culvert outlet.
2. Road approaches leading to the culvert crossing must be raised and stable, so equipment loads are supported a sufficient distance back from the watercourse to reduce sediment entering the watercourse from equipment. This may require using materials such as gravel, rock, or corduroy. If cuts are needed to obtain a satisfactory grade, they are to be dug with side ditches and stable slopes. Erosion and sediment control measures are to be installed to keep sediment from entering the watercourse (e.g., check dams, filter cloth, rip rap, seed and mulch, sediment traps, etc.).
3. While the culvert is in use, any build-up of sediment on the road surface or approaches that has the potential to enter the watercourse is to be scraped off and disposed of in an approved location.
4. Temporary crossings will be removed as quickly as possible when no longer required. Removal must occur outside the restricted activity timing window. Surplus gravel and culvert materials are to be removed from the crossing area and stabilized above the floodplain in an approved location. The watercourse bed and banks are to be restored to a stable angle and protected with erosion resistant material compatible with flow velocity (e.g., coarse gravel or rip rap). Measures such as berms or logs may be needed to prevent sediment laden water from entering the watercourse.
5. Vegetate any disturbed areas by planting and seeding native trees, shrubs or grasses and cover such areas with mulch or erosion control matting to prevent soil erosion and to help seeds germinate.



PLAN



STREAM PROFILE

NOTES

ENBRIDGE

LOCATION

ALL TEMPORARY VEHICLE CROSSINGS (BRIDGES & CULVERTS) IN ONTARIO

DRAWING TITLE

GENERIC SEDIMENT CONTROL PLAN TEMPORARY VEHICLE CROSSINGS

SCALE	DATE
NTS	DECEMBER 2021
FILE No.	PROJECT No.

DRAWN	CHECKED	DRAWING	REV
GTH			0

APPROVED

Generic Sediment Control Plan Dam and Pump Water Crossings

This plan sets out the measures that will be taken by Enbridge Gas Inc. (EGI) and its contractors to control downstream sediment to the lowest level practically achievable during the construction, use and removal of dam and pump type crossings. The conditions and techniques set out on this plan are to be followed unless approved otherwise by the Department of Fisheries and Oceans (DFO). This includes the current DFO Code of Practice for temporary cofferdams and diversion channels available at https://www.dfo-mpo.gc.ca/pnw-ppe/codes/cofferdams-batardeaux-eng.html

Conditions for using the Standard

- The crossing can be completed in 7 calendar days or less avoiding the restricted activity timing window
- The watercourse is 15 m or less wide (current water level) AND flow conditions are 1.5m^3/sec or less
- The in-water work site disturbs a maximum of 50 linear m or less of the watercourse

Note: fish passage in a dam and pump crossing is not required

General Measures

EGI must use materials, construction practices, mitigation techniques and monitoring of operations at every water crossing in order to prevent the death of fish, unauthorized harmful alteration, disruption or destruction of fish habitat or the impairment of water quality. General measures are available at https://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures-eng.html. The following requirements apply to any permanent or intermittent watercourse (stream, river, pond) and areas adjacent to it.

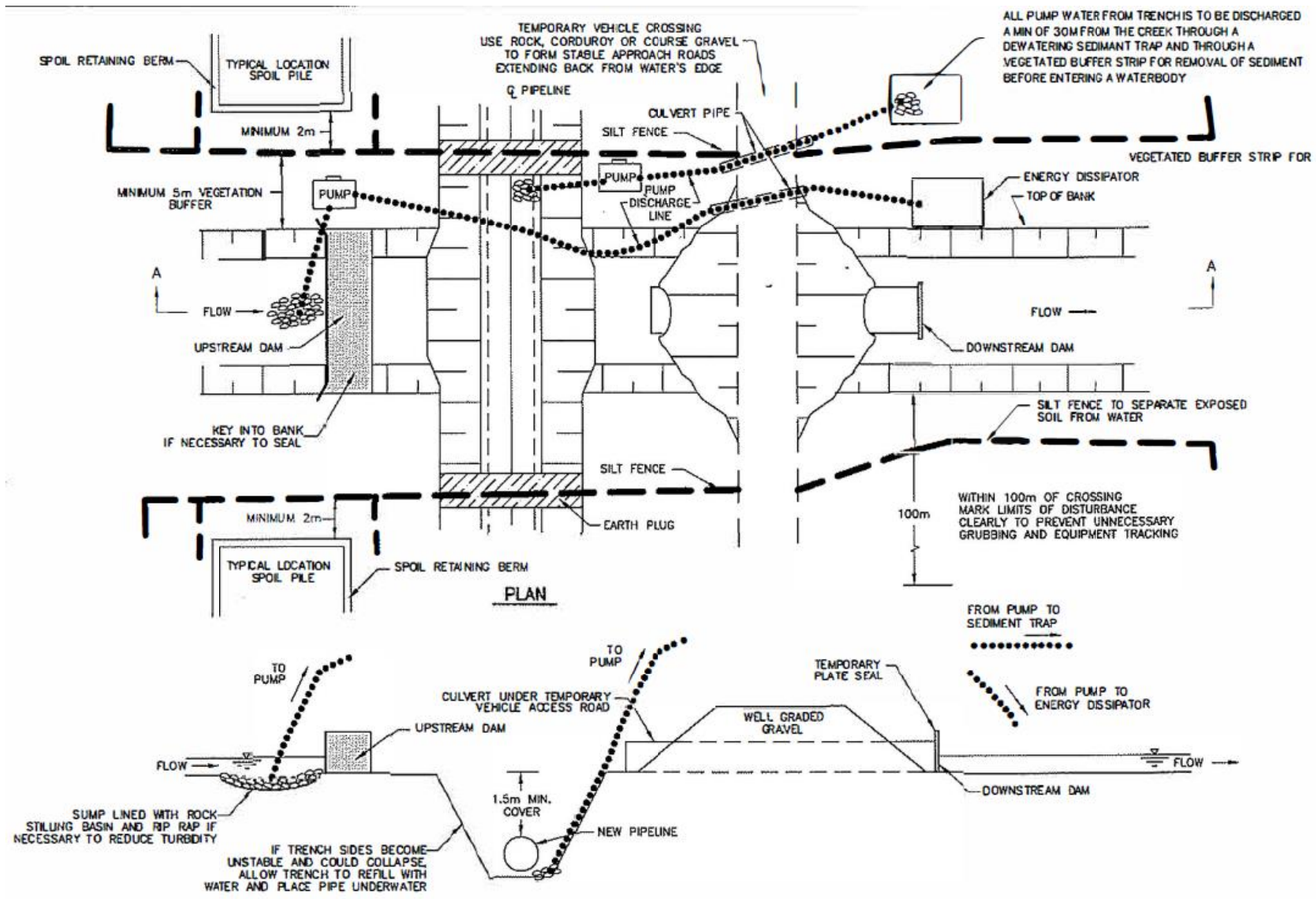
- EGI will adhere to all permits and approvals of federal and provincial agencies related to watercourse crossings.
- EGI will notify the appropriate federal or provincial agencies prior to commencement of a watercourse crossing in accordance with regulatory permit conditions.
- In-stream work will occur during the appropriate time windows for the geographic region and for the fish species present unless otherwise permitted by the appropriate agencies.
- Prior to removal of the low vegetative cover, effective mitigation techniques for erosion and sediment control must be in place to protect water quality. Limit the areal extent of disturbance to the minimum needed for construction and delay grubbing to immediately prior to grading operations.
- All watercourses will require a minimal disturbance zone (MDZ) to be clearly marked with flagging prior to the commencement of clearing activities or any construction activity near the watercourse. This flagging will be set back a minimum of 5m from the watercourse and will be based on site specific conditions. Extra work area required at watercourse crossing will be situated away from the watercourse outside of the MDZ.
- Materials removed or stockpiled during construction (e.g., excavated soil, backfill material) must be deposited in a manner to ensure sediment does not enter a watercourse. Appropriate erosion and sediment controls (e.g. revegetation, vegetated buffer strips, drainage control, sediment settling devices, and sediment fence or other appropriate mitigation measures) will be installed around spoil or stockpiles, to prevent sediment from stockpile runoff from entering a watercourse.
- All vehicles, machinery and other construction equipment shall not enter the water. There must be no fording of any stream.
- Except during construction of the crossing, EGI will not obstruct any watercourse so as to impede the free movement of fish.
- Flow will be maintained at all times downstream of the watercrossing.
- All exposed soil must be stabilized (e.g. graded to a stable slope and erosion control measures implemented) as quickly as possible to prevent erosion.
- EGI is to adhere to the Generic Sediment Control Plan For Temporary Vehicle Crossings.
- All required materials (e.g., silt fencing, filter cloth, polyethylene liners, granular material, rip rap, dam materials) and installation equipment (e.g., pipe, flumes, pumps, pump hoses, generators, spores, energy dissipaters) will be on-site and in good working order prior to construction.
- Prior to commencing watercourse crossings, local weather stations will be monitored to determine whether any precipitation is forecasted. In-stream activity will be delayed if flows are in flood stage and until weather conditions are favourable. If practical work will be delayed until weather conditions are favourable. If necessary, to proceed with work under unfavourable conditions, EGI will exercise due diligence.
- If there is any flow in the watercourse, EGI is to install pumps to maintain streamflow around the blocked off section of channel. An energy dissipater is to be built to accept pump discharge and prevent watercourse erosion.
- Adequate pump capacity will be on site to handle anticipated water flows and any potential increases in flow during the construction period. Backup pumps with adequate capacity to handle 100% of the downstream flow must be on site and ready for immediate replacement, should the primary operating pump(s) fail.
- Water intakes used in fish bearing waters will be screened in accordance with current DFO Code of Practice for end-of-pipe fish protection screens for small water intakes in freshwater https://www.dfo-mpo.gc.ca/pnw-ppe/codes/screen-ecran-eng.html.
- Fish recovery and transfer will be conducted prior to and during the isolation of flow and in accordance with permit regulations. See detailed construction sequence for timing of fish recovery operations.
- Instream activities in all watercourses (e.g., trenching, pipe installation, backfilling) will be completed in as short a time as possible to minimize disturbance to water quality, fish and fish habitat.
- In situations where the crossing can be completed in one day, in-stream excavation will begin in the early morning to allow for same day installation.
- Refueling and lubrication of equipment will be conducted in areas that will allow any accidental spill of deleterious substance to be disposed of in an approved location before it reaches any watercourse. Appropriate spill prevention kits will be readily available on site.
- The area around water crossings is to be regularly monitored and if erosion problems develop, immediate action is to be taken with appropriate treatments and completed as quickly as possible. Accumulated sediment is to be removed regularly.
- Revegetation must be completed as quickly as possible. Revegetate any disturbed areas by planting and seeding native trees, shrubs or grasses and cover such areas with mulch or erosion control matting to prevent soil erosion and to help seeds germinate.
- All use of silt fence, rock check dams and dewatering traps shall be constructed/installed in accordance to the most up to date EGI specifications and drawings. Where these mitigation measures are not sufficient to prevent sediment from entering the watercourse, additional mitigation measures will be implemented to prevent sediment from entering the watercourse.
- EGI will be held responsible for implementation of this plan. Any questions regarding the implementation of this plan should be directed towards the Environmental Advisor assigned to the project.

Contingency Plan

If unforeseen events (e.g., bedrock in trench, dam washout) cause the strategies set out in this plan to be insufficient or inappropriate to meet the objective, EGI is expected to respond in a timely manner with all reasonable measures consistent with safety, to prevent, counteract or remedy any effects on fish or fish habitat that may result. DFO is to be notified as soon as practical. **NOTE:** There is a Duty to Notify and Duty to Take Corrective Measures to report death of fish or a HADD of fish habitat to DFO.

Spill reporting procedures established by EGI shall be used to report any unexpected discharge of silt or sediment or other deleterious substance at the water crossing. At a minimum contact the Environmental Advisor at **1-855-336-2056.**

If DFO determines that long term damage to fish habitat has occurred due to failure of this plan to control sediment, a restoration plan will be developed by EGI, in consultation with and approval from DFO for implementation by EGI.



SECTION A–A

Detailed Construction Sequence - Dam and Pump Crossings

In general terms, the following sequence of construction and mitigation measures will be followed at all "dam and pump" type water crossings.

1. Mark out and maintain limits of authorized work areas with fencing or flagging tape to avoid unnecessary disturbance of vegetation. Ensure equipment operators working on the crossing have been briefed about this plan and the measures needed to protect water quality. Install pre-work sediment control measures, including silt fences and measures to contain excavated spoil and backfill. All necessary equipment and materials to build the dams and to pump water must be on site or readily available prior to commencing in-water construction. Pipe shall be strung, welded and coated ready for installation prior to watercourse trenching.
2. If possible, install pumps in a natural pool upstream of the excavation. Excavate temporary sump within right-of-way if no natural pool exists. Check pump operation to equalize flow and ensure water intakes used in fish bearing waters are screened in accordance with DFO Code of Practice. Rip rap, stilling wells, filter cloth, gravel filters or other mitigation measures will be used at the upstream inlet of the pump to prevent suspension of sediment from pumping when necessary. Rip rap and rock check dams will be used when necessary to prevent scouring and erosion at the pump outlet. Pump discharge lines shall be installed to keep pumped water from coming into contact with soil on the construction site.
3. Dams are to be made of steel plate, inflatable rubber dam (aquadam), pea stone bags, or metre bags and constructed so that sediment is not introduced to the watercourse. An impervious membrane is to be incorporated into the dam if necessary, to control seepage flow. Dams may need keying into the banks and streambed. Install downstream dam only if needed to keep the trench area dry. Dewater the area between dams and for fish bearing streams, conduct fish recovery operations. All pump water is to be discharged well away (minimum 30 m) from the creek and through a sediment trap to prevent reentry of sediment into the watercourse.
4. Excavate trench through plugs and streambed as quickly as possible, re-positioning discharge hose as necessary. Lower the pipe in the trench and backfill immediately. During pumping activities, monitor flow upstream and downstream to ensure normal flow levels. The top 300 mm of trench backfill is to be clean rock, cobble material or native streambed material. EGI is to use granular backfill if the native material is not suitable. Any excess material is to be disposed of above the high-water mark in an approved location and stabilized to prevent reentry into the watercourse. Work is to be completed as quickly as possible.
5. Restore, stabilize and reclaim bed and banks of watercourse to preconstruction profiles and protected with erosion resistant material compatible with flow velocity (e.g., coarse gravel or rip rap) to the maximum extent possible between dams. Do not use erosion control matting in the bankfull channel. All construction material (e.g. dams, rip rap, pea stone bags) will be removed from the site to an approved location. Removal of all materials will be done in a manner to prevent entry of sediment to the watercourse. The downstream dam will be removed first. Keep pump running until normal flow is resumed. Complete bank trimming and erosion protection. If pea stone bags are used for the dams, place and remove by hand to avoid equipment breaking bags.
6. Site stabilization, which includes control of stormwater drainage using a combination of methods such as silt fences, erosion blankets, diversion berms and check dams etc. is to be completed immediately upon trench backfilling or as directed by the Environmental Advisor. If stabilization is delayed, short term erosion control measures will be used to prevent sediment entering the watercourse. Material accumulated at silt fences is to be removed or stabilized in place. Silt fences are to be removed when the site is permanently stabilized.
7. Vegetate any disturbed areas by planting and seeding native trees, shrubs or grasses and cover such areas with mulch or erosion control matting to prevent soil erosion and to help seeds germinate.
8. If post-construction monitoring reveals erosion problems, remedial work is to be undertaken as quickly as possible.

NOTES

ENBRIDGE

LOCATION

All DAM AND PUMP WATER CROSSINGS IN ONTARIO

DRAWING TITLE

GENERIC SEDIMENT CONTROL PLAN DAM AND PUMP WATER CROSSINGS

SCALE	DATE
NTS	DECEMBER 2021
FILE No.	**PROJECT No.**
DRAWN GTH / **CHECKED**	**DRAWING** / **REV** 0

APPROVED

Generic Sediment Control Plan - Dry Flume Water Crossings

This plan sets out the measures that will be taken by Enbridge Gas Inc. (EGI) and its contractors to control downstream sediment to the lowest level practically achievable during the construction, use and removal of dry flume type crossings. The conditions and techniques set out on this plan are to be followed unless approved otherwise by the Department of Fisheries and Oceans (DFO).

Conditions for using the Standard

- The crossing can be completed in 7 calendar days or less avoiding the restricted activity timing window
- The watercourse is 15 m or less wide (current water level) AND flow conditions are 1.5m^3/sec or less
- The in-water work site disturbs a maximum of 50 linear m or less of the watercourse

Note: fish passage in a dry flume is not required

General Measures

EGI must use materials, construction practices, mitigation techniques and monitoring of operations at every water crossing in order to prevent the death of fish, unauthorized harmful alteration, disruption or destruction of fish habitat or the impairment of water quality. General measures are available at https://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures-eng.html. The following requirements apply to any permanent or intermittent watercourse (stream, river, pond) and areas adjacent to it.

- EGI will adhere to all permits and approvals of federal and provincial agencies related to watercourse crossings.
- EGI will notify the appropriate federal or provincial agencies prior to commencement of a watercourse crossing in accordance with regulatory permit conditions.
- In-stream work will occur outside of the restricted activity timing windows for the geographic region and for the fish species present unless otherwise permitted by the appropriate agencies.
- Prior to removal of the low vegetative cover, effective mitigation techniques for erosion and sediment control must be in place to protect water quality. Limit the areal extent of disturbance to the minimum needed for construction and delay grubbing to immediately prior to grading operations.
- All watercourses will require a minimal disturbance zone (MDZ) to be clearly marked with flagging prior to the commencement of clearing activities or any construction activity near the watercourse. This flagging will be set back a minimum of 5m from the watercourse and will be based on site specific conditions. Extra work area required at watercourse crossings will be situated away from the watercourse outside of the MDZ.
- Materials removed or stockpiled during construction (e.g., excavated soil, backfill material) must be deposited in a manner to ensure sediment does not enter a watercourse. Appropriate erosion and sediment controls (e.g. revegetation, vegetated buffer strips, drainage control, sediment settling devices, and sediment fence or other appropriate mitigation measures) will be installed around spoil or stockpiles to prevent sediment from stockpile runoff from entering a watercourse.
- All vehicles, machinery and other construction equipment should not enter the water. There should be no fording of any stream.
- Except during construction of the crossing, EGI will not obstruct any watercourse so as to impede the free movement of fish.
- Flow will be maintained at all times downstream of the water crossing.
- All exposed soil must be stabilized (e.g. graded to a stable slope and erosion control measures implemented) as quickly as possible to prevent erosion.
- EGI is to adhere to the Generic Sediment Control Plan For Temporary Vehicle Crossings.
- All required materials (e.g., silt fencing, filter cloth, polyethylene liners, granular material, rip rap, dam materials) and installation equipment (e.g., pipe, flumes, pumps, pump hoses, generators, spores, energy dissipaters) will be on-site and in good working order prior to construction.
- Prior to commencing watercourse crossings, local weather stations will be monitored to determine whether any precipitation is forecasted. In-stream activity will be delayed if flows are in flood stage and until weather conditions are favourable. If practical work will be delayed until weather conditions are favourable. If necessary, to proceed with work under unfavourable conditions, EGI will exercise due diligence
- Water intakes used in fish bearing waters will be screened in accordance with current DFO Code of Practice for end-of-pipe fish protection screens for small water intakes in freshwater https://www.dfo-mpo.gc.ca/pnw-ppe/codes/screen-ecran-eng.html.
- Fish recovery and transfer will be conducted prior to and during the isolation of flow and in accordance with permit regulations. See detailed construction sequence for timing of fish recovery operations.
- In-stream activities in all watercourses (e.g., trenching, pipe installation, backfilling) will be completed in as short a time as possible to minimize disturbance to water quality, fish and fish habitat.
- In situations where the crossing can be completed in one day, in-stream excavation will begin in the early morning to allow for same day installation.
- Refueling and lubrication of equipment will be conducted in areas that will allow any accidental spill of deleterious substance to be disposed of in an approved location before it reaches any watercourse. Appropriate spill prevention kits will be readily available on site.
- The area around water crossings is to be regularly monitored and if erosion problems develop, immediate action is to be token with appropriate treatments and completed as quickly as possible. Accumulated sediment is to be removed regularly.
- Revegetation must be completed as quickly as possible. Revegetate any disturbed areas by planting and seeding native trees, shrubs or grasses and cover such areas with mulch or erosion control matting to prevent soil erosion and to help seeds germinate.
- All use of silt fence, rock check dams and dewatering traps shall be constructed/installed in accordance to the most up to date Company specifications and drawings. Where these mitigation measures are not sufficient to prevent sediment from entering the watercourse, additional mitigation measures will be implemented to prevent sediment from entering the watercourse.
- EGI will be held responsible for implementation of this plan. Any questions regarding the implementation of this plan should be directed towards the Environmental Advisor assigned to the project.

Contingency Plan

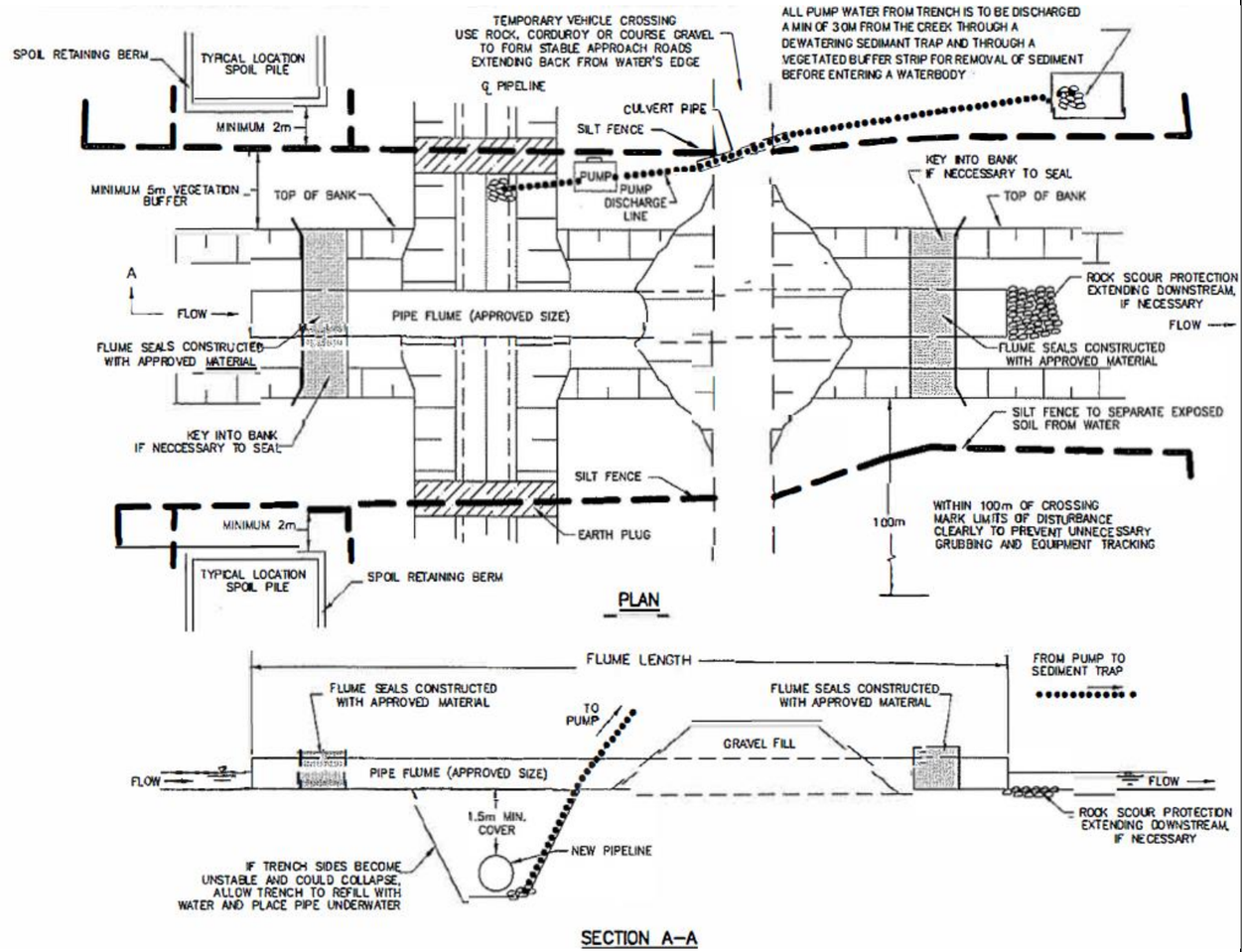
If unforeseen events (e.g. bedrock in trench, flume washout) cause the strategies set out in this pion to be insufficient or inappropriate to meet the objective, EGI is expected to respond in a timely manner with all reasonable measures consistent with safety, to prevent, counteract or remedy any effects on fish or fish habitat that may result. DFO is to be notified as soon as practical. **NOTE:** There is a Duty to Notify and Duty to Take Corrective Measures to report death of fish or a HADD of fish habitat to DFO.

Spill reporting procedures established by EGI will be used to report any unexpected discharge of silt or sediment or other deleterious substance of the water crossing. At a minimum contact the Environmental Advisor at **1-855-336-2056.**

If DFO determines that tong term damage to fish habitat has occurred due to failure of this plan to control sediment, a restoration plan will be developed by EGI, in consultation with and approval from DFO for implementation by EGI.

Flume Sizing

- Flumes will be sized initially based on hydrology and hydraulic analysis to determine theoretical opening size. The capacity of the flumes will be sized to handle 150% of the anticipated flow.
- The approved size or equivalent multiple flumes must be installed.
- Flume sizes may also be selected to be the same as existing nearby culverts that have been in place for many years and have performed satisfactorily.



Detailed Construction Sequence - Dry Flume Crossings

In general terms, the following sequence of construction and mitigation measures will be followed at all "dry flume" type water crossings.

1. Mark out and maintain limits of authorized work areas with fencing or flagging tape to avoid unnecessary disturbance of vegetation. Ensure equipment operators working on the crossing have been briefed about this plan and the measures needed to protect water quality. Install pre-work sediment control measures, including silt fences and measures to contain excavated spoil and backfill. All necessary equipment and materials to build the flume must be on site or readily available prior to commencing in-water construction. Pipe shall be strung, welded and coated ready for installation prior to watercourse trenching.
2. Install flumes equal to or larger than the diameter determined by the methods described above. Place impervious dams at each end of the flume, upstream first then downstream. Alternative dam materials include coarse gravel with rip rap protection, pea stone bags, steel plate and metre bags. During placement, install an impervious membrane, if necessary, to prevent leakage. Dams may need keying into the bank and streambed. Once the area is isolated, conduct fish recovery and transfer operations and dewater the area between the dams. All pump water is to be discharged well away (minimum 30 m) from the watercourse and through a sediment trap to prevent reentry of sediment into the watercourse. Pump discharge lines will be installed to keep pumped water from coming into contact with soil on the construction site.
3. Excavate trench through plugs and under flume, then dewater. Work area dewatering will be filtered to remove suspended solids. Lower in pipe by passing under flume and backfill immediately. The top 300 mm of trench backfill is to be clean rock, cobble material or native streambed material. EGI is to use granular backfill if the native material is not suitable. Any excess material is to be disposed of in an approved location and stabilized to prevent reentry into the watercourse. Work is to be completed as quickly as possible.
4. Once the pipe installation is complete and the flume(s) are no longer necessary, they will be removed as quickly as possible and in the following manner: remove the downstream dam; remove the upstream dam; remove flume(s).
5. Restore, stabilize and reclaim bed and banks of watercourse to preconstruction profiles and protected with erosion resistant material compatible with flow velocity (e.g., do not use erosion control matting in the bankfull channel coarse gravel or rip rap) to the maximum extent possible between dams. All construction material (e.g. dams, rip rap) not required to return the watercourse to preconstruction condition will be removed from the site and stabilized above the high-water mark in an approved location. Removal of all materials will be done in a manner that will not introduce sediment to the watercourse.
6. Site stabilization, which includes control of stormwater drainage using a combination of methods such as silt fences, erosion blankets, diversion berms and check dams etc., is to be completed immediately upon removal of the flume or as directed by the Environmental Advisor. If stabilization is delayed, short term erosion control measures will be used to prevent sediment entering the watercourse. Material accumulated at silt fences is to be removed or stabilized in place. Silt fences are to be removed when the site is permanently stabilized.
7. Vegetate any disturbed areas by planting and seeding native trees, shrubs or grasses and cover such areas with mulch or erosion control matting to prevent soil erosion and to help seeds germinate.
8. If post-construction monitoring reveals erosion problems, remedial work is to be undertaken as quickly as possible.

NOTES

ENBRIDGE

LOCATION

ALL DRY FLUME WATER CROSSINGS IN ONTARIO

DRAWING TITLE

GENERIC SEDIMENT CONTROL PLAN DRY FLUME WATER CROSSINGS

SCALE	DATE
NTS	DECEMBER 2021
FILE No.	PROJECT No.

DRAWN	CHECKED	DRAWING	REV
GTH			0

APPROVED