Environmental Report

Panhandle Regional Expansion Project

Enbridge Gas Inc.

60665521

April 2022

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Acronyms and Abbreviations

AA ..... Archaeological Assessment
ANSI..... Areas of Natural and Scientific Interest
ASDB ..... Archaeological Sites Database
BCI ..... Bat Conservation International
BHR..... Built Heritage Resource
CCAB ..... Canadian Council on Aboriginal Business
CHAR ..... Cultural Heritage Assessment Report
CHL ..... Cultural Heritage Landscape
CHVI..... Cultural Heritage Value or Interest
COSEWIC ..... Committee on the Status of Endangered Wildlife in Canada
COVID-19..... SARS-CoV-2
DD ..... Data Deficient
DFO..... Department of Fisheries and Oceans Canada
EASR ..... Environmental Activity and Sector Registry
EIS ..... Environmental Impact Statement
END..... Endangered
EPP ..... Environmental Protection Plan
ER ..... Environmental Report
ERCA ..... Essex Region Conservation Authority
ESA ..... Endangered Species Act
ESC..... Erosion and Sediment Control
ha ..... Hectare
HADD ..... Harmfully Altered, Disturbed or Destroyed
HDD ..... Horizontal Directional Drilling
km ..... Kilometre
km² ..... Square kilometres
L ..... Litres
LIO ..... Land Information Ontario
LTVCA..... Lower Thames Valley Conservation Authority
m ..... Metre
MBCA..... Migratory Birds Convention Act
mbgs ..... Meters Below Ground Surface
MECP..... Ministry of the Environment, Conservation and Parks
MHSTCI ..... Ministry of Heritage, Sport, Tourism and Culture Industries
MMAH ..... Ministry of Municipal Affairs and Housing
MNRF..... Ministry of Natural Resources and Forestry
NAR..... Not at Risk
n.d. ..... No date
NDMNRF..... Ministry of Northern Development, Mines, Natural Resources and Forestry
NHIC ..... Natural Heritage Information Centre
OBBA ..... Ontario Breeding Bird Atlas
OBA..... Ontario Butterfly Atlas
OEB..... Ontario Energy Board
OGS ..... Ontario Geologic Survey

OHA ..... Ontario Heritage Act
OHT..... Ontario Heritage Trust
OMAFRA..... Ontario Ministry of Agriculture, Food and Rural Affairs
OPCC..... Ontario Pipeline Co-ordinating Committee
ORAA..... Ontario Reptile and Amphibian Atlas
OWES ..... Ontario Wetland Evaluation System
PAR..... Progressive Aboriginal Relations
PIF..... Project Information Form
PPS ..... Provincial Policy Statement
PSA ..... Project Study Area
PSW..... Provincially Significant Wetlands
PTTW ..... Permit to Take Water
RoW ..... Right-of-Way
RSC..... Record of Site Condition
RV ..... Recreational Vehicle
SAR..... Species at Risk
SARA ..... Species at Risk Act
SARO ..... Species at Risk in Ontario
SC ..... Special Concern
SCN..... Soybean Cyst Nematode
SCS..... Site Condition Standards
SOCC..... Species of Conservation Concern
SWH..... Significant Wildlife Habitat
THR..... Threatened
WWR..... Water Well Records
ZOI ..... Zone of Influence

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1. Introduction

1.1 Land Acknowledgement

We would like to take the time to acknowledge that our work for the Panhandle Regional Expansion Project (the project) is taking place on land that has been inhabited by and cared for by people Indigenous to Turtle Island since time immemorial. We recognize and respect the historic connection to and harmonious stewardship by the Indigenous peoples over this shared land and, as such, Enbridge Gas has a responsibility to preserve and care for the land, learn from the original inhabitants, and move forward together in the spirit of healing, reconciliation, and partnership.

1.2 Project Description

To increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas Inc. (Enbridge Gas) is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. The project includes the construction of the following:

- Panhandle Loop: Approximately 19 kilometres (km) of new pipeline which loops – or parallels – the existing 20-inch Panhandle Pipeline. The new pipeline will be 36 inches in diameter and located adjacent to an existing pipeline corridor from approximately Richardson Side Road in the Municipality of Lakeshore, and Enbridge Gas' existing Dover Transmission Station in the Municipality of Chatham-Kent.
- Leamington Interconnect: Approximately 12 km of new pipeline, 16 inches in diameter, adjacent to or within an existing road allowance on public or private property to connect the existing Leamington North Lines to both the Kingsville East Line and Leamington North Reinforcement Line, located in the Municipality of Lakeshore, Town of Kingsville, and the Municipality of Leamington.

Early in the project planning stages, the original scope of the project also included the Wheatley Lateral Reinforcement (formerly the Wheatley Interconnect). After the three pipeline segments were presented in the first virtual information session from November 17 – December 3, 2021, the Panhandle Loop and Leamington Interconnect were selected to continue in the planning process, while the Wheatley Lateral Reinforcement was downsized and aggregated with several additional customer-driven distribution pipelines proposed at the second virtual information session.

The Panhandle Loop, Leamington Interconnect, and the distribution lines (including the Wheatley Lateral Reinforcement) were presented to the public and interested stakeholders in a second virtual information session from February 14 – 28, 2022. However, the development of the distribution pipelines presented at the second virtual information session has been delayed and is no longer considered part of the Enbridge Gas' Leave-to-Construct application for the Panhandle Regional Expansion Project. The proposed project presented within this Environmental Report (ER) includes only the Panhandle Loop and the Leamington Interconnect. Proposed construction dates for the Panhandle Loop and Leamington Interconnect are 2023 and 2024, respectively.

1.3 Environmental Report

As outlined in Section 90 of the *Ontario Energy Board Act, 1998 (OEB Act),* any proponent planning to construct a hydrocarbon line within Ontario must apply to the Ontario Energy Board (OEB) for approval to proceed prior to construction (*S.O. 1998 c.15 Sch B)*. The OEB serves as an independent, quasi-judicial tribunal that, among other

things, approves natural gas rates, pipeline construction and the designation of gas storage facilities. The *Environmental Guidelines* (2016) developed by the OEB are designed to provide direction to proponents in the preparation of an ER and to assist in determining how to identify, manage and document potential effects associated with their projects on the environment (OEB, 2016). It is important to note that to meet the intent of the *Environmental Guidelines* (2016) the term "environment" is defined to include natural, social, economic, cultural, and built components.

The *Environmental Guidelines* (2016) apply to hydrocarbon pipelines and ancillary facilities required to apply to the OEB for a Leave-to-Construct under the *OEB Act*. An ER must be prepared to meet the intent of the *Environmental Guidelines* (2016) as part of the environmental analysis and reporting requirements for hydrocarbon pipelines Leave-to-Construct applications under sections 90, 91, 95 and 98 of the *OEB Act.*

1.3.1 Objective

The objective of the ER is to outline various environmental mitigation measures for the construction of the project while meeting the intent of the OEB *Environmental Guidelines* (2016). This environmental report was prepared to:

- Outline the environmental planning process and regulatory framework;
- Develop a consultation program to receive input from interested and potentially affected parties;
- Identify and evaluate potential alternatives from undertaking the project;
- Select preferred routes that minimize potential environmental effects;
- Complete a detailed review of environmental features along the preferred routes and assess the potential environmental effects of the project on these features;
- Establish mitigation measures that may be used to minimize or eliminate potential environmental effects of the project; and
- Identify any necessary supplemental studies, monitoring, and contingency plans.

1.3.2 Planning Process

The preparation of the ER was divided into three main phases:

Phase I: Identification and Consultation on the Alternative Routes

The first step in the planning process was understanding the need for the project and the parameters for where expansion of the existing natural gas system was required. The first step was the development of routing parameters, including delineating the Route Alternative Study Area, generating routing objectives and identifying environmental and socio-economic constraints and opportunities through a detailed review of available background data and field reconnaissance. A route evaluation was undertaken (**Section 2**) to identify environmentally acceptable routes within the Route Alternative Study Area, considering the routing objectives, environmental and socio-economic constraints and opportunities, and constructability.

Phase II: Consultation on the Preliminary Preferred Route and Information Gathering

To identify environmental features, constraints, such as Species at Risk (SAR) and their habitat and to support mitigation development, information requests were made to several government agencies, and publicly available environmental databases were reviewed early on in the planning process. This data was used to inform the evaluation of alternative routes and resulted in the selection of Preliminary Preferred Routes for the proposed Panhandle Loop and Leamington Interconnect. Feedback on these Preliminary Preferred Routes was sought through newspaper notices, information posted to the Enbridge Gas website, letters mailed to Indigenous

communities, government agencies, stakeholders, and local landowners as well as two virtual information sessions held from November 17 – December 3, 2021 and February 14 – 28, 2022. The gathering of information has continued throughout the project.

Phase III: Environmental Report

This phase involved examining the Preferred Routes in detail to determine the potential environmental and socio-economic effects and cumulative effects that would result from the project. It also included the development of mitigation measures, supplemental studies and permits that will be required prior to construction, monitoring, and contingency plans to avoid or, at a minimum, reduce potential environmental effects identified.

1.3.3 The OEB Regulatory Process

Upon completion, the ER is circulated to Indigenous communities 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 projects. The ER is also circulated to local municipalities, conservation authorities, landowners, and other interested parties, as requested. The ER will accompany a Leave-to-Construct application filed with the OEB for the project.

2. Route Selection

2.1 The Process

The route evaluation and selection process were undertaken in accordance with the OEB *Environmental Guidelines* (2016), which identify the environmental and socio-economic features and the routing principles to be considered. The Preferred Routes for the Panhandle Loop and Leamington Interconnect were confirmed through a five-step process:

1. Develop Routing Parameters
2. Identify Alternative Routes in the Route Alternative Study Area
3. Route Evaluation
4. Input on the Preliminary Preferred Routes
5. Confirmation of the Preferred Routes

2.2 Steps 1 to 3: Routing Parameters, Alternatives and Evaluation

2.2.1 Panhandle Loop

Route Alternative Study Area

The Route Alternative Study Area is the area within which direct interactions with the socio-economic and natural environment could occur and allows for a reasonable number of alternative routes to be considered. Within this area, desktop information on socio-economic and environmental features was collected.

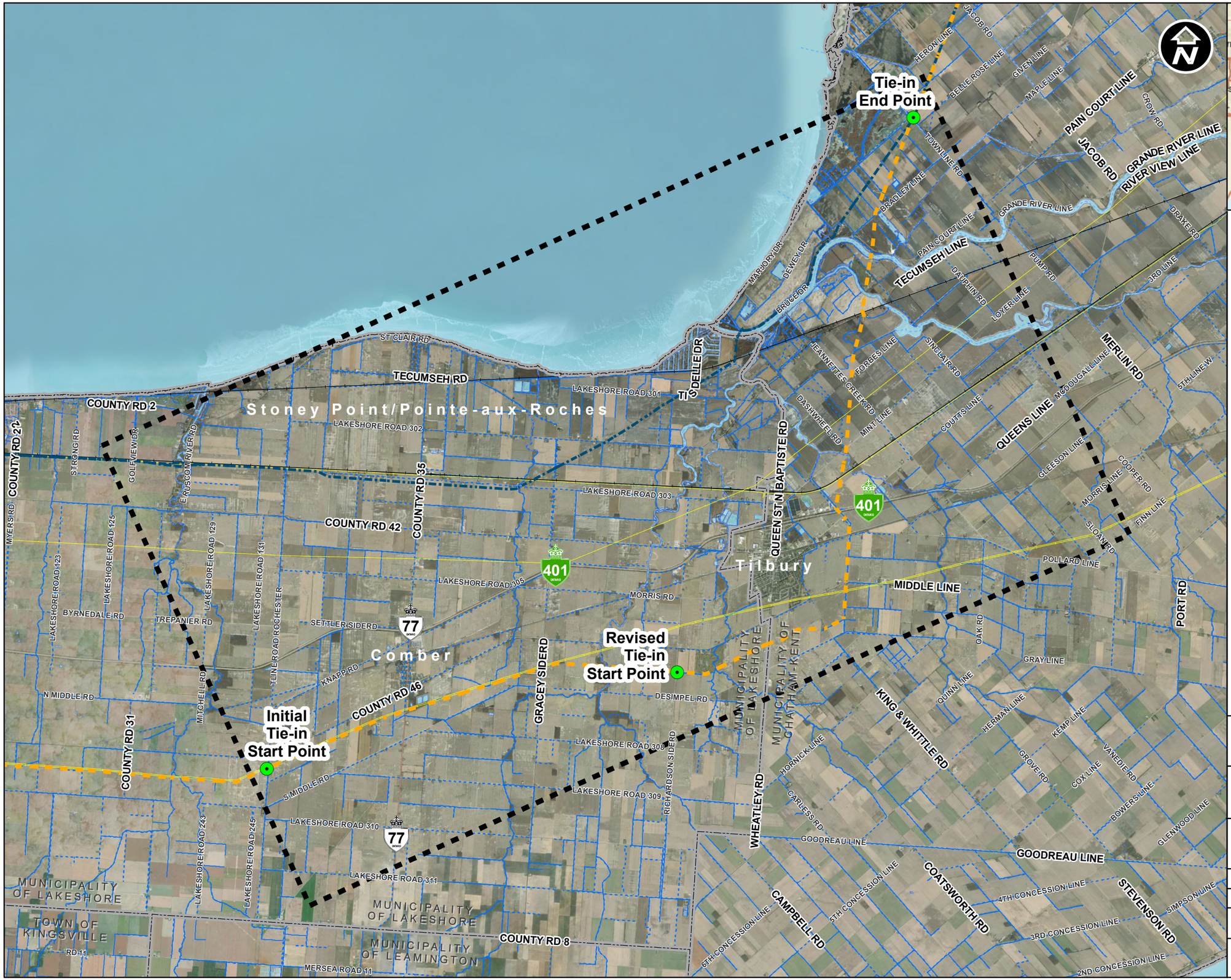
The Panhandle Loop Route Alternative Study Area is generally bounded semi-diagonally by Townline Road in the north (Enbridge Gas Dover Transmission Station) and Rochester Townline Road in the southwest (see **Figure 1**). It should be noted that after the route evaluation and the first virtual information session, the design for the Panhandle Loop was reduced from the Enbridge Gas Comber Transmission Station adjacent to Rochester Townline Road to the west side of Richardson Side Road.

2.2.1.1 Step 1: Develop Routing Parameters

Routing Objectives

The OEB *Environmental Guidelines* (2016) outlines the need to establish routing objectives to guide the planning process, and identify important criteria used to evaluate the alternative routes within a study area. Routing objectives for the Panhandle Loop included:

- Paralleling existing routes that house infrastructure (e.g., municipal roads, electrical transmission lines, and pipelines) to reduce environmental effects to existing land uses;
- Avoiding environmental constraints such as wetlands, Areas of Natural and Scientific Interest (ANSIs) and woodlots, where possible, to avoid environmental effects;
- Avoiding social constraints such as cultural features, major transportation corridors and residential areas to reduce disruption on the local community;
- Minimizing the length of pipeline required by generating alternatives that have direct paths between endpoints and avoids turns/slopes, where possible; and,
- Using existing lot and property lines where new easements are required to avoid or reduce effects to undisturbed environmental features, where feasible.



Legend

- Station
- Existing 16 Inch Panhandle Pipeline
- Existing 20 Inch Panhandle Pipeline
- Hydro Line
- Railway
- Constructed Drain
- Permanent Stream
- Intermittent Stream
- Waterbody
- Municipal Boundary
- Route Alternative Study Area

Panhandle Regional Expansion Project

Panhandle Loop: Route Alternative Study Area

0 2 4
Kilometers
DATUM: NAD 1983 UTM Zone 17N

April 2022	1:100,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
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Figure 1

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2.2.1.2 Step 2: Identify Alternative Routes in the Route Alternative Study Area

The OEB *Environmental Guidelines* (2016) outlines the need to identify reasonable and feasible routes within the Route Alternative Study Area considering the routing objectives and environmental and socio-economic opportunities and constraints.

Figure 2 identifies the Preliminary Preferred Route and Alternative Routes identified and evaluated for the Panhandle Loop. The routes are shown in **Table 2-1** below.

Table 2-1: Alternative Panhandle Loop Pipeline Routes

Alternative Route	Orientation
Panhandle Loop	
Alternative Route 1	The pipeline travels in a semi-diagonal orientation southwest from the Dover Transmission Station, paralleling the existing 20-inch Panhandle Pipeline to the Comber Transmission Station.
Alternative Route 2	The pipeline travels in an east-west orientation southwest from the Dover Transmission Station, paralleling the existing 16-inch Panhandle Pipeline. It then turns south (past the community of Tilbury) across private/public property before turning southwest again to parallel the existing 20-inch Panhandle Pipeline to the Comber Transmission Station.
Alternative Route 3	The pipeline travels in an east-west orientation southwest from the Dover Transmission Station, paralleling the existing 16-inch Panhandle Pipeline before turning south (past the community of Comber) across private/public property to the Comber Transmission Station.

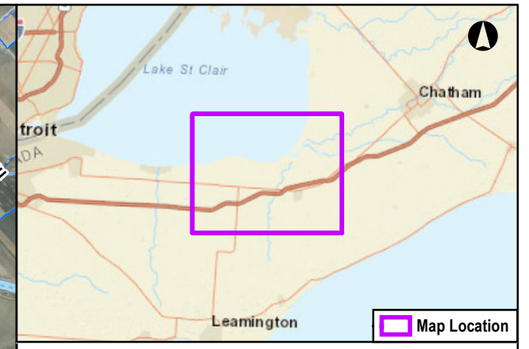
2.2.1.3 Step 3: Route Evaluation

The Preliminary Preferred Route and Alternative Routes were subject to a comparative evaluation. The goal of the comparative evaluation was to determine the potential environmental and socio-economic effects of constructing and operating each route to aid in determining which route was preferred from an environmental perspective.

The routes were evaluated by identifying features along the proposed routes using select environmental and socio-economic base data acquired from relevant published literature, maps, and digital data. The following features were included as part of the assessment:

- **Potential impacts to agricultural features** including prime agricultural land and tile drainage traversed (hectares (ha) within 50 m of the route);
- **Potential impacts to aquatic features** including conservation authority regulated land (ha within 50 m of the route), number of mapped watercourses and/or drain crossings, and number of watercourses with identified SAR;
- **Route characteristics** including length metres (m) of the route and slope (m);
- **Potential effects to socio-economic features** including:
  - Archaeological sites within 1 km of the route;
  - Number of residences with potential direct effects by the route;
  - Petroleum wells within 250 m of the route;
  - Socio-economic features (schools, churches, community centres) within 1 km of the route;
  - Utilities (i.e., oil/gas and hydro transmission lines traversed);
  - Waste facilities; and
  - Contaminated sites
- **Potential impacts to terrestrial features** including ANSIs (ha within 50 m of the route), wooded areas (ha within 50 m of the route) and provincially and locally significant wetlands (ha within 50 m of the route).
- **Potential impacts to groundwater resources** including number of water wells (i.e., domestic and livestock wells) within 100 m.





Legend

- Transmission Station
- Alternative Route 1
- Alternative Route 2
- Alternative Route 3
- Existing Enbridge Gas Pipeline
- Existing 16 Inch Panhandle Pipeline
- Existing 20 Inch Panhandle Pipeline
- Hydro Line
- Railway
- Constructed Drain
- Permanent Stream
- Waterbody
- Municipal Boundary

Panhandle Regional Expansion Project

Panhandle Alternative Routes

0 2 4
Kilometers
DATUM: NAD 1983 UTM Zone 17N

December 2021	1:75,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
P#:60665521	V#:	
AECOM		Figure 2

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Map location: \\na.aecomnet.com\lfs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\01_Reports\Panhandle Loop Alt\MXD_60665521_Fig1-StudyArea.mxd
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Alternative Route 1 was evaluated first because it presented a technically feasible solution that limited the amount of new properties or environmental features potentially impacted. In the initial evaluation, Alternative Route 1 offered the following benefits:

- The route leverages an existing Enbridge Gas Right-of-Way (RoW) allowing for the overlapping of easements and reducing disturbance to new properties and the environment;
- The route avoids settlement areas and would result in limited impacts to local traffic and goods movement;
- There are no significant restrictions along the pipeline corridor with respect to existing or future developments such as residential subdivisions, homes, businesses, wind turbines;
- There is flexibility to adjust the end point of the route along the existing corridor as required by detail design; and
- The existing 20-inch Panhandle Pipeline was installed with no long-term environmental or socio-economic effects.

Alternative Routes 2 and 3 were also assessed to understand their viability and potential impacts to the environment. These alternatives were considered least preferred during the evaluation due to the following factors:

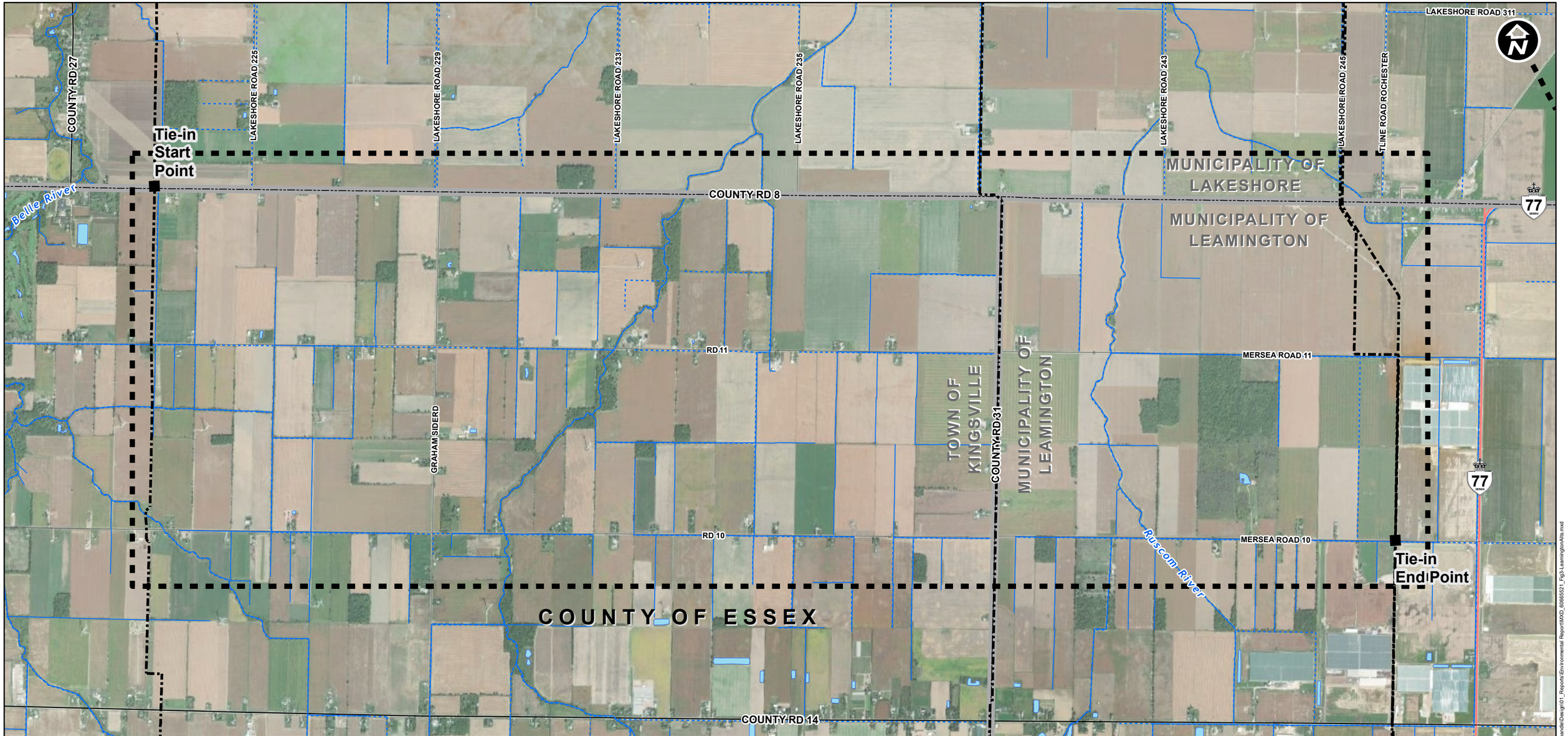
- Both alternatives require a new easement between the existing 16-inch and 20-inch Panhandle Pipelines to meet the objectives of the project. This would require the establishment of new easements resulting in impacts to existing land use, increases project costs/schedule, and results in the introduction of new environmental and socio-economic effects (e.g., impacts to undisturbed environmental features);
- Paralleling the existing 16-inch Panhandle Pipeline at the Thames River presents a significant challenge due to availability of land. There is limited space for the installation of a 36-inch pipeline, which would put the new pipeline within close proximity to existing and future cottages and houses; and
- There are significant restrictions along the routes with respect to existing infrastructure crossings (e.g., hydro transmission lines, Highway 401 corridor, wind farms collections lines and access roads, rail infrastructure and local highways) as well as existing and future residential/commercial development such as residential subdivisions, homes, and businesses.

From the analysis, Alternative Route 1 was considered the Preliminary Preferred Route and was presented to Indigenous communities, stakeholders, and the public in the two virtual information sessions in order to obtain feedback on the planning approach and identify any concerns with the proposed route. Throughout the consultation process, no concerns were raised about Alternative Route 1, so it was selected as the Preferred Route for the Panhandle Loop.

2.2.2 Leamington Interconnect

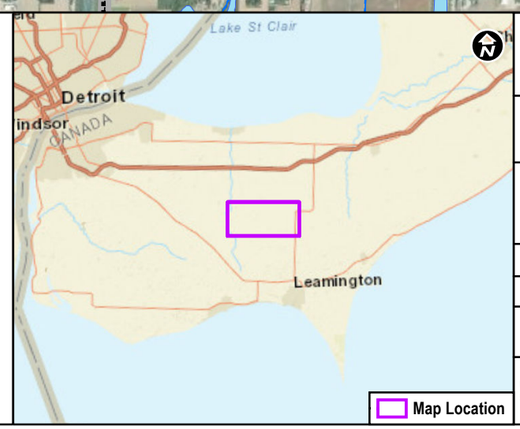
Route Alternative Study Area

The Leamington Interconnect Route Alternative Study Area is generally bounded by Highway 77 in the east, Belle River Road in the west and County Road 8 in the north (see **Figure 3**).



Legend

- Tie-in
- Existing Enbridge Gas Pipeline
- Constructed Drain
- Permanent Stream
- Intermittent Stream
- Waterbody
- Municipal Boundaries
- Route Alternative Study Area



Panhandle Regional Expansion Project

Leamington Interconnect: Route Alternative Study Area

0 150 300 600 900 1,200 1,500 1,800 2,100
Meters
DATUM: NAD 1983 UTM Zone 17N

April 2022	1:28,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
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Figure 3

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Date Saved: 4/7/2022 9:34:29 AM User Name: clarkb

2.2.2.1 Step 1: Develop Routing Parameters

Routing Objectives

Routing objectives for the Leamington Interconnect included:

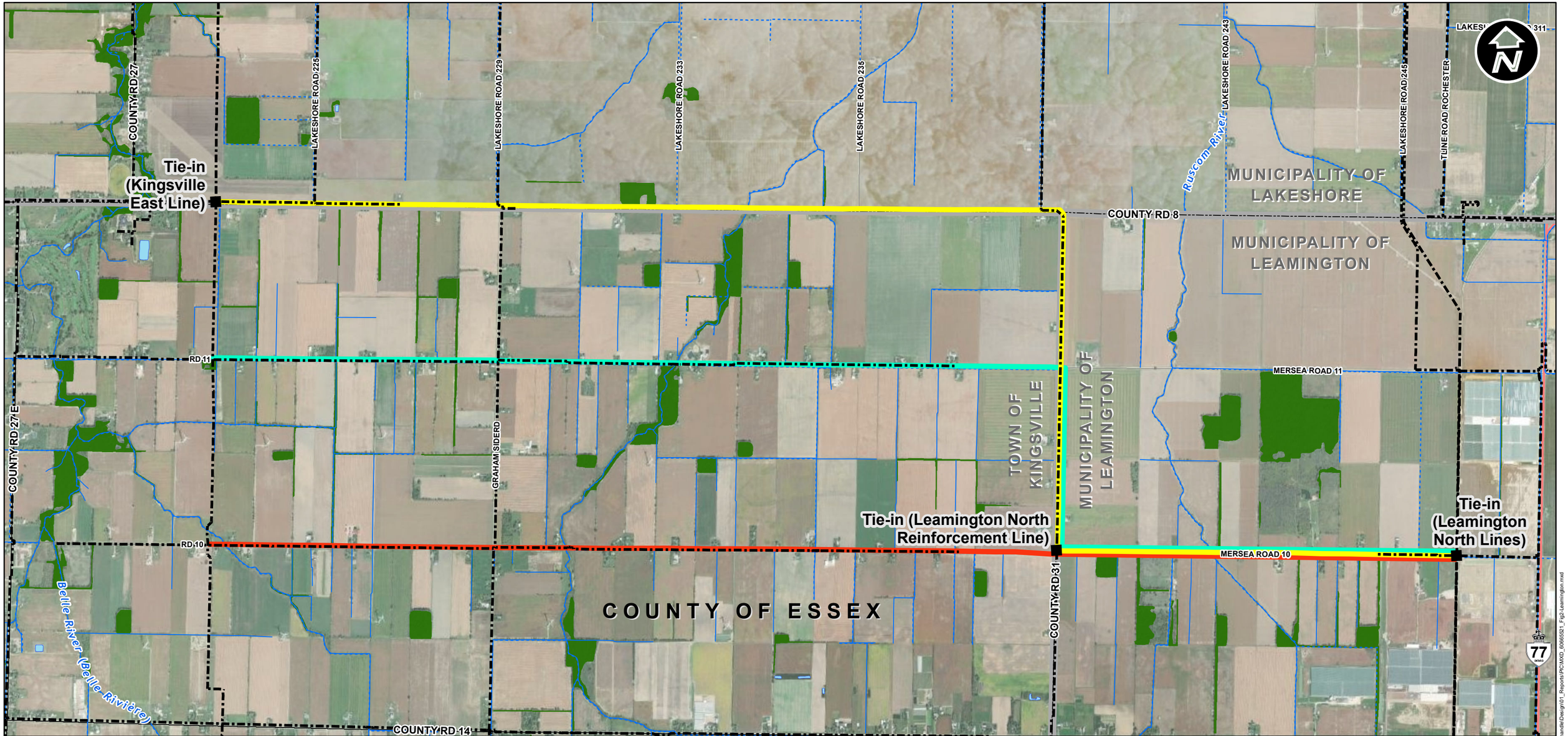
- Paralleling existing routes that house infrastructure (e.g., municipal roads) to reduce environmental effects to existing land uses;
- Avoiding environmental constraints such as wetlands, ANSIs and woodlots, where possible, to avoid environmental effects;
- Avoiding social constraints such as cultural features and residential areas to reduce disruption on the local community;
- Minimizing the length of pipeline required by generating alternatives that have direct paths between endpoints and avoid turns/slopes, where possible; and
- Using existing lot and property lines where new easements are required to avoid or reduce effects to undisturbed environmental features, where feasible.

2.2.2.2 Step 2: Identify Alternative Routes in the Route Alternative Study Area

Figure 4 identifies the Preliminary Preferred Route and Alternative Routes that were identified and evaluated as part of the Leamington Interconnect segment of the project. The routes are shown in **Table 2-2** below.

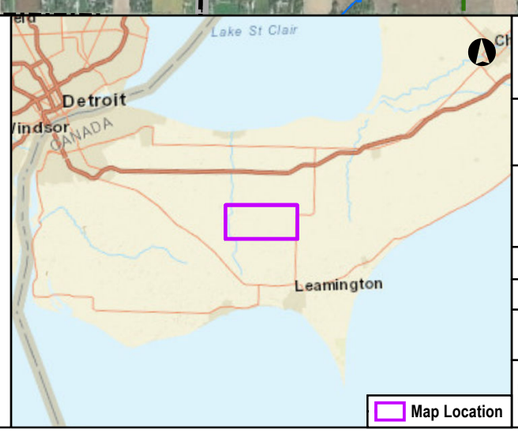
Table 2-2: Alternative Leamington Interconnect Pipeline Routes

Alternative Route	Orientation
Leamington Interconnect	
Preliminary Preferred Route	The pipeline travels west from the existing Leamington North Lines along Mersea Road 10 before tying into the existing Leamington North Reinforcement Line. The pipeline continues to travel north on County Road 31, turns west, and travels along County Road 8 before tying into the existing Kingsville East Line. The pipeline would travel adjacent to or within an existing road allowance on public or private property.
Alternative Route 1	The pipeline travels west from the existing Leamington North Lines along Mersea Road 10 before tying into the existing Leamington North Reinforcement Line. The pipeline continues to travel north on County Road 31, turns west, and travels along Road 11 before tying into the existing Kingsville East Line. The pipeline would travel adjacent to or within an existing road allowance on public or private property.
Alternative Route 2	The pipeline travels west from the existing Leamington North Lines along Mersea Road 10 before tying into the existing Leamington North Reinforcement Line. The pipeline continues to travel west on Road 10 before tying into the existing Kingsville East Line. The pipeline would travel adjacent to or within an existing road allowance on public or private property.



Legend

- Tie-in
- Preliminary Preferred Route
- Alternative Route 1
- Alternative Route 2
- Existing Enbridge Gas Pipeline
- Constructed Drain
- Permanent Stream
- Intermittent Stream
- Waterbody
- Wooded Area
- Municipal Boundaries



Panhandle Regional Expansion Project

Leamington Interconnect Preliminary Preferred and Alternative Routes

0 150 300 600 900 1,200 1,500 1,800 2,100
Meters
DATUM: NAD 1983 UTM Zone 17N

October 2021	1:28,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
P#:60665521	V#:	

AECOM

Figure 4

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Date Saved: 10/13/2021 1:40:11 PM User Name: clarkb

2.2.2.3 Step 3: Route Evaluation

The Preliminary Preferred Route and Alternative Routes were subject to a comparative evaluation (see **Table 2-3**). The goal of the comparative evaluation was to determine the potential environmental and socio-economic effects of constructing and operating each route to aid in determining which route was preferred from an environmental perspective.

The routes were evaluated by identifying features along the proposed routes using select environmental and socio-economic base data acquired from relevant published literature, maps, and digital data. The following features were included as part of the assessment:

- **Potential impacts to agricultural features** including prime agricultural land and tile drainage traversed (hectares (ha) within 50 m of the route);
- **Potential impacts to aquatic features** including conservation authority regulated land (ha within 50 m of the route), number of mapped watercourses and/or drain crossings, and number of watercourses with identified SAR;
- **Route characteristics** including length metres (m) of the route and slope (m);
- **Potential effects to socio-economic features** including:
  - Number of residences with potential direct effects by the route;
  - Socio-economic features (schools, churches, community centres) within 1 km of the route;
  - Archaeological sites within 1 km of the route;
  - Petroleum wells within 250 m of the route;
  - Utilities (i.e., oil/gas and hydro transmission lines traversed);
  - Waste facilities; and
  - Contaminated sites
- **Potential impacts to terrestrial features** including ANSIs (ha within 50 m of the route), wooded areas (ha within 50 m of the route) and provincially and locally significant wetlands (ha within 50 m of the route).
- **Potential impacts to groundwater resources** including number of water wells (i.e., domestic and livestock wells) within 100 m.

Key considerations for selecting the Leamington Preliminary Preferred Route included:

- The route parallels existing road allowances and utilities.
- The route offers the most room for construction and staging due to the slope/topography of the area being flat and there are no deep ditches impacting construction.
- It has the least direct impacts to homes, utilities, and limits local road/lane closures.

Table 2-3: Potential Route Comparative Evaluation

Feature	Leamington Preliminary Preferred Route	Leamington Alternative Route 1	Leamington Alternative Route 2
Potential Impacts to Agricultural Features			
Prime Agricultural Land (ha)	120	109	95
Tile Drainage (ha)	84	78	69
Potential Impacts to Aquatic Features			
Conservation Authority Regulated Lands (ha)	54	39	31
Watercourse / Drain Crossings	9	9	10
Watercourses with Identified SAR	0	0	0
Route Characteristics			
Length (m)	11,982	10,748	9,407
Slope (m)	<5	<5	<5
Potential Impacts to Socio-Economic Features			
Archaeological Sites (within 1 km of the route)	0	0	1
Homes (#)	7	23	17
Petroleum Wells (# within 250 m)	0	0	0
Socio-economic Features (schools, recreational centres, hospitals, etc. (# within 1 km))	■ 1 recreational centre ■ 1 cemetery ■ 1 golf course	■ 1 recreational centre ■ 1 golf course	0
Utilities	■ 1 oil/gas pipeline ■ Hydro distribution lines adjacent to Mersea Road 10, County Road 31, and County Road 8 ■ Small hydro transmission corridor intersects County Road 8 perpendicular to route	■ 1 oil/gas pipeline ■ Hydro distribution lines adjacent to Mersea Road 10, County Road 31, and Road 11	■ 1 oil/gas pipeline ■ Hydro distribution lines adjacent to Mersea Road 10 and Road 10
Waste Facilities	0	0	0
Contaminated Sites	0	0	0
Potential Impacts to Terrestrial Features			
ANSI (ha)	0	0	0
Wood Areas (ha)	2	2	1
Wetlands (Provincially / Locally Significant)	0	0	0
Potential Impacts to Groundwater Resources			
Water Wells (within 100 m)	19	20	15

Feature	Leamington Preliminary Preferred Route	Leamington Alternative Route 1	Leamington Alternative Route 2
Overall Route Evaluation	**Preferred**	**Moderately Preferred**	**Least Preferred**
	■ Although this route has the potential to impact the most agricultural and natural environmental features, it reduces disturbance to homes (impacts 7) and farm operations in the area by running parallel to existing road allowances and utilities. ■ Most room within or adjacent to road allowance to accommodate pipeline installation and construction. ■ Slope/topography is flat and there are no deep ditches impacting construction. ■ Less watercourse/drain crossings than Leamington Alternative Route 2. ■ Less water wells than Leamington Alternative Route 1. ■ Route does not impact any known archaeological sites.	■ Less watercourse/drain crossings and known archaeological sites than Leamington Alternative Route 2. ■ Current road allowance is narrow and does not have adequate room for construction. ■ Potential impacts to homes (23) and farm operations. ■ Impacts more agricultural and natural environment features than Leamington Alternative Route 2.	■ Although this alternative impacts the most watercourses/drain crossings, it is the shortest route and crosses less wooded areas, prime agricultural land, tile drainage, and conservation authority regulated land. ■ Current road allowance is very narrow with steep slopes on either side and existing utilities make feasibility of construction a challenge. ■ Potential impacts to homes (17) and farm operations.

2.3 Step 4: Input on the Preliminary Preferred and Alternative Routes

Public input on the Preliminary Preferred Route for the Panhandle Loop and Preliminary Preferred Route and Alternative Routes for the Leamington Interconnect were sought through consultation in the form of two newspaper notices, two mailings to Indigenous communities, stakeholders, and local landowners as well as two separate virtual information sessions (see **Section 3** and **Appendix B**). A total of 878 users attended the two virtual information sessions and participated in the project by providing comments via online comment forms, plotting points of interest and comments on the interactive mapping tool, signing up to subscribe for future project updates emailing the project email address with questions. Comments received included requests for more information, requests for consideration of potential effects to various environmental features (e.g., agricultural features, species at risk, archaeological resources, property considerations etc.), and general support for the project. Through this participation, no input was received that objected to the proposed Preliminary Preferred Routes. As such, the Preliminary Preferred Routes for the Panhandle Loop and Leamington Interconnect were confirmed as the Preferred Routes.

2.4 Step 5: Confirmation on the Preferred Routes

The Preferred Routes for the Panhandle Loop and Leamington Interconnect are currently illustrated within approximate locations. Enbridge Gas will undertake detailed design to determine the exact locations of the running lines, permanent easements, 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 landowners and agencies. In general, the evaluation has sought to avoid socio-economic features and sensitive natural features to the extent possible.

3. Consultation Program

3.1 Objectives

Consultation is an important component of the environmental study process. Throughout the project, consultation was carried out by the following key objectives:

- Identifying potentially affected rights holders and interested stakeholders early in the planning process;
- Providing accurate, accessible, and timely information and considering feedback received;
- Identifying interested and potentially affected parties early in the process;
- Ensuring the planning process is open and transparent, making the best efforts to involve and hear from all those who may be affected by or interested in the project;
- Developing a safe and meaningful form of engagement in light of the COVID-19 pandemic while following provincial/federal health guidelines; and
- Providing materials and information in an accessible format, upon request.

3.2 Identifying Interested and Potentially Affected Parties

At the outset of the project, an initial stakeholder contact list was developed. Potentially affected rights holders and interested parties were identified through a variety of sources, including the OEB's OPCC Members List and the experience of Enbridge Gas and AECOM. A copy of the contact list can be seen in **Appendix B6**.

Directly affected and adjacent landowners were identified by Enbridge Gas lands department. Enbridge Gas also undertook direct consultation with landowners and elected officials. Members of the public who provided feedback or were interested in receiving future project updates were documented in a project subscriber contact list.

Revisions to the project contact list were made based on input received during consultation and are on-going throughout the life cycle of the project.

3.3 Indigenous Engagement

The Panhandle Loop and Leamington Interconnect routes do not fall within any Indigenous communities. Ontario's legal duty is to consult with Indigenous peoples regarding projects or decisions that may adversely impact constitutionally protected Indigenous or treaty rights. Indigenous communities identified through the provision of a Letter of Delegation from the Ministry of Energy in August 2021 (see **Appendix B1**) that should be consulted are as follows:

- Aamjiwnaang First Nation
- Caldwell First Nation
- Chippewas of Kettle and Stony Point First Nation
- Walpole Island First Nation
- Delaware Nation
- Chippewas of the Thames First Nation
- Oneida Nation of the Thames

On October 15, 2021, Enbridge Gas provided the potentially affected Indigenous communities with a Notice of Project Commencement, which provided details on the first virtual information session. Information on the second

virtual information session was sent to the Indigenous communities on January 26, 2022. During the first virtual information session, consultation staff from the Chippewas of the Thames First Nation emailed the project email address on November 29, 2021 requesting spatial files in order to identify how the project may impact their treaties, important sites, waterways, etc. Spatial files were provided via email to the Chippewas of the Thames First Nation. An Indigenous engagement log up to the time of writing this ER can be found in **Appendix B6**.

3.4 Communication Methods

3.4.1 Notice of Commencement and Virtual Information Session #1

A Notice of Commencement, which included details on the first virtual information session, was published on November 10, 2021, in the Windsor Star and Southpoint Sun and on November 11, 2021, in the Chatham Daily News and The Chatham Voice. The notice introduced and described the project, provided a map, noted the format and dates of the virtual information session and listed project contact information. The virtual information session was also promoted through geographically targeted digital advertisements, which appeared on the Twitter and Facebook feeds of people in the areas affected by the project.

Letters were sent by AECOM via Canada Post regular mail to all parties on the OPCC and agency contact list on October 18, 2021, to provide information on the project, Preliminary Preferred and Alternative Routes, and on the virtual information session. Additionally, Enbridge Gas mailed letters to the contacts on the Indigenous community contact list on October 15, 2021, and Enbridge Gas lands department sent direct and adjacent landowner letters on October 19, 2021.

Generic copies of the tear sheets from the newspaper notices are located in **Appendix B2,** and letters noted above are located in **Appendix B3.**

3.4.2 Notice of Virtual Information Session #2

A notice of the second virtual information session was published on February 9, 2022, in the Southpoint Sun. The notice described the project, noted the format and dates of the virtual information session and listed project contact information. The virtual information session was also promoted through geographically targeted digital advertisements, which appeared on the Twitter and Facebook feeds of people in the areas affected by the project.

Letters were sent by AECOM via Canada Post regular mail to all parties on the OPCC, agency contact list and distribution line direct and adjacent landowners on January 28, 2022 to provide them information on the second virtual information session. Additionally, Enbridge Gas mailed out letters to the contacts on the Indigenous community contact list on January 26, 2022 and Enbridge Gas lands department sent transmission pipeline direct and adjacent landowner letters on January 28, 2022

Generic copies of the tear sheets from the newspaper notices are located in **Appendix B2**. and letters noted above are located in **Appendix B3**.

3.5 Consultation Events

3.5.1 Meetings

Enbridge Gas has or will have meetings with municipalities, Indigenous communities, Essex Region Conservation Authority (ERCA), Lower Thames Valley Conservation Authority (LTVCA), key stakeholders and directly effected landowners regarding the project. These meetings will likely continue as the project progresses towards detailed design and construction.

Meetings to date were conducted to gather initial feedback/comments and have included discussions around the need for the project, proposed project components, and proposed pipeline options. In addition, anticipated Essex County projects within proximity to the project have also been discussed.

3.5.2 Virtual Information Sessions

Due to the COVID-19 pandemic and provincial/federal health guidelines, two virtual information sessions were hosted online instead of in-person. The first virtual information session was hosted from November 17 – December 3, 2021, and the second virtual information session was hosted from February 14 – 28, 2022. Each session was accessible for two weeks to allow agencies, Indigenous communities, landowners, residents, and other stakeholders the opportunity to review project information, project mapping, the planning process, the OEB process for application approval, and to provide comments/feedback on the project.

A project website was developed for the virtual information sessions to provide information on the project, the regulatory and environmental study process, the Preliminary Preferred and Alternative Routes, anticipated environmental and socio-economic effects and mitigation, and next steps. A short high-level overview video was prepared to accompany the home page of the website for the first virtual information session. Presentation slides with the information on the website were also created for individuals to download if they chose. The project website was communicated to interested and potentially affected parties on the newspaper notice and letters as outlined in **Section 3.4**.

Link to a comment form and interactive map were provided on the project website and presentation slides. A downloadable version of the presentation slides, comment form and maps were provided in a ‘Quick Links’ tab on the project website. The comment form requested feedback on potential effects, the Preliminary Preferred and Alternative Routes, and the content of the virtual information sessions. The interactive map allowed the virtual information session users to view the Preliminary Preferred and Alternative Routes on a web-based map to a scale of approximately 100 m and showed natural environment map layers such as waterways and wooded areas.

A project email address and phone number were provided in the virtual information sessions for users to provide questions/feedback or if assistance was needed with accessibility. The first virtual information session had 419 users (413 new, six returning) who spent an average of 2:17 minutes per session and visited 2.23 pages per session. Four comment forms were received via the online comment form from the website during the first virtual information session, while five comments were received through the interactive mapping tool. The second virtual information session had 459 users (433 new, 26 returning) who spent an average of 1:10 minutes per session and visited 2.65 pages per session. Three comment forms were received via the online comment form from the website, and one comment was received through the interactive mapping tool.

Screenshots of both the virtual information sessions and the accompanying presentation slides, comment forms and maps are provided in **Appendix B4**. Redacted copies of the completed comment forms are included in **Appendix B5**.

3.6 Feedback Received

The sections below provide a summary of feedback that was received throughout the study up to the development of this ER.

Enbridge Gas is committed to on-going consultation with directly affected rights holders and interested parties throughout the life cycle of the project.

A copy of comments received, and comment response summary tables are provided in **Appendix B6**.

3.6.1 Public Feedback

Over the course of the project, seven comment forms were received from the public at the time of writing this ER. The main areas of concern included:

- The location of the Preliminary Preferred Wheatley Interconnect/Preliminary Preferred and Preferred Routes of the Wheatley Lateral Reinforcement and the environmental and agricultural effects it could cause; and
- Construction logistics (type of equipment used, accessing gas from the Panhandle Loop segment, and construction area width).

It should also be noted that four additional comments were received from the public via the interactive mapping tool noting concerns over a species sighting (Western Chorus Frog [*Pseudacris triseriata*]), an unmarked grave, swimming pool infrastructure, and a planned condo development near the Panhandle Loop, while one comment was received regarding a septic tank near the Leamington Interconnect.

In addition, Boralex Richardson Windfarm provided comments on the interactive mapping tool during the first virtual information session noting concerns about access to their wind infrastructure, excavations near the foundational base of some of their wind infrastructure, and damage to buried power cables in proximity to the Panhandle Loop. It should be noted that representatives from Enbridge Gas spoke to a representative from Boralex on December 16, 2021 and provided further project information. It was noted that all of Boralex's concerns should be satisfied through a few site visits/meetings.

Voltage Power reached out to AECOM requesting shape files for the Panhandle Loop and existing 16' and 20' pipelines in order to evaluate their proposed transmission line. At the time of writing this ER, it was agreed that the shape files would be sent to Voltage Power for their use.

3.6.2 Agency and Conservation Authority Feedback

Three comments were received from agencies at the time of writing this ER:

- The Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) provided Project Information Form (PIF) numbers for the Stage 1 and Stage 2 Archaeological Assessment (AA) reports.
- MHSTCI confirmed that no properties designated by the Minister, nor any provincial heritage properties, are within or adjacent to the routes.
- LTVCA advised of their interest in attending the first virtual information session and provided spatial data files containing their regulated and flood prone areas.
- MECP provided a list of clarification questions regarding temporary land use and timing of construction works.

3.6.3 Municipal Feedback

Numerous meetings were held over the course of the project with Essex County, Municipality of Chatham-Kent, Municipality of Lakeshore, Municipality of Leamington, Town of Kingsville and City of Windsor staff and Enbridge Gas staff to discuss the project and gather feedback. Discussion topics included:

- The need for the project;
- Proposed project components;
- Proposed pipeline routing options; and
- The ER process.

Comments were also received during the first virtual information session from Essex County and the Municipality of Lakeshore regarding the use of county and municipal roads, county projects within proximity to the Panhandle Loop and Leamington Interconnect that may be affected, and locations of municipal sanitary infrastructure. In all cases, Enbridge Gas staff and respective municipal staff members will continue to exchange information as project planning continues.

3.6.4 Interest Group Feedback

Meetings were held between Enbridge Gas staff and members from the Ontario Greenhouse Vegetable Growers and Invest WindsorEssex groups. Discussion items included the proposed project components, the environmental report process, and project timing. Furthermore, an expression of interest process and rate/service discussion was also held with the Ontario Greenhouse Vegetable Growers group.

No further comments were received from any interested groups.

4. Environmental and Socio-economic Features

This section summarizes the physical, biophysical, and socio-economic features that are potentially affected by the project in accordance with the OEB *Environmental Guidelines* (2016).

4.1 Background Review

The Project Study Area (PSA) for this ER is defined as 50 m from the centreline of both the Panhandle Loop and Leamington Interconnect Preferred Routes**.** The PSA is the area within which direct interactions with the socio-economic and natural environment could occur. The PSAs were selected due to the location of the Preferred Routes paralleling existing infrastructure, largely on agricultural land, and from the past experience of Enbridge Gas and AECOM. It should be noted that some technical disciplines may use their own PSA boundary to analyze existing conditions/potential effects related to the project based on the anticipated area where direct effects might occur. For instance, the natural environment analysis incorporates a 120 m buffer around the PSA while the groundwater assessment expanded their buffer to 500 m while retrieving MECP Well Water Records (WWR).

A background information review of physical, biophysical, and socio-economic features located in the vicinity of the PSAs was conducted using the following secondary sources, including:

- Essex County Official Plan (2014);
- Municipality of Chatham-Kent Official Plan (2018)
- Municipality of Lakeshore Official Plan (2010);
- Municipality of Leamington Official Plan (2008);
- Town of Kingsville Official Plan (2012);
- Fisheries and Oceans Canada (DFO) online Aquatic SAR Mapping (2022);
- Natural Heritage Information Centre (NHIC) Rare Species Records (MNRF, 2020b);
- Ontario Breeding Bird Atlas (OBBA) Website (Bird Studies Canada [BSC] et al., 2007);
- Ontario Reptile and Amphibian Atlas (ORAA; Ontario Nature, 2019);
- Ontario Butterfly Atlas (OBA; Toronto ‘Entomologists’ Association, 2019);
- Bat Conservation International (BCI, 2020) and MNRF SAR in Ontario (2019a; 2019b; 2019c; 2019d) Range Maps;
- Ministry of the Environment, Conservation and Parks (MECP) Water Well Records (2020b);
- Published geological mapping and reports available from the Ontario Ministry of Energy, Northern Development and Mines Ontario Geological Survey (OGS, 1997; OGS, 2010; Chapman and Putnam, 2007), Natural Resources Canada (2010), Oil, Gas and Salt Resource Library (2018) and the MNRF (MNRF, 2020c);
- Soils mapping and agricultural tile drain information available from the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA, 2017) as well as Agriculture and Agri-Food Canada (2018);
- Statistics Canada Census data (Statistics Canada, 2022 and 2017a-f);
- LTVCA Regulated Areas and Flood Prone Data (LTVCA, 2022)
- ERCA Regulated Area and Floodplain Data (ERCA, 2022)
- Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF) Land Information Ontario (LIO) database (NDMNRF, 2022);
- The Atlas of Mammals of Ontario (Dobbyn, 1994), and MECP Recovery Strategies for SAR;
- The online searchable databases on the Ontario Heritage Trust (OHT) website, The Ontario Heritage Plaque Program, and the OHT list of easement properties;
- Canadian Register of Historic Places;

- Directory of Federal Heritage Designations;
- List of National Historic Sites maintained by Parks Canada;
- MHSTCI Archaeological Sites Database (ASDB);
- MHSTCI Standards and Guidelines for Consultant Archaeologists (2011); and
- Windshield survey conducted in November 2021.

Through the consultation process, Indigenous groups were notified of the project and invited to provide comments/feedback. Through this process, if any traditional knowledge was provided during consultation it would be captured in this ER. At this time, we have not received any comments/feedback or traditional knowledge information from the Indigenous communities that were included in the consultation process. However, Indigenous communities have been invited to participate in additional field investigations surveys that will be conducted in 2022. We are hoping to gain any traditional knowledge insight that may be available while onsite or through review of the ER to further refine construction mitigation through this onsite support.

4.2 Physical Features

4.2.1 Bedrock Geology and Drift Thickness

The proposed Panhandle Loop is entirely underlain by the Devonian Hamilton Group bedrock, which is comprised of the Bell, Rockport Quarry, Arkona, Hungry Hollow, Widder and Ipperwash Formations. The Hamilton Group is composed of limestone, dolostone and shale (**Figure 5**) (MNDM, 1991). The proposed Leamington Interconnect route is entirely underlain by the Devonian Dundee Formation bedrock comprised of limestone, dolostone, and shale (**Figure 6**) (MNDM, 1991). MECP WWR indicate that the average depth to bedrock across the two proposed lines is 28.4 meters below ground surface (mbgs), ranging from 15.8 mbgs to 36.0 mbgs.

The PSAs lie within the Southern Great Lakes Seismic Zone (Natural Resources Canada, 2021). When comparing this zone to a more active seismic zone, such as the Western Quebec Seismic Zone, the Southern Great Lakes Seismic Zone has a low to moderate level of seismicity. Natural Resources Canada (2021) notes that over the last 30 years, on average, 2 to 3 magnitude 2.5 or larger earthquakes have been recorded in the Southern Great Lakes region. By comparison, the Western Quebec region over the same time period have seen 15 magnitude 2.5 or greater earthquakes occur, on average, per year.

Three moderately sized (magnitude 5) events have occurred in the 250 years of European settlement of this region, all of them in the United States (Attica, New York in 1929, near Cleveland, Ohio in 1986, and near the Pennsylvania/Ohio border in 1998). Natural Resources Canada (2021) notes that all three of these earthquakes were widely felt in southern Ontario but no damage was caused in Ontario.

4.2.2 Physiography and Surficial Geology

The PSAs are entirely within the St. Clair Clay Plains Physiographic region, known to contain little relief and deep clay till deposits (Chapman and Putman, 1984).

The surficial geology mapped within the southern portion of the Panhandle Loop PSA is mapped as glaciolacustrine-derived silty to clayey till. Between Baptiste Creek and Jeannettes Creek (along the route) fine-textured glaciolacustrine deposits (silt and clay, minor sand, and gravel) are anticipated with coarse-textured (sand, gravel minor silt and clay) littoral-foreshore deposits mapped north of Jeannettes Creek. There are modern alluvial deposits crossing the proposed route in narrow strips at the various water crossings (**Figure 7)**. The Leamington Interconnect PSA is mapped within surficial deposits of fine-textured glaciolacustrine origin, similar to those between Baptiste Creek and Jeannettes Creek on the Panhandle Loop route, which is consistent with the physiographic region (**Figure 8**).

The quaternary geology within the proposed Panhandle Loop PSA is mapped as lacustrine deposits (silt and clay), in the northern half. The southern portion of the route is mapped as Tavistock Till (**Figure 9**). The Tavistock Till is described as having a silty clay matrix, coarsening towards Woodstock, calcareous, overlies Port Stanley Till, Stirton Till and Maryhill Till. Quaternary geology mapping is consistent with the physiographic regions and surficial geology mapping indicating glaciolacustrine deposits of silt and clay within the Leamington Interconnect PSA (**Figure 10**).

4.2.3 Groundwater

Based on the MECP Source Protection Information Atlas, neither the Panhandle Loop nor Leamington Interconnect PSA cross any Wellhead Protections Areas. A segment north of Jeannettes Creek, approximately 5 km in length, and the north end of the Panhandle Route lies within a Significant Groundwater Recharge Area and a Highly Vulnerable Aquifer (MECP, 2022).

The MECP database of WWR were searched within a 500 m radius of each proposed route (**Figure 11**) (**Appendix C**) (MECP, 2020b). Within the southern portion of the proposed Panhandle Loop PSA, only three records were identified, and these are monitoring/test wells. Two abandoned commercial wells were identified near the Thames River and Jeanettes Creek. The majority of the identified WWRs are clustered at the northern most point of the proposed line. In total, three monitoring/test wells, nine abandoned wells (including all mapped commercial and other), and nine domestic supply wells were identified within the Panhandle Loop PSA. Appropriate assessment and potential monitoring of these domestic wells should be considered, along with an assessment of water taking (construction dewatering) requirements based on site specific subsurface conditions and project design details.

WWRs were also reviewed for the proposed Leamington Interconnect PSA. There are 25 domestic WWRs along the full length of the proposed Leamington Interconnect PSA (within the 500 m radius; **Figure 12**). Many of these are anticipated to be active and servicing rural homes. Three other WWRs were identified, two of which are abandoned, and one identified as an observation/test well. Appropriate assessment and potential monitoring of these domestic wells should be considered, along with an assessment of water taking (construction dewatering) requirements based on site specific subsurface conditions and project design details.

4.2.4 Aggregates and Petroleum Resources

A review of the Essex County Official Plan (2014), Municipality of Chatham-Kent Official Plan (2018), Municipality of Lakeshore Official Plan (2010), Municipality of Leamington Official Plan (2008) and the Town of Kingsville Official Plan (2012) indicates that there are no aggregate mineral resources located within the PSAs.

There are existing petroleum pools within the Panhandle Loop PSA near the existing Enbridge Gas Dover Transmission Station near Bradley Line and Townline Road in the Municipality of Chatham-Kent. There are also eight existing petroleum wells within 250 m of the Panhandle Loop segment. These wells are classified as either ‘abandoned’ (five), ‘no well found’ (two), or ‘unknown’ (one).

A map of the petroleum pools and wells found within the Panhandle Loop PSA can be seen in **Figure 13**. It should be noted that no petroleum pools or wells were found within the Leamington Interconnect PSA.

4.2.5 Soil Resources

There are several soil types identified within the PSAs.

North of the Highway 401 there is St. Clair sandy loam, Rivard sandy loam and Mitchell’s Bay sandy loam. South of the 401 there is predominantly Clyde silty clay and Brookston clay, with a small portion of the PSA intersecting Rivard silty clay.

Agriculture and Agri-Food Canada (2019) describes these soil as follows:

- **St. Clair sandy loam** – soil that has been disturbed by agriculture, is primarily composed of mineral particles and poorly drained.
- **Rivard sandy loam and silty clay** – soil that has been disturbed by agriculture, is primarily composed of mineral particles and well drained.
- **Mitchell's Bay sandy loam** – soil that has been disturbed by agriculture, is primarily composed of mineral particles and poorly drained.

In the Soil Survey of Essex County (Richards, *et al., 1949),* the following soils are described:

- **Clyde silty clay** – a highly productive and reliable soil if satisfactory drainage conditions are met. These heavy-textured soils are high in organic matter and well supplied with other plant nutrients, such as high levels of phosphorus and calcium.
- **Brookston clay** – this soil types is acidic, heavily textured and found extensively in the County. Crop production is limited due to poor drainage qualities and the need to maintain a high level of organic matter.

The soil types found within the PSAs are shown on **Figure 14** and **15**.

Soil capability for agriculture is mapped by Agriculture and Agri-Food Canada (2013). Lands classified between Class 1 and Class 7, where Class 1 lands are the most agriculturally productive and Class 7 have the lowest capability for agriculture. Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) considers Class 1 to 3 to be prime agricultural soils for common field crop production, however, Class 4 and 5 agricultural lands are also generally arable.

Soils within the PSAs are Class 2. Agriculture and Agri-Food Canada (2013) defines Class 2 as "Soils in this class have moderate limitations that restrict the range of crops or require moderate conservation practices. The soils are deep and hold moisture well. The limitations are moderate, and the soils can be managed and cropped with little difficulty. Under good management they are moderately high to high in productivity for a fairly wide range of crops."

4.2.6 Agricultural Resources

4.2.6.1 Agricultural Tile Drainage

Perforated tubing is inserted into the ground below the topsoil to improve drainage in the upper root zone; these are commonly referred to as agricultural tile drains. In the PSAs, tile drainage has been installed in agricultural fields to improve crop productivity. Of the mapped tile drainage along the Panhandle Loop and Leamington Interconnect, all are systematic tile drains (AAFC, 1983).

Agricultural tile drains are mapped in **Figure 16 and 17**.

4.2.6.2 Soybean Cyst Nematode (SCN)

A soil borne parasite that can significantly affect soybean yields is the Soybean cyst nematode (*Heterodera glycines*) (SCN), which may be present in some fields within the PSAs. There is the potential for the spread of SCN to previously uncontaminated fields where equipment is moving from one agricultural field to another. There is significant potential for soybean crop loss once a field has been infested; there is no effective method of eradication.

4.3 Biophysical Features

4.3.1 Aquatic Features

4.3.1.1 Surface Water

Based on air photo interpretation, the PSAs are within an area of dynamic agriculturally dominant land use and thus there is an extensive network of field and field edge drainage ditches designed to lower water levels in the surrounding agricultural fields. These drainage ditches and flow conveyance features can potentially contain or support fish habitat but may periodically change configuration through regular farming and maintenance practices.

A map of the regulation limits and floodplain data for LTVCA and ERCA is provided in **Figure 18** and **19**. It should be mentioned that a conservative approach was used for floodplain data. Flood prone data was utilized for LTVCA areas while max observed flooding data was used for ERCA.

Panhandle Loop

There are twenty-nine watercourses that are crossed by the Panhandle Loop based on a desktop review of relevant aerial imagery and watercourse mapping. They include 11 named drains, 15 unnamed drains, Jeannettes Creek, Baptiste Creek, and the Thames River. Ultimately, these watercourses drain to the Thames River or Lake St. Clair. These drains and watercourses are shown in relation to the route in **Figure 20**.

For more information regarding fish and fish habitat, refer to **Section 4.3.1.2** below.

Leamington Interconnect

Based on a desktop review of relevant aerial imagery and watercourse mapping, there are nine watercourse crossings along the Leamington Interconnect. These drains and watercourses are shown in relation to the Leamington Interconnect on **Figure 21**. Hollingsworth Drain flows North for 3 km before joining Duck Creek and flowing 10 km into Lake St. Clair. All the remaining drains flow and converge with the Ruscom River or are branches of the Ruscom River themselves. Some drains flow for up to 7.5 km before meeting with the Ruscom River, while others connect in under 500 m. The nine named watercourse crossings in order from North to South are:

- Hollingsworth Drain (LSC1)
- Graham Creek Drain (LSC2)
- Elgin Smith Drain South (LSC3)
- Graham Creek Drain (S. 4th Conc. Dr.) (LSC4)
- Ruscom River (LSC5)
- Patterson Drain (LSC6)
- Cameron Curry Drain (LSC7)
- Irwin Drain (LSC8)
- Ruscom River (LSC9)

DFO drainage classification was reviewed to assess habitat sensitivity within the drains that transect the Leamington Interconnect. For this project, reference to drainage classification is intended to infer if a drain is classified as direct fish habitat and if sensitive habitat is present in the drain. All the drains within the Leamington Interconnect are categorized as Class F, meaning no site-specific authorization is required if the work can be done in the dry or when frozen. There are two crossings of the Ruscom River, classified as Class C, meaning the work can be done with either a site-specific authorization or a Class C authorization. There was no other publicly available information regarding the fish communities.

For more information regarding fish and fish habitat, refer to **Section 4.3.1.2** below.

4.3.1.2 Fish and Fish Habitat

The DFO drainage classification of each watercourse was reviewed to assess habitat sensitivity within the drains that transect the Panhandle Loop and Leamington Interconnect. Drainage classification is determined by a combination of flow periodicity (i.e., permanent vs. intermittent), thermal regime, fish community assemblage, and time since last clean out, as shown in **Table 4-1** (DFO, 2017). The classification system indicates fish habitat sensitivity in the drain and the level of approval required for drainage maintenance and operations. Based on that information a Restricted Activity Timing Window is selected for the watercourse. This means that no in-water work may occur during those times; a spring restricted activity window means all work has to take place before or after the spring, typically March to July.

For this project, reference to drainage classification is intended to infer if a drain is classified as direct fish habitat and if sensitive habitat is present in the drain. In addition, the LIO database published by the NDMNRF was used to develop fish community assemblages and thermal regimes.

Table 4-1: Summary of DFO Drain Classification Types

Class	Flow	Restricted Activity Timing Window[1]	Species	Time Since Last Cleanout[2]	Authorization	[Present in PSA]
A	Permanent	Fall or Combination Spring/Fall	No sensitive fish species present	Not applicable	Class A	0
B	Permanent	Spring	Sensitive fish species present	Less than 10 years	Class B	0
C	Permanent	Spring	No sensitive fish species present	Not applicable	Class C	2
D	Permanent	Fall or Combination Spring/Fall	Sensitive fish species present	Not applicable	Site Specific	2
E	Permanent	Spring	Sensitive fish species present	Not applicable	Class E	3
F	Intermittent	Periods of Flow[4]	Not Applicable	Not applicable	None[3] – if work cannot be done when drain is dry, frozen, or there is no flow	1
Unrated (NR)	Unknown	Unknown	Unknown	Unknown	Class Authorization or Site Specific[6]	21

Source: DFO (2017)

1. *Restricted activity timing windows vary by geographic location and fish species present.*
2. *Time since last cleanout is no longer collected as part of the Drain Classification Project as per a decision made by the Drainage Action Working Group (DAWG) in 2010. No new Class B drains will be assigned and any existing Class B drains will not change classification unless new data becomes available to support the reclassification.*
3. *If work was to occur during a period of flow (e.g., spring), a site specific review will be required.*
4. *Flow is defined as the movement of water between two points.*
5. *For details, see Appendix 10 – Sensitive Fish Species List.*
6. *If there is data on flow and fish species for the drain, a Class Authorization may be issued; otherwise, a site-specific review will be required.*

4.3.1.3 Aquatic Species at Risk

Panhandle Loop - Aquatic SAR

According to the DFO Online Aquatic SAR Mapping Tool (2022), nine watercourses within the PSA have been identified as providing habitat for aquatic SAR, including critical habitat as per the Species at Risk Act (SARA). Species listed as Special Concern under Schedule 1 of SARA receive management initiatives under SARA but do not receive individual or habitat protection. Additionally, species listed as Special Concern under the ESA are not provided species or habitat protection under the provincial legislation. All the Threatened and Endangered species within the PSA receive protection under both the provincial ESA and federal SARA.

This section focuses on watercourses that contain provincially or federally listed SAR. While all of the water crossings within the Panhandle Loop and Leamington Interconnect have the potential to contain fish habitat, the additional concerns around SAR warrant the extra detail and focus of this section. Fish community sampling and fish/mussel habitat assessment will be completed at the proposed watercourse crossings in 2022. If any additional aquatic SAR are found during the 2022 field sampling, additional correspondence with agencies will be required.

If a watercourse containing provincially or federally listed SAR will be affected by the project (e.g., open-cutting SAR Habitat for the pipeline installation), additional correspondence with regulators will be required. The DFO could require a *Fisheries Act* Authorization, which requires offsetting activities such as constructing compensation habitat to offset for any habitat harmfully altered, disturbed, or destroyed (HADD). In addition to DFO consultation, the MECP would need to be contacted for advisement of requirements under the ESA. Potential permitting requirements could either come as mitigation advice that would support avoidance of contravention of the ESA, a notification of activity or a permit.

The following watercourses have been identified to contain or potentially contain aquatic SAR:

Jacks Creek Drain (PSC28)

Jack's Creek Drain is categorized as a municipal Class D drain meaning it is permanent, has a fall or fall and spring restriction window, and contains sensitive fish. The drain was categorized in 2019 as containing Lake Chubsucker (*Erimyzon sucetta* – Endangered (END) under SARA, Threatened (THR) under *Endangered Species Act* (ESA)) and the recently down-listed Special Concern Mapleleaf mussel (*Quadrula quadrula* – Special Concern (SC) under SARA and ESA). The drain flows North-West for 2.5 km from the crossing before it meets another drain, merges, and then flows into Lake St. Clair. The following fish community is known as Jacks Creek from the LIO dataset (MNDMNRF, 2022). Jacks Creek provides habitat to an assemblage of 28 warmwater and coolwater fish species (**Table 4-2**) several species of mussels and is characterized overall as having a warmwater thermal regime.

Unnamed Agricultural Drains (PSC25, PSC24, PSC23) & Myers Pump Works Drain (PSC21)

These four watercourses are unrated by the DFO with respect to drainage classification. There is no publicly available information about these drains regarding their flow regimes, thermal regimes, or fish communities. However, these drains are mapped by DFO (2022) as containing either Mapleleaf, Lake Chubsucker, or in Myers' case, both.

Thames River (PSC19)

The Thames River watershed runs through agricultural lands in southwestern Ontario and drains to Lake St. Clair. The river is 273 km long and drains 5,285 square kilometres (km^2) of land, making it the second-largest watershed in southwestern Ontario (UTRCA, 2017). Before its confluence with Lake St. Clair, numerous agricultural drains flow into the Thames River. LIO data indicates that the Thames River is a warmwater watercourse that supports a fish community assemblage of warmwater and coolwater species) (MNDMNRF, 2022). The Thames River is classified as a Class E drain, meaning it has a permanent flow regime and provides fish habitat for sensitive fish species. There are 66 species within the Thames River, of which 17 are SAR. The complete list of species and SAR is available in **Table 4-2.**

Jeannettes Creek (PSC14)

Jeannettes Creek flows roughly parallel to the south of the Thames River through agricultural land in southern Ontario. The proposed watercourse crossing of Jeanettes Creek is located approximately 2 km upstream from its confluence with the Thames River. Several sections of the watercourse appear to have been aligned historically, and the creek becomes markedly wider after crossing under County Road 7 and receiving inputs from two agricultural drains. Jeannettes Creek is categorized as Class E, meaning it has a permanent flow regime, is direct fish habitat, and has sensitive fish species present. Jeannettes Creek contains 17 species, of which two are SAR species: Spotted Sucker (*Minytrema melanops* – SC under SARA and ESA) and Silver Lamprey (*Ichthyomyzon unicuspis* – SC under SARA and ESA).

Table 4-2: Species at Risk Fish Communities within the Panhandle Loop

Common Name	Scientific Name	SARA	ESA	Thermal Regime	Jacks Creek Drain (PSC28)	PSC25	PSC24	PSC23	Myers Pump Works Drain (PSC21)	Thames River (PSC19)	Jeannettes Creek (PSC14)	Baptiste Creek (PSC11)
Black Bullhead	*Ameiurus melas*	-	-	warmwater	x	-	-	-	-	-	x	-
Black Crappie	*Pomoxis nigromaculatus*	-	-	coolwater	x	-	-	-	-	-	-	x
Black Redhorse	*Moxostoma duquesnei*	THR	THR	-	-	-	-	-	-	x	-	-
Blackchin Shiner	*Notropis heterodon*	NAR	NAR	coolwater	-	-	-	-	-	x	-	-
Blackside Darter	*Percina maculata*	-	-	coolwater	-	-	-	-	-	x	x	-
Bluegill	*Lepomis macrochirus*	-	-	warmwater	x	-	-	-	-	x	-	x
Bluntnose Minnow	*Pimephales notatus*	NAR	NAR	warmwater	-	-	-	-	-	x	x	-
Bowfin	*Amia calva*	-	-	warmwater	x	-	-	-	-	-	-	-
Brook Silverside	*Labidesthes sicculus*	NAR	NAR	warmwater	x	-	-	-	-	-	-	-
Brook Stickleback	*Culaea inconstans*	-	-	coolwater	-	-	-	-	-	x	-	-
Brown Bullhead	*Ameiurus nebulosus*	-	-	warmwater	x	-	-	-	-	-	-	-
Central Mudminnow	*Umbra limi*	-	-	coolwater	-	-	-	-	-	x	-	-
Central Stoneroller	*Campostoma anomalum*	NAR	NAR	coolwater	-	-	-	-	-	x	-	-
Channel Catfish	*Ictalurus punctatus*	-	-	warmwater	x	-	-	-	-	x	-	-
Common Carp	*Cyprinus carpio*	-	-	warmwater	x	-	-	-	-	x	x	-
Common Shiner	*Luxilus cornutus*	-	-	coolwater	-	-	-	-	-	x	-	-
Creek Chub	*Semotilus atromaculatus*	-	-	coolwater	-	-	-	-	-	x	x	-
Eastern Sand Darter	*Ammocrypta pellucida*	THR	THR	-	-	-	-	-	-	x	-	-
Emerald Shiner	*Notropis atherinoides*	-	-	coolwater	x	-	-	-	-	x	-	-
Fallfish	*Semotilus corporalis*	-	-	coolwater	-	-	-	-	-	x	-	-
Fantail Darter	*Etheostoma flabellare*	-	-	coolwater	-	-	-	-	-	x	-	-
Freshwater Drum	*Aplodinotus grunniens*	-	-	warmwater	x	-	-	-	-	x	-	-
Gizzard Shad	*Dorosoma cepedianum*	-	-	coolwater	x	-	-	-	-	x	x	x
Golden Redhorse	*Moxostoma erythrurum*	NAR	NAR	warmwater	-	-	-	-	-	x	-	-
Gravel Chub	*Erimystax x-punctatus*	EXP	EXP	-	-	-	-	-	-	x	-	-
Green Sunfish	*Lepomis cyanellus*	NAR	NAR	warmwater	x	-	-	-	-	x	x	-
Greenside Darter	*Etheostoma blennioides*	NAR	NAR	warmwater	-	-	-	-	-	x	-	-
Hornyhead Chub	*Nocomis biguttatus*	NAR	NAR	coolwater	-	-	-	-	-	x	-	-
Iowa Darter	*Etheostoma exile*	-	-	coolwater	-	-	-	-	-	x	-	-
Johnny Darter	*Etheostoma nigrum*	-	-	coolwater	-	-	-	-	-	x	x	-
Lake Chubsucker	*Erimyzon sucetta*	END	THR	warmwater	x	-	x	x	x	x	-	-
Lake Whitefish	*Coregonus clupeaformis*	DD	-	coldwater	x	-	-	-	-	-	-	-
Largemouth Bass	*Micropterus salmoides*	-	-	warmwater	x	-	-	-	-	x	x	x
Logperch	*Percina caprodes*	-	-	warmwater	x	-	-	-	-	x	-	-
Longnose Dace	*Rhinichthys cataractae*	-	-	coolwater	-	-	-	-	-	x	-	-
Longnose Gar	*Lepisosteus osseus*	-	-	warmwater	x	-	-	-	-	-	-	-
Mimic Shiner	*Notropis volucellus*	-	-	warmwater	-	-	-	-	-	x	-	x
Mooneye	*Hiodon tergisus*	-	-	coolwater	-	-	-	-	-	x	-	-
Mottled Sculpin	*Cottus bairdii*	-	-	coolwater	-	-	-	-	-	x	-	-
Muskellunge (muskie)	*Esox masquinongy*	-	-	warmwater	-	-	-	-	-	x	-	-
Northern Hog Sucker	*Hypentelium nigricans*	-	-	warmwater	-	-	-	-	-	x	-	-
Northern Madtom	*Noturus stigmosus*	END	END	-	-	-	-	-	-	x	-	-
Northern Pike	*Esox lucius*	-	-	coolwater	x	-	-	-	-	-	x	-

Common Name	Scientific Name	SARA	ESA	Thermal Regime	Jacks Creek Drain (PSC28)	PSC25	PSC24	PSC23	Myers Pump Works Drain (PSC21)	Thames River (PSC19)	Jeannettes Creek (PSC14)	Baptiste Creek (PSC11)
Northern Sunfish	*Lepomis peltastes*	SC	SC	-	-	-	-	-	-	x	-	-
Pugnose Minnow	*Opsopoeodus emiliae*	THR	THR	-	-	-	-	-	-	x	-	-
Pumpkinseed	*Lepomis gibbosus*	-	-	warmwater	x	-	-	-	-	x	x	x
Quillback	*Carpiodes cyprinus*	-	-	coolwater	x	-	-	-	-	x	-	-
Rainbow Darter	*Etheostoma caeruleum*	-	-	coolwater	-	-	-	-	-	x	-	-
Redfin Shiner	*Lythrurus umbratilis*	NAR	NAR	-	-	-	-	-	-	-	x	-
River Chub	*Nocomis micropogon*	NAR	NAR	coolwater	-	-	-	-	-	x	-	-
River Redhorse	*Moxostoma carinatum*	SC	SC	-	-	-	-	-	-	x	-	-
Rock Bass	*Ambloplites rupestris*	-	-	coolwater	x	-	-	-	-	x	-	-
Rosyface Shiner	*Notropis rubellus*	NAR	NAR	warmwater	-	-	-	-	-	x	-	-
Sand Shiner	*Notropis stramineus*	-	-	warmwater	x	-	-	-	-	-	-	-
Shorthead Redhorse	*Moxostoma macrolepidotum*	-	-	warmwater	-	-	-	-	-	x	-	-
Silver Lamprey	*Ichthyomyzon unicuspis*	SC	SC	-	-	-	-	-	-	x	x	-
Silver Redhorse	*Moxostoma anisurum*	-	-	coolwater	-	-	-	-	-	x	-	-
Smallmouth Bass	*Micropterus dolomieu*	-	-	coolwater	-	-	-	-	-	x	-	-
Silver Chub	*Macrhybopsis storeriana*	END	THR	-	-	-	-	-	-	x	-	-
Silver Shiner	*Notropis photogenis*	THR	THR	-	-	-	-	-	-	x	-	-
Spotfin Shiner	*Cyprinella spiloptera*	-	-	warmwater	-	-	-	-	-	x	x	-
Spottail Shiner	*Notropis hudsonius*	-	-	coolwater	x	-	-	-	-	x	-	-
Spotted Sucker	*Minytrema melanops*	SC	SC	-	-	-	-	-	-	x	x	x
Stonecat	*Noturus flavus*	-	-	warmwater	-	-	-	-	-	x	-	-
Walleye	*Stizostedion vitreum*	-	-	coolwater	x	-	-	-	-	x	-	-
White Bass	*Morone chrysops*	-	-	warmwater	x	-	-	-	-	x	-	x
White Crappie	*Pomoxis annularis*	-	-	warmwater	x	-	-	-	-	x	-	x
White Perch	*Morone americana*	-	-	warmwater	x	-	-	-	-	x	-	-
White Sucker	*Catostomus commersonii*	-	-	coolwater	x	-	-	-	-	x	x	-
Yellow Bullhead	*Ameiurus natalis*	-	-	warmwater	-	-	-	-	-	x	x	-
Yellow Perch	*Perca flavescens*	-	-	coolwater	-	-	-	-	-	x	-	-
Freshwater Mussels												
Fawnsfoot	*Truncilla donaciformis*	END	END	-	-	-	-	-	-	x	-	-
Hickorynut	*Obovaria olivaria*	END	END	-	-	-	-	-	-	x	-	-
Lilliput	*Toxolasma parvum*	END	THR	-	-	-	-	-	-	-	-	x
Mapleleaf	*Quadrula quadrula*	SC	SC	N/A	x	x	-	-	x	x	-	-
Round Hickornut	*Obovaria subrotunda*	END	END	-	-	-	-	-	-	x	-	-
Threehorn Wartyback	*Obliquaria reflexa*	THR	THR	-	-	-	-	-	-	x	-	-

Source: DFO (2022), NDMNRF LIO (2022)

Notes: END – Endangered
THR – Threatened
SC – Special Concern
NAR – Not at Risk
DD – Data Deficient
Blank – Not assessed

Unnamed Agricultural Drain & Olds Drain (PSC13, PSC12)

Olds Drain is an unclassified drain that flows north before meeting the unclassified and unnamed agricultural drain that flows to Baptiste Creek and Jeannettes Creek. No fish community or thermal data are available; however, both drains are mapped for SAR. Mapleleaf and Lake Chubsucker were identified in the unnamed drain (SC9) and Spotted Sucker and Silver Lamprey in Olds Drain (SC24).

Baptiste Creek (PSC11)

Baptiste Creek generally flows west before turning north to join the Thames River. Baptiste Creek flows for approximately 12 km before the proposed watercourse crossing and then another 3.8 km to its confluence with Tilbury Creek. It then continues another 1.5 km to the Thames River. Several sections of the creek appear to have been re-aligned. While Baptiste Creek does not have a drain classification, it is a permanently flowing watercourse that provides fish habitat for sensitive fish species which would generate a Class C characterization. Background information indicates that Baptiste Creek provides habitat for nine species of fish, including the Spotted Sucker, Mapleleaf, and Lilliput (*Toxolasma parvum* – END under SARA, THR under ESA).

Leamington Interconnect – Aquatic SAR

According to DFO's aquatic SAR mapping (DFO, 2022), there are no records of aquatic SAR within the watercourses crossed by the Leamington Interconnect. Fish community sampling and fish/mussel habitat assessment will be completed at the proposed watercourse crossings in 2022. If any aquatic SAR are found during the 2022 field sampling additional correspondence with agencies will be required.

4.3.2 Designated Natural Areas and Vegetation

The project is located within the most southern ecoregion of Ontario, Ecoregion 7E (Lake Erie-Lake Ontario). It extends from Windsor and Sarnia east to the Niagara Peninsula and Toronto. Approximately 78% of the ecoregion has been converted to agricultural and developed land. The remaining natural areas consist of Carolinian forest remnants, dense deciduous, sparse deciduous and mixed deciduous forest cover (Crins et al., 2009). This ecoregion also supports the largest remnants of tall-grass prairie in the province.

The project also falls fully within ecodistrict 7E-1 (Essex). The majority of this ecodistrict has been converted to cropland and pasture. Where there is remaining forest (roughly 4% of the ecodistrict), deciduous forests are the dominant natural vegetation (Wester et al., 2018). Tree species include sugar maple (*Acer saccharum*), American beech (*Fagus grandifolia*), red oak (*Quercus rubra*), white ash (*Fraxinus americana*), pin cherry (*Prunus pensylvanica*), white oak (*Quercus alba*), American basswood (*Tilia americana*), black cherry (*Prunus serotina*), bitternut hickory (*Carya cordiformis*), trembling aspen (*Populus tremuloides*), large-toothed aspen (*Populus grandidentata*), yellow birch (*Betula alleghaniensis*), and balsam poplar (*Populus balsamifera*). Marshes are common adjacent to lakes and rivers in this ecodistrict (Wester et al., 2018).

4.3.2.1 Significant Wetlands

Wetlands are defined under the Provincial Policy Statement (PPS; MMAH, 2020) and the Ontario Wetland Evaluation System (OWES; MNRF, 2014) as follows:

> *"…lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface. In either case the presence of abundant water has caused the formation of hydric soils and has favoured the dominance of either hydrophytic plants or water tolerant plants."*

The PPS, implemented under the *Planning Act* (1990), protects Provincially Significant Wetlands (PSWs) from development and site alteration while regulations under the *Conservation Authorities Act* (1990) prohibit certain

activities within wetlands (MNRF, 2010). The PPS further specifies that a wetland is considered provincially significant if evaluated as such through the OWES (MNRF, 2014). Until categorized by NDMNRF, wetlands are classified as “unevaluated”.

4.3.2.1.1 Panhandle Loop

Based on the results of the background review using the sources outlined in **Section 4.1**, one evaluated wetland was identified within the 120 m PSA for the Panhandle Loop, the St. Clair Marsh Complex PSW, which has been evaluated as provincially significant. Two wetland units of the St. Clair Mash Complex PSW fall within the PSA. One unit is located east of the Dover Transmission Station, approximately 120 m from the Panhandle Loop. The other unit is located south of Bradley Line about 15 m from the Panhandle Loop.

4.3.2.1.2 Leamington Interconnect

No wetlands were identified within the PSA for the Leamington Interconnect.

4.3.2.2 Significant Woodlands

Significant woodlands refer to treed areas that provide environmental and economic benefits in an area that is ecologically important in terms of features such as species composition, age of trees and stand history, ecological function, and/or the amount of remaining forest cover in the general landscape (MNRF, 2010).

Significant woodlands within the Municipality of Chatham-Kent are based on Section 4.3.2 of the Official Plan (Municipality of Chatham-Kent, 2018). All woodlands 2 ha in size or larger are considered significant woodlands in Chatham-Kent (Municipality of Chatham-Kent, 2018).

Candidate significant woodlands are those woodlands greater than 0.5 ha but less than 2 ha in size and need to be evaluated for their significance through an Environmental Impact Statement (EIS) process. If a woodland is between 0.5 and 2 ha in size and meets the following criteria the woodland is significant:

a) Woodland interior: any woodland with interior habitat;

b) Proximity to other woodland or other habitats: if a portion of the woodland is located within 30 m of a significant natural feature or fish habitat likely receiving ecological benefits from a woodland;

c) Linkages: any woodland within a defined natural heritage system or that provides a connecting link between two other significant features within 120 m;

d) Water protection: any woodlands located within a sensitive or threatened watershed or within 50 m of a sensitive groundwater discharge, sensitive headwater area, watercourse of fish habitat;

e) Woodland diversity: any woodland with a natural occurring composition of native forest species that have declined significantly, and any woodland with a high native diversity through a combination of composition and terrain;

f) Uncommon characteristics: any woodland meeting the uncommon characteristics criteria in Table 7-2 of the Natural Heritage Reference Manual (MNRF, 2010). Such as, unique species composition, vegetation community with a provincial ranking below S3, habitat of a rare plant species, or characteristics of an older woodland; and

g) Economic and Social Functional Values Criteria: any woodland meeting the economic and social function values criteria in Table 7-2 of the Natural Heritage Reference Manual (MNRF, 2010) such as, high productivity, high value in species services, or important identified appreciation, education, cultural or historical value.

Significant woodlands within the Municipality of Lakeshore are outlined in Schedule B.2 of the Municipality of Lakeshore Official Plan (Municipality of Lakeshore, 2010). ERCA or LTVCA has identified these woodlands through criteria they established.

In the Town of Kingsville and Municipality of Leamington, significant woodlands are defined in the Official Plan (Town of Kingsville, 2012; Municipality of Leamington, 2010) as all woodlands 2 ha in size or larger using the criteria recommended in the Natural Heritage Reference Manual (MNRF, 2010) and as per the Essex Region Natural Heritage System Strategy (Essex Region Conservation Authority, 2013).

4.3.2.2.1 Panhandle Loop

The Panhandle Loop crosses four provincially significant woodlands, as defined in the Official Plan within the Municipality of Chatham-Kent. Two other woodlands are crossed by the Panhandle Loop, one of which is a candidate significant woodland in the Municipality of Chatham-Kent. The location of these woodlands can be found in **Figure 22.**

4.3.2.2.2 Leamington Interconnect

There are five wooded areas within 120 m of the Leamington Interconnect (**Figure 23**). Only one of those woodlands is considered a significant woodland and it is located on the opposite side of the road from the proposed pipeline location. One woodlot on County Road 8 will be crossed by the pipeline, which may result in some tree clearing. All other wood lots are likely beyond the limits of work.

4.3.2.3 Significant Valleylands

Valleylands are defined under the PPS (MMAH, 2020) as follows:

> *"…a natural area that occurs in a valley or other landform depression that has water flowing through or standing for some period of the year."*

Based on the review of existing information outlined in **Section 4.1**, no significant valleylands were identified within the PSAs.

4.3.2.4 ANSI

ANSIs are areas of land and/or water containing unique natural landscapes or features. These features have been scientifically identified as having life (biological) or earth (geological) science values related to protection, scientific study, and/or education. Life Science ANSIs are dynamic ecosystems that are representative examples of the biodiversity and natural landscapes in Ontario (e.g., forests, valleys, prairies, savannahs, alvars, and wetlands, along with their native flora/fauna and supporting environment; MNRF, 2010).

ANSIs are evaluated for significance by the NDMNRF and are classified as being provincially, regionally, or locally significant (MNRF, 2010). One ANSI was identified in the Panhandle Loop PSA, approximately 120 m away from the Dover Transmission Station, the St. Clair Marshes Life Sciences ANSI.

4.3.3 Wildlife Habitat, Wildlife, and Species at Risk

Ecoregion 7E, the Lake Erie-Lake Ontario Ecoregion has some of the most diverse fauna in Canada. A wide variety of mammal, bird, and herpetofaunal species can be found in this ecoregion. Common mammal species include white-tailed deer (*Odocoileus virginianus*), northern raccoon (*Procyon lotor*), and striped skunk (*Mephitis mephitis*) (Crins et al., 2009). Bird species typical to the Ecoregion include green heron (*Butorides virescens*), Virginia rail (*Rallus limicola*), Cooper's hawk (*Accipiter cooperii*), eastern kingbird (*Tyrannys tyrannus*), willow flycatcher (*Empidonac traillii*), brown thrasher (*Toxostoma rufum*), yellow warbler (*Setophaga petechia*), common yellowthroat (*Geothlypis trichas*), northern cardinal (*Cardinalis cardinalis*), and savannah sparrow (*Passerculus sandwichensis*).

Herpetofauna species in the ecoregion are particularly diverse, including many SAR. Species such as eastern red-backed salamander (*Plethodon cinereus*), American toad (*Anaxyrus americanus*), and eastern gartersnake (*Thamnophis sirtalis sirtalis*) are common (Crins et al., 2009).

4.3.3.1 Significant Wildlife Habitat

Wildlife habitat is defined under the PPS (MMAH, 2020) as follows:

> *"…areas where plants, animals and other organisms live, and find adequate amounts of food, water, shelter and space needed to sustain their populations. Specific wildlife habitats of concern may include areas where species concentrate at a vulnerable point in their annual or life cycle; and areas which are important to migratory or nonmigratory species."*

The PPS further specifies that wildlife habitat is considered significant as follows:

> *"…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. Criteria for determining significance are recommended by the Province, but municipal approaches that achieve or exceed the same objective may also be used."*

As the PSAs fall within the Lake Erie – Lake Ontario Ecoregion 7E, the criteria for determining significant wildlife habitat (SWH) are outlined in the Significant Wildlife Technical Guide (MNRF, 2000) and the Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E (MNRF, 2015). SWH includes habitat for Species of Conservation Concern (SOCC). SOCC includes species designated as Special Concern (MNRF, 2015) under the ESA, which are not afforded species or habitat protection under the Act.

In addition to Special Concern species, SOCC includes flora and fauna provincially ranked by the NHIC as extremely rare in Ontario (S1), very rare in Ontario (S2) or rare to uncommon in Ontario (S3). SOCC are also considered species listed under Schedule 1 of the federal SARA. Several Ontario natural heritage databases exist that can be accessed to conduct a screening for existing SOCC records in a given area. The resources outlined in **Section 4.1** above were reviewed to identify SOCC within the vicinity of the PSAs. A total of 26 SOCC were identified for the PSAs and are presented in **Table 4-3.**

In addition to the several SOCC herptile species identified through the records review, several additional reptile and amphibian species are likely to occur along the Panhandle Loop and Leamington Interconnect, such as American toad, Eastern Gartersnake, Western chorus frog etc. It is important to note that although these species are not afforded protection under the provincial ESA, effects to these species need to be considered as their habitat may be designated as significant, such as amphibian breeding habitat or snake hibernacula.

A colonial waterbird nesting area was confirmed through the background review within the Lake St. Clair Marshes PSW. Project works will be located over 120 m from this feature.

Considering the number of non-SOCC birds and herptile species likely to occur within and/or in the vicinity of the Panhandle Loop and Leamington Interconnect there is some potential for the presence of SWH including, but not limited to the following: waterfowl stopover and staging areas, colonially-nesting bird breeding habitat, waterfowl nesting areas, woodland raptor nesting habitat, amphibian breeding habitat, turtle nesting habitat and/or reptile hibernacula. The anticipated effects on these species are likely limited as the majority of the PSAs are composed of agricultural fields with natural areas largely limited to hedgerows or narrow strips of woodlots and riparian areas of agricultural drains. Additionally, both pipelines parallel or follow existing infrastructure (roads, existing pipeline easements), limiting new effects to undisturbed lands. Ecological land classification surveys, and targeted surveys for SAR such as habitat assessments will further refine areas of suitable SWH. Mitigation measures will be employed to limit effects to these candidate features.

Table 4-3: Species of Conservation Concern with records in the vicinity of the PSAs

Common Name	Scientaific Name	Taxonomic Group	S-Rank[1]	SARA Schedule 1 Status[2]	ESA Status[3]	PSA[4]	Data Source[5]
Bald eagle	*Haliaeetus leucocephalus*	Bird	S4	NAR	SC	P	NHIC
Black tern	*Chilidonia niger*	Bird	S3B, S4M	NAR	SC	P	OBBA, NHIC
Common nighthawk	*Chordeiles minor*	Bird	S4B	THR	SC	L	OBBA
Dickcissel	*Spiza americana*	Bird	S2M	N/A	N/A	L	OBBA
Eastern wood-pewee	*Contopus virens*	Bird	S4B	SC	SC	L, P	OBBA
Purple martin	*Progne subis*	Bird	S3B	N/A	N/A	L, P	OBBA
Short-eared owl	*Asio flammeus*	Bird	S4?B, S2S3N	SC	SC	P	NHIC
Wood thrush	*Hylocichla mustelina*	Bird	S4B	THR	SC	L, P	OBBA
American lotus	*Nelumbo lutea*	Insect	S2S3	N/A	N/A	P	NHIC
Duke's skipper	*Euphyes dukesi*	Insect	S2	N/A	N/A	L, P	OBA
Monarch	*Danaus plexippus*	Insect	S2N, S4B	SC	SC	L, P	OBA
Short-winged green grasshopper	*Dichromopha viridis*	Insect	S2	_	_	P	NHIC
Midland painted turtle	*Chrysemys picta marginata*	Reptile	S4	SC	N/A	L, P	NHIC, ORAA
Northern map turtle	*Graptemys geographica*	Reptile	S3	SC	SC	P	NHIC, ORAA
Snapping turtle	*Chelydra serpentina*	Reptile	S3	SC	SC	P	NHIC, ORAA
Climbing prairie rose	*Rosa setigera*	Vascular Plant	S2S3	SC	SC	L	NHIC
Crowned beggarticks	*Bidens trichosperma*	Vascular Plant	S2	_	_	P	NHIC
Cup plant	*Silphium perfoliatum*	Vascular Plant	S2	_	_	P	NHIC
Field thistle	*Cirsium arvense*	Vascular Plant	S3	_	_	P	NHIC
Giant ironweed	*Vernonia gigantea*	Vascular Plant	S1?	_	_	P	NHIC
Grey-headed prairie coneflower	*Ratibida pinnata*	Vascular Plant	S3	_	_	P	NHIC
Mead's sedge	*Carex meadii*	Vascular Plant	S2	_	_	P	NHIC
Shellback Hickory	*Carya laciniosa*	Vascular Plant	S3	_	_	L	NHIC
Swamp rose-mallow	*Hibiscus moscheutos*	Vascular Plant	S3	SC	SC	P	NHIC
Walter's barnyard grass	*Echinochloa walteri*	Vascular Plant	S3	_	_	P	NHIC
Wingstem	*Verbesina alternifolia*	Vascular Plant	S3	_	_	P	NHIC

Notes:

[1] S-rank: *The natural heritage provincial ranking system (provincial S-rank) is used by the MNRF Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. The following status definitions were taken from NatureServe Explorer's (2020) National and Subnational Conservation Status Definitions available at https://explorer.natureserve.org/AboutTheData/Statuses:*

- *SX - Presumed Extirpated—Species or community is believed to be extirpated from the province. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.*
- *SH - Possibly Extirpated (Historical)—Species or community occurred historically in the province, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20-40 years. A species or community could become SH without such a 20-40-year delay if the only known occurrences in a province were destroyed or if it had been extensively and unsuccessfully looked for.*
- *S1 - Critically Imperiled—Critically imperiled in the province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the province.*
- *S2-Imperiled—Imperiled in the province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the province.*
- *S3 - Vulnerable—Vulnerable in the province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.*
- *S4 - Apparently Secure—Uncommon but not rare; some cause for long-term concern due to declines or other factors.*
- *S5 - Secure—Common, widespread, and abundant in the nation or state/province.*
- *SNR - Unranked—Province conservation status not yet assessed.*
- *SU - Unrankable—Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.*
- *SNA - Not Applicable—A conservation status rank is not applicable because the species is not a suitable target for conservation activities.*
- *S#S# - Range Rank—A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g., SU is used rather than S1S4).*

[2]COSEWIC Status: *The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) provides the Canadian government with advice regarding wildlife species that are nationally at risk of extinction or extirpation. Species assessed and designated at risk by COSEWIC may qualify for legal protection and recovery under the SARA. The following are categories of at risk:*

- *EXT (Extirpated) – A species that no longer exists in the wild in Canada but exists elsewhere.*
- *END (Endangered) – A species facing imminent extirpation or extinction in Canada.*
- *THR (Threatened) – A species that is likely to become an endangered through all or a large portion of its Canadian range if limiting factors are not reversed.*
- *SC (Special Concern) – A species that may become threatened or endangered due to a combination of biological characteristics and identified threats.*
- *NAR (Not at Risk) – A species that has been evaluated and found to be not at risk.*

[3]*ESA Status:* *The Endangered Species Act, 2007 (ESA) protects species listed as Threatened and Endangered on the Species at Risk in Ontario (SARO) List on provincial and private land. The Minister lists species on the SARO list based on recommendations from the Committee on the Status of Species at Risk in Ontario (COSSARO), which evaluates the conservation status of species occurring in Ontario. The following are the categories of at risk:*

END (Endangered) – A species facing imminent extinction or extirpation in Ontario.

THR (Threatened) – Any native species that, on the basis of the best available scientific evidence, is at risk of becoming endangered throughout all or a large portion of its Ontario range if the limiting factors are not reversed.

SC (Special Concern) – A species that may become threatened or endangered due to a combination of biological characteristics and identified threats.

NAR (Not at Risk) – A species that has been evaluated and found to be not at risk.

[4] *PSA:* *L: Leamington Interconnect*
P: Panhandle Loop

[5] *Data Source:* *NHIC: Record obtained from MNRF's Make-a-Map: Natural Heritage Areas Application (2022).*
OBBA: Record obtained from the OBBA (BSC et al., 2006)
ORAA: Record obtained from the ORAA (Ontario Nature, 2022).
OBA: Record obtained from the OBA (Macnaughton et al., 2022).

4.3.3.2 Species at Risk

Under the ESA species listed as Threatened, Endangered or Extirpated receive individual species and habitat protection. These species are referred to as SAR. Under the ESA, species are listed as Endangered or Threatened if they fulfill the following criteria:

> *"…A species shall be listed as an Endangered species if it lives in the wild in Ontario but is facing imminent extinction or extirpation…"*
>
> "…A species shall be classified as a Threatened species if it lives in the wild in Ontario, is not endangered, but is likely to become endangered if steps are not taken to address factors threatening to lead to its extinction or extirpation…"

A review of SAR records identified the potential for 22 SAR within the vicinity of the PSAs, which are outlined in **Table 4-4.**

Table 4-4: Species at Risk with records within the vicinity of the PSAs

Common Name	Scientific Name	Family	S-Rank[1]	SARA Schedule 1 Status[2]	ESA Status[3]	PSA[4]	Data Source[5]
Bank Swallow	*Riparia riparia*	Bird	S4B	THR	THR	P, L	OBBA
Barn Owl	*Tyto alba*	Bird	S1	END	END	P	OBBA
Barn Swallow	*Hirundo rustica*	Bird	S4B	THR	THR	P, L	NHIC, OBBA
Bobolink	*Dolichonyx oryzivorus*	Bird	S4B	THR	THR	P, L	NHIC, OBBA
Chimney Swift	*Chaetura pelagica*	Bird	S3B	THR	THR	P, L	OBBA
Eastern Meadowlark	*Sturnella magna*	Bird	S4B, S3N	THR	THR	P, L	NHIC, OBBA
Henslow's Sparrow	*Centronyx henslowii*	Bird	S1B	END	END	P	NHIC
King Rail	*Rallus elegans*	Bird	S1B	END	END	P	NHIC, OBBA
Least Bittern	*Ixobrychus exilis*	Bird	S4B	THR	THR	P	NHIC, OBBA
Prothonotary Warbler	*Protonotaria citrea*	Bird	S1B	END	END	P	NHIC, OBBA
Eastern Small-footed Myotis	*Myotis leibii*	Mammal	S2S3	N/A	END	P, L	BCI
Little Brown Myotis	*Myotis lucifugus*	Mammal	S3	END	END	P, L	BCI
Northern Myotis	*Myotis septentrionalis*	Mammal	S3	END	END	P, L	BCI, MECP
Tri-colored Bat	*Perimyotis subflavus*	Mammal	S3?	END	END	P, L	BCI
Dense Blazing Star	*Liatris spicata*	Plant	S2	THR	THR	P, L	NHIC
Blanding's Turtle (Great Lakes / St. Lawrence population)	*Emydidea blandingii*	Reptile	S3	END	THR	P	NHIC, ORAA
Common Five-lined Skink (Five-lined Skink; Carolinian population)	*Plestiodon fasciatus*	Reptile	S2	END	END	P	NHIC, ORAA
Eastern Foxsnake (Carolinian population)	*Pantherophis gloydi*	Reptile	S2	END	END	P	ORAA
Massasauga (Carolinian Population)	*Sistrurus catenatus*	Reptile	S1	END	END	P	ORAA

Common Name	Scientific Name	Family	S-Rank[1]	SARA Schedule 1 Status[2]	ESA Status[3]	PSA[4]	Data Source[5]
Queensnake	*Regina septemvittata*	Reptile	S2	END	END	P	ORAA
Spiny Softshell	*Apalone spinifera*	Reptile	S2	END	END	P	NHIC
Timber Rattlesnake	*Crotalus horridus*	Reptile	SX	EXP	EXP	P	NHIC

[1]S-rank: As noted in Table 4-3
[2]COSEWIC Status: As noted in the footnote to Table 4-3
[3]ESA Status: As noted in the footnote in Table 4-3
[4] PSA: L: Leamington Interconnect
P: Panhandle Loop
[5] Data Source: NHIC: Record obtained from MNRF's Make-a-Map: Natural Heritage Areas Application (2022).
OBBA: Record obtained from the OBBA (BSC et al., 2006)
ORAA: Record obtained from the ORAA (Ontario Nature, 2022).
OBA: Record obtained from the OBA (Macnaughton et al., 2022).
BCI: Record obtained from Bat Conservation International (BCI)
MECP: Record obtained from MECP range mapping.

A SAR screening exercise was conducted utilizing background information and the results of preliminary field investigations noted above to determine whether SAR habitat exists within the PSAs. The following describes the results of the SAR screening exercise; a table with the details of the SAR screening is provided in **Appendix D**. The following SAR were identified as potentially being present where suitable habitat exists within the PSAs.

To assess the potential effects of the project on the identified SAR species AECOM will conduct ecological land classification, botanical inventories, and bat acoustic monitoring surveys in Spring/Summer of 2022. Where suitable SAR habitat or SAR species are identified, additional consultation with MECP will be required, and if necessary, a permit under the ESA will be obtained.

Bank Swallow (THR)

Bank Swallows (*Riparia riparia)* nest in burrows in natural and human-made settings with vertical faces in silt and sand deposits. Many nests are on banks of rivers and lakes, but they are also found in active sand and gravel pits or former ones where the banks remain suitable (MECP, 2022a). The Bank Swallow is found all across southern Ontario, with sparser populations scattered across northern Ontario. The largest populations are found along the Lake Erie and Lake Ontario shorelines, and the Saugeen River (which flows into Lake Huron) (MECP, 2022a).

During the desktop review, bank swallow records were identified within the 120 m PSA for both the Panhandle Loop and the Leamington Interconnect. Candidate nesting habitat is present along the banks of watercourses and constructed drains. Field investigations in 2022 will identify suitable nesting habitat.

Barn Owl (END)

The Barn Owl (*Tyto alba*) cannot tolerate severe winter temperatures, and southern Ontario is the northern limit of its range. Breeding sites in Ontario seem restricted to areas with the moderating effects of the Great Lakes (within 50 km of the lakes) (MECP, 2022b). In southern Ontario, this adaptable owl nests and roost in barns and abandoned buildings. It may also use natural cavities in trees or holes in cliff faces, as it did before the arrival of Europeans in North America. It lives year-round at its nest site and hunts for rodents over orchards, and grasslands such as farmlands, fallow fields, and meadows (MECP, 2022b).

Barn Owl was identified as occurring within the Panhandle Loop PSA during the desktop review. Buildings or hollowed out trees present within the PSA may provide candidate nesting habitat for the species (Ontario Barn Owl Recovery Team, 2010). Barn owls also utilize open areas, including agricultural fields for foraging (Ontario Barn Owl Recovery Team, 2010).

Barn Swallow (THR)

Barn Swallows (*Hirundo rustica*) often live-in close association with humans, building their cup-shaped mud nests almost exclusively on human-made structures such as open barns, under bridges and in culverts. The species is attracted to open structures that include ledges where they can build their nests, which are often re-used from year to year. They prefer unpainted, rough-cut wood, since the mud does not adhere as well (MECP, 2022c). The Barn Swallow may be found throughout southern Ontario and can range as far north as Hudson Bay, wherever suitable locations for nests exist (MECP, 2022c).

During the desktop review, barn swallow was identified as potentially occurring in the Panhandle Loop and Leamington Interconnect PSA. Culverts, buildings (i.e., barns) and bridges may provide suitable nesting habitat. These structures are not expected to be affected through the proposed scope of work.

Bat SAR (END)

In the spring and summer, eastern small-footed myotis (*Myotis leibii*) will roost in a variety of habitats, including in or under rocks, in rock outcrops, in buildings, under bridges, or in caves, mines, or hollow trees. These bats often change their roosting locations every day. At night, they hunt for insects to eat, including beetles, mosquitos, moths, and flies. In the winter, these bats hibernate, most often in caves and abandoned mines. They seem to choose colder and drier sites than similar bats and will return to the same spot each year (MECP, 2022q). The eastern small-footed bat has been found from south of Georgian Bay to Lake Erie and east to the Pembroke area. There are also records from the Bruce Peninsula, the Espanola area, and Lake Superior Provincial Park. Most documented sightings are of bats in their winter hibernation sites (MECP, 2022q).

Bats are nocturnal. During the day they roost in trees and buildings. They often select attics, abandoned buildings and barns for summer colonies where they can raise their young. Bats can squeeze through very tiny spaces (as small as six millimetres across) and this is how they access many roosting areas. Little brown myotisc (*Myotis lucifugus*) hibernate from October or November to March or April, most often in caves or abandoned mines that are humid and remain above freezing (MECP, 2022bb). The little brown myotis is widespread in southern Ontario and found as far north as Moose Factory and Favourable Lake. Outside Ontario, this bat is found across Canada (except in Nunavut) and most of the United States (MECP, 2022bb).

Northern myotis (*Myotis septentrionalis*) are associated with boreal forests, choosing to roost under loose bark and in the cavities of trees. These bats hibernate from October or November to March or April, most often in caves or abandoned mines (MECP, 2022 ff). The myotis is found throughout forested areas in southern Ontario, to the north shore of Lake Superior and occasionally as far north as Moosonee, and west to Lake Nipigon. This bat is found in all Canadian provinces as well as the Yukon and Northwest Territories (MECP, 2022ff).

During the summer, the Tri-colored Bat (*Perimyotis subflavus*) is found in a variety of forested habitats. It forms day roosts and maternity colonies in older forest and occasionally in barns or other structures. They forage over water and along streams in the forest. Tri-colored Bats eat flying insects and spiders gleaned from webs. At the end of the summer, they travel to a location where they swarm; it is generally near the cave or underground location where they will overwinter. They overwinter in caves where they typically roost by themselves rather than part of a group (MECP, 2022pp). This bat is found in southern Ontario and as far north as Espanola near Sudbury. Because it is very rare, it has a scattered distribution. It is also found from eastern North America down to Central America (MECP, 2022pp).

Candidate roosting habitat for bat SAR in the form of anthropogenic structures (i.e., buildings and barns), was identified during the background review within each PSA. Additionally, candidate wooded habitat was identified in the Leamington Interconnect PSA. Effects to buildings are not anticipated as part of the proposed scope of work.

Blanding's Turtle (THR) and Spiny Softshell (END)

Blanding's Turtles (*Emydoidea blandingi*) live in shallow water, usually in large wetlands and shallow lakes with lots of water plants. It is not unusual, though, to find them hundreds of metres from the nearest water body, especially while they are searching for a mate or travelling to a nesting site. Blanding's Turtles hibernate in the mud at the bottom of permanent water bodies from late October until the end of April (MECP, 2022e).

Spiny softshells are highly aquatic turtles that rarely travel far from water. They are found primarily in rivers and lakes but also in creeks and even ditches and ponds near rivers. Key habitat requirements are open sand or gravel nesting areas, shallow muddy or sandy areas to bury in, deep pools for hibernation, areas for basking, and suitable habitat for crayfish and other food species. These habitat features may be distributed over an extensive area, as long as the intervening habitat doesn't prevent the turtles from travelling between them (MECP, 2022nn). In Canada, the Spiny softshell is found only in Quebec and southwestern Ontario in the Lake St. Clair, Lake Erie, and western Lake Ontario watersheds. The majority of Spiny softshells in Ontario are found in the Thames and Sydenham rivers and at two sites in Lake Erie. The size of the home range of this turtle depends on the availability of habitat features such as nesting and hibernation sites. Some turtles travel up to 30 kilometres in a year from one part of their home range to another (MECP, 2022nn).

Blanding's turtle and spiny softshell were identified as occurring in the Panhandle Loop PSA during the desktop review. The St. Clair Marsh PSW, Thames River, Baptiste Creek and Jeannettes Creek, as well as their associated riparian habitats, provide candidate habitat for both species of turtle. These species are considered highly aquatic species with spiny softshell typically being associated with larger bodies of water including rivers (MECP, 2022nn) and Blanding's turtle typically being associated with shallower, eutrophic bodies of water and adjacent wetland areas with emergent vegetation (MECP, 2022e).

Bobolink (THR) and Eastern Meadowlark (THR)

Historically, Bobolink (*Dolichonyx oryzivorus)* lived in North American tallgrass prairie and other open meadows. With the clearing of native prairies, Bobolinks moved to living in hayfields. Bobolinks often build their small nests on the ground in dense grasses. Both parents usually tend to their young, sometimes with a third Bobolink helping (MECP, 2022g). In Ontario, the Bobolink is widely distributed throughout most of the province south of the boreal forest, although it may be found in the north where suitable habitat exists (MECP, 2022g).

Eastern Meadowlarks (*Sturnella magna*) breed primarily in moderately tall grasslands, such as pastures and hayfields, but are also found in alfalfa fields, weedy borders of croplands, roadsides, orchards, airports, shrubby overgrown fields, or other open areas. Small trees, shrubs or fence posts are used as elevated song perches (MECP, 2022o). In Ontario, the Eastern Meadowlark is primarily found south of the Canadian Shield, but it also inhabits the Lake Nipissing, Timiskaming, and Lake of the Woods areas (MECP, 2022o).

Bobolink and eastern meadowlark were identified as occurring in each PSA during the desktop review. These species prefer to nest in native grasslands of at least 5 ha in size (McCracken et al., 2013). This habitat type is becoming increasingly rare in Ontario and as such, both species now can be found utilizing agricultural hayfields and pastures as nesting habitat (McCracken et al., 2013). Agricultural fields dominate each PSA. It is anticipated that the agricultural fields within the PSAs are actively farmed and mostly comprised of row crops. However, it is possible that hayfields may be present. No suitable grasslands were identified during the background review.

Chimney Swift (THR)

Before European settlement Chimney Swifts (*Chaetura pelagica*) mainly nested on cave walls in hollow trees or tree cavities in old growth forests. Today, they are more likely to be found in and around urban settlements where they nest and roost (rest or sleep) in chimneys and other manmade structures. They also tend to stay close to water as this is where the flying insects, they eat congregate (MECP, 2022j). In Ontario, it is most widely distributed

in the Carolinian zone in the south and southwest of the province. It winters in northwestern South America (MECP, 2022j).

Records for Chimney swift were identified as occurring in each PSA during the desktop review. Buildings located within each PSA provide candidate nesting habitat for this species.

Eastern Foxsnake (END)

Eastern Foxsnakes (*Pantherophis gloydi*) in the Carolinian population are usually found in old fields, marshes, along hedgerows, drainage canals and shorelines. Females lay their eggs in rotting logs, manure, or compost piles, which naturally incubate the eggs until they hatch (MECP, 2022n). During the winter, Eastern Foxsnakes hibernate in groups in deep cracks in the bedrock and in some man-made structures. Ontario contains 70 per cent of their range in two distinct populations: the Carolinian population in southwestern Ontario and the eastern Georgian Bay Population (MECP, 2022n).

Eastern Foxsnake was identified as occurring within each PSA during the desktop review. The eastern Foxsnake is typically associated with unforested habitats and requires suitable sites for hibernation, foraging, thermoregulation, oviposition, and natural linkages between these sites (Eastern Foxsnake Recovery Team, 2010). While studies have shown that eastern Foxsnake within the Carolinian population have a strong avoidance of agricultural fields, extensive habitat loss in the last century has led to the species utilizing anthropogenically modified habitats including semi-maintained fields greater than 15 m in width along drainage ditches, creeks, roads and railway tracks (Eastern Foxsnake Recovery Team, 2010). Each PSA are largely dominated by agricultural lands and suitable habitat is restricted to riparian areas associated with watercourse and constructed drains.

King Rail (END) and Least Bittern (THR)

King Rails (*Rallus elegans*) are found in densely vegetated freshwater marshes with open shallow water that merges with shrubby areas. They are sometimes found in smaller isolated marshes, but most seem to prefer larger, coastal wetlands. Its nest is a dinner-plate sized platform made of plant material, placed just above the water in shrubs or clumps of other marsh plants (MECP, 2022w). King Rails reach their northern limit in southern Ontario, where they are quite rare. Recent province-wide surveys suggest there are only about 30 pairs left, the majority of which are in the large wetlands bordering Lake St. Clair. Most of the remainder are found in several key coastal marshes along Lakes Erie and Ontario (MECP, 2022w).

In Ontario, the Least Bittern (*Ixobrychus exilis*) is found in a variety of wetland habitats, but strongly prefers cattail marshes with a mix of open pools and channels. This bird builds its nest above the marsh water in stands of dense vegetation, hidden among the cattails. The nests are almost always built near open water, which is needed for foraging. This species eats mostly frogs, small fish, and aquatic insects (MECP, 2022y). In Ontario, the Least Bittern is mostly found south of the Canadian Shield, especially in the central and eastern part of the province. Small numbers also breed occasionally in northwest Ontario. This species has disappeared from much of its former range, especially in southwestern Ontario, where wetland loss has been most severe (MECP, 2022y).

King rail and least bittern were identified as potentially occurring with the Panhandle Loop PSA during the desktop review. While strips of marsh and wetlands present along the banks of the Thames River, Jeannettes Creek and Baptiste Creek may provide candidate nesting habitat, it is likely considered to be marginal as both birds are known to prefer larger wetlands for nesting. King rails prefer larger marshes or wetlands with a lower percentage of shrub cover (Kraus, 2016) and least bittern have been found to have an affinity to larger marsh communities dominated by cattails that contain a network of open pools and channels for hunting and stable water levels during the nesting season (COSEWIC, 2011). Given the habitat requirements for each species, it is likely that the records of each species are associated with the St. Clair Marsh Complex PSW situated at the northern end of the Panhandle Loop PSA. The St Clair Marsh Complex PSW contains larger areas of marsh habitat with open channels and pools. This feature is not expected to be affected by the proposed scope of work.

Queensnake (THR)

The Queensnake (*Regina septemvittata*) is an aquatic species that is seldom found more than a few metres from the water. It prefers rivers, streams and lakes with clear water, rocky or gravel bottoms, lots of places to hide, and an abundance of crayfish. Queensnakes will often hibernate in groups with other snakes, amphibians and even crayfish. Suitable hibernation sites (called hibernacula) include abutments of old bridges and crevices in bedrock (MECP, 2022jj). In Ontario, the Queensnake is found only in the southwest in Middlesex, Brant, Huron and Essex counties, and on the Bruce Peninsula. There are fewer than 25 sites where it is known to occur in these areas. The extremely specialized habitat requirements of the Queensnake restrict this species to particular areas, with large gaps of unfavourable habitat in between populations. The snake's home range is quite small, making Queensnakes less likely to move into new areas or areas where it was historically found (MECP, 2022jj).

Queensnake was identified as occurring within the Panhandle Loop PSA during the desktop review. The records are located at the most northern reach of the Panhandle Loop PSA around the St. Clair Marsh PSW, Thames River, Baptiste Creek and Jeannettes Creek. These waterbodies and their associated riparian habitats may provide candidate habitat for this species. Queensnake is a highly aquatic snake species that prefers rock or gravel bottomed streams of rivers and is typically found within 5 m of a shoreline (Gillingwater, 2011).

4.4 Socio-Economic Environment

4.4.1 Indigenous Interest

As outlined in **Section 3.3**, there are no Indigenous communities located within the PSAs. Ontario's legal duty is to consult with Indigenous peoples regarding projects or decisions that may adversely impact constitutionally protected Indigenous or treaty rights. Indigenous communities that should be consulted were identified through the provision of a Letter of Delegation from the Ministry of Energy in August 2021 (see **Appendix B1**).

The closest Indigenous community to the PSAs is the Caldwell First Nation, located within the Municipality of Leamington. Caldwell First Nation is located approximately 11.4 km south of the eastern limit of the Leamington Interconnect PSA.

4.4.2 Demographics

The population and density breakdown of the project area as per Statistics Canada 2021 Census of Population data is presented in **Table 4-5** below.

Table 4-5: Population and Density, 2021

Location	Total Population	Land Area (km²)	Population Density per km²	Percent Change from 2016
Ontario	14,223,942	892,411.7	15.9	5.8
Essex County	422,860	1,844.2	229.3	6.0
Municipality of Chatham-Kent	103,988	2,451.9	42.4	2.3
Municipality of Lakeshore	40,410	529	76.4	10.4
Municipality of Leamington	29,680	261.2	113.6	7.6
Town of Kingsville	22,119	246	89.9	2.6

Source: Statistics Canada, 2022 (a) (b) (c) (d) (e) (f)

Essex County and the Municipality of Chatham-Kent have a small population relative to the province of Ontario. The people of the municipalities of Lakeshore and Leamington account for 9.5% and 7% of the population of Essex County, respectively, while the Town of Kingsville represents 5%. Over half (54.3%) of the population in Essex

County resides in the City of Windsor, which was 229,660 people in 2021. Nearly half (43.4%) of the population in the Municipality of Chatham-Kent reside in the population centre of Chatham, which had 45,171 people in 2021 (Statistics Canada, 2022 (a) (b) (c) (d) (e) (f)). The project area is not densely populated and reflects a rural environment.

All municipalities, the Town of Kingsville, and Essex County saw an increase in population from 2016 to 2021. The population change in Essex County, the Municipality of Lakeshore and the Municipality of Leamington overall was greater than the broader province of Ontario. In comparison, the population change in the Municipality of Chatham-Kent and the Town of Kingsville was lower.

Information regarding the demographics of the population is presented in **Table 4-6**. When preparing this ER, the 2021 census data for gender, age, Indigenous Peoples, employment, etc., was not yet released. Therefore, all data values in the following sections use the Statistics Canada 2016 Census data.

Table 4-6: Gender, Age, and Indigenous Peoples, 2016

Location	Male[1]	Female[1]	Median Age	Population Identifying as Indigenous[2]
Ontario	6,559,390	6,889,105	41.3	374,395
Essex County	196,255	202,695	42.4	9,870
Municipality of Chatham-Kent	49,540	52,110	45.9	3,680
Municipality of Lakeshore	18,405	18,205	41.9	1,030
Municipality of Leamington	13,780	13,815	41.3	455
Town of Kingsville	10,900	10,650	44.1	400

Notes: *1. Numbers are rounded by Statistics Canada and are reported herein exactly as Statistics Canada reports them. Totals may not necessarily add up as a result of rounding.*

2. Aboriginal identity' includes persons who are First Nations, 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), including the Indian, Inuit, and Métis peoples of Canada.

Source: Statistics Canada, 2017 (a) (b) (c) (d) (e) (f)

More individuals identified as female than male in Essex County, the Municipality of Chatham-Kent, and the Municipality of Leamington, which is consistent with the province of Ontario. Fewer individuals identified as female than male in the Municipality of Lakeshore and the Town of Kingsville. The median age is lower in the Municipality of Lakeshore and the Municipality Leamington relative to Essex County. In comparison, the median age in the Municipality of Chatham-Kent and the Town of Kingsville is higher than the other jurisdictions in the project area and higher than the broader province of Ontario.

Approximately 4.6% of the Essex County Indigenous population were reported to reside in the Municipality of Leamington. At the same time, the Town of Kingsville reported approximately 4.1% of Essex County Indigenous population. The number of Indigenous people is larger in the Municipality of Lakeshore (approximately 10.4% of Essex County Indigenous population). The number of Indigenous people in the Municipality of Chatham-Kent and Essex County comprises roughly 1% and 2.6% of Indigenous people in Ontario, respectively.

4.4.3 Employment

The most recent economy and employment statistics are provided in the 2016 Census of Population (Statistics Canada, 2017 (a) (b) (c) (d) (e) (f)). **Table 4-7** summarizes the labour force, the unemployment and employment rate and the participation rate of the jurisdictions within the project area.

Table 4-7: Labour Characteristics for Persons >15 Years, 2016

Location	Total Population 15 Years and Over	Labour Force	Employed	Participation Rate (%)	Employment Rate (%)	Unemployment Rate (%)
Ontario	11,038,440	7,141,675	6,612,150	64.7	59.9	7.4
Essex County	324,330	195,090	180,800	60.2	55.7	7.3
Municipality of Chatham-Kent	82,760	49,785	46,040	60.2	55.6	7.5
Municipality of Lakeshore	29,380	19,585	18,675	66.7	63.6	4.6
Municipality of Leamington	20,980	12,360	11,615	58.9	55.4	6.0
Town of Kingsville	16,675	10,630	10,070	63.7	60.4	5.2

Source: Statistics Canada, 2017 (a) (b) (c) (d) (e) (f)

As shown in **Table 4-7** in 2016 overall, Essex County, the Municipality of Chatham-Kent and the Municipality of Leamington had lower participation and employment rates compared to the rates of the province of Ontario. However, only the Municipality of Chatham-Kent had a higher unemployment rate than the rate of the province. The Town of Kingsville had a lower participation rate and unemployment rate but a higher employment rate when compared to the province of Ontario. In addition, the Municipality of Lakeshore had higher participation and employment rates and lower unemployment rates when compared to the province and project area jurisdictions.

The median income for households and individuals is presented in **Table 4-8**.

Table 4-8: Median Income, 2015

Location	Median Total Income of Households ($)	Median Total Income of Individuals ($)
Ontario	74,287	33,539
Essex County	66,658	33,040
Municipality of Chatham-Kent	58,264	30,923
Municipality of Lakeshore	97,064	42,817
Municipality of Leamington	62,313	29,900
Town of Kingsville	77,429	36,396

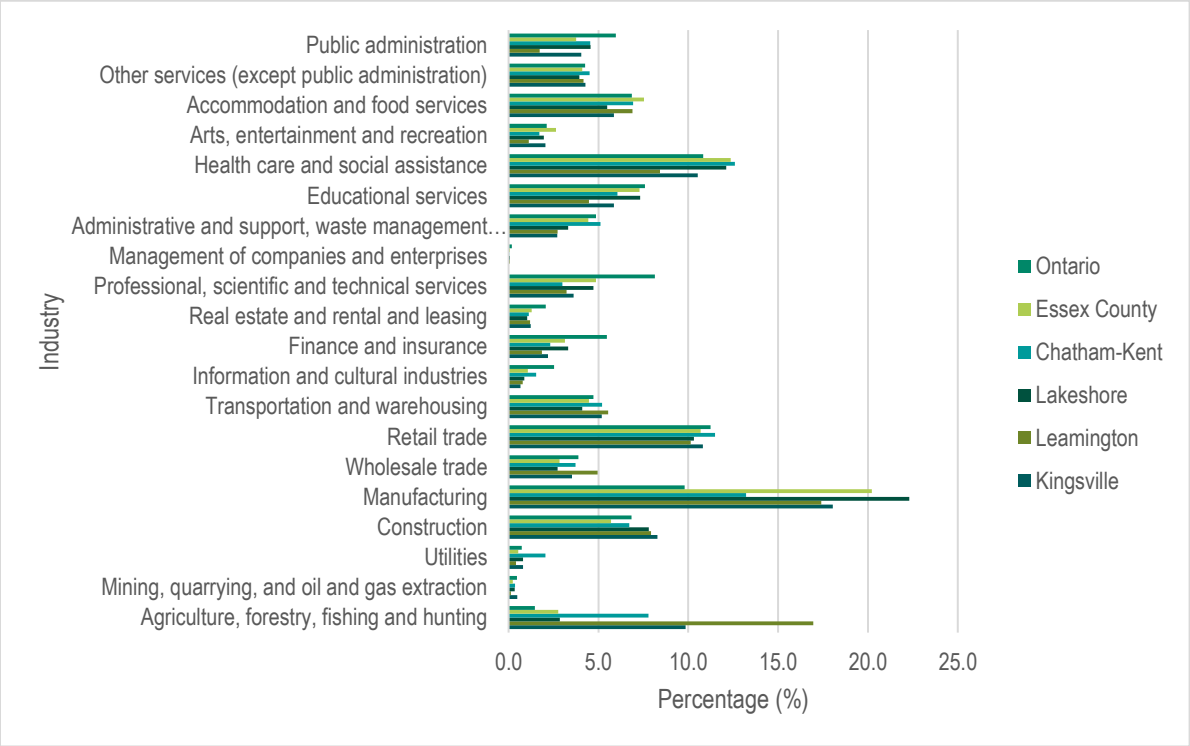
Source: Statistics Canada, 2017 (a) (b) (c) (d) (e) (f)

The median income of households in Essex County and the Municipality of Chatham-Kent overall was less than the provincial median by $7,629 and $16,023, respectively. The Municipality of Lakeshore had the highest median household and individual income relative to the other project area jurisdictions and the province of Ontario, while the Municipality of Leamington had the lowest median individual outcome.

The top three occupation classifications in Essex County, the Municipality of Chatham-Kent and the Municipality of Lakeshore included sales and service occupations (ranging from 18.7%-24.1%), trades, transport and equipment operators and related occupations (15.7%-19.5%) and business, finance, and administrative occupations (12.2%-13.3%). These are the same top three occupation classifications in Ontario overall as well. In contrast, the top three occupation classifications in the Municipality of Leamington included sales and service occupations (21.1%), trades, transport and equipment operators and related occupations (20.1%), and occupations in manufacturing and utilities (12.6%) (Statistics Canada, 2017 (a) (b) (c) (d) (e) (f)).

Chart 1 further illustrates the proportion of employment by industry sector for the jurisdictions within the project area and compares them to the wider province of Ontario.

Chart 1: Proportion of Employment by Industry Sector (Statistics Canada, 2017 (a) (b) (c) (d) (e) (f))



4.4.4 Community Services and Infrastructure

Permanent and Temporary Accommodations

In 2016, there were 9,995 occupied private dwellings in the Municipality of Leamington. Most homes were single-detached houses (6,560), and the average household size was 2.6 persons. The majority of occupants were owners and not renters (69%) (Statistics Canada, 2017e).

In the Town of Kingsville, there were 7,970 occupied private dwellings, with the majority being single-detached houses (6,750), and the average household size was 2.5 persons. The majority of occupants were owners and not renters (84.5%) (Statistic Canada, 2019f).

In the Municipality of Lakeshore, there were 13,185 occupied private dwellings, the majority were also single-detached houses (12,130), and the average household size was 2.8 persons. Most occupants were owners and not renters (90.9%) (Statistics Canada, 2017d).

In the Municipality of Chatham-Kent and Essex County, there were 43,030 and 159,055 occupied private dwellings, the majority of which were single-detached houses (32,970 and 111,145), and the average household size was 2.3 and 2.5 persons, respectively. Most occupants in the Municipality of Chatham-Kent and Essex County were owners and not renters (72.2% and 72.8%, respectively) (Statistics Canada, 2017b and c).

The Municipalities of Leamington, Lakeshore, Chatham-Kent, Town of Kingsville, and Essex County are all in Provincial Tourism Region 1 (Southwest Ontario) (MHSTCI, 2022). In 2020, the hotel occupancy rate (temporary accommodations) in Region 1 was 37.3%, a decrease from 62% in 2019 (MHSTCI, 2021). The decline in occupancy rate, travel and tourism in Ontario has been dramatically influenced by the COVID-19 pandemic (MHSTCI, 2021). Before this, occupancy rates in Region 1 were steady and exponentially rising since 2012 (MHSTCI, 2021). In 2020, there were 400 temporary accommodation establishments within the Provincial Tourism

Region 1. The majority of the establishments were hotels (including motor hotels, motels, and resorts), totalling 197 (49.3%). There were also 84 RV parks (21%), 50 camps (including hunting and fishing and recreational vacation camps; 12.5%) and 27 bed and breakfasts (6.8%). The remaining accommodation types included housekeeping cottages/cabins and other traveller accommodations (MHSTCI, 2021).

Temporary accommodations within and adjacent to the PSAs are limited to small bed and breakfasts. There are campgrounds to the north and south along Lake Erie and Lake St. Clair. The closest hotels are located in Leamington, approximately 13 km south of the Leamington Interconnect PSA.

Municipal Services and Infrastructure

Chatham-Kent Public Utilities Commission supplies a safe drinking water source to the customers in Chatham-Kent and some customers in the Municipality of Lakeshore (those in the Tilbury-Wheatley Water Service Area). Chatham-Kent's water system draws water from both surface and groundwater and is treated before it is distributed (Chatham-Kent, 2021).

The Municipality of Leamington and portions of the Municipality of Lakeshore receive potable water from the Union Water Supply System, which serves approximately 65,000 residents within Essex County, the Town of Kingsville, and the municipalities of Lakeshore and Leamington. The system is supplied with water from Lake Erie and is operated by the Ontario Clean Water Agency, who provides the operational services required to maintain the system and comply with regulatory legislation (Union Water Supply System, 2021).

The rest of the Municipality of Lakeshore (Lakeshore Water Service Area and Stoney Point Water Service Area) receives their potable water from the Municipality of Lakeshore. The John George Water Treatment Plant supplies the Lakeshore Water Service area, and the water source comes from Lake St. Clair. The Stoney Point Water Service Area also receives its water supply from Lake St. Clair and includes two in-ground reservoirs and booster pumping stations (Municipality of Lakeshore, 2021).

Health and Education Services and Infrastructure

The PSAs are serviced by the Chatham-Kent Health Unit and the Windsor-Essex County Health Unit. There are three hospitals within the general area of the project, which includes Chatham-Kent Health Alliance in Chatham, Erie Shores HealthCare in Leamington, and Windsor Regional Hospital (two campuses) in Windsor.

There are three elementary schools and one high school located in the small community of Tilbury, adjacent to the Panhandle Loop PSA (Saint Joseph Catholic School, Saint Francis Elementary Catholic School, Tilbury Public School and Tilbury District High School).

Roads, Highways, and Culverts

The Infrastructure Services department of Essex County is responsible for managing the Essex County road system, including 1,503 km of roadway across seven local municipalities. Essex County owns and maintains most arterial roads, while local municipalities maintain local roads (County of Essex, n.d.). In addition, the Public Works Department of the Municipality of Chatham-Kent is responsible for managing the municipal road system within their jurisdiction. The municipal road system includes approximately 1,500 km of asphalt surface roads, 200 km of Bituminous Surface Treated roads, 1,700 gravel roads and 850 bridges that have a span greater than 3 metres (Municipality of Chatham-Kent, 2021).

The province of Ontario owns and maintains Highway 3, Highway 77, Highway 40, and Highway 401 (County of Essex, n.d.; Municipality of Chatham-Kent, 2021).

Policing, Fore and Emergency Response Services

The Municipality of Lakeshore, Municipality of Leamington and the Town of Kingsville have contracted their police services with the Ontario Provincial Police. There are no detachments in the PSAs; the nearest detachments are in Leamington, Kingsville, Belle River (Lakeshore) and Chatham, Ontario (OPP, n.d.). The Municipality of Chatham-Kent uses its police force, Chatham-Kent Police Service, within its jurisdiction.

The Municipality of Chatham-Kent, Municipality of Lakeshore, Municipality of Leamington, and Town of Kingsville all operate their fire own departments. There are no fire stations in the PSAs, but Fire Stations are located in Tilbury, Comber, Ruscom Station, and Leamington.

Medavie Health Services provide land Ambulance services for all residents of Chatham-Kent. Essex-Windsor Emergency Medical Services provide land Ambulance services for all residents of Essex County, the Municipality of Lakeshore, the Municipality of Leamington, and the Town of Kingsville.

4.4.5 Culture, Tourism and Recreational Facilities

The PSAs are rural and mainly consist of rural residential properties and agricultural operations. There is a ‘County Wide Active Transportation System’ in Essex County that includes paved roadway shoulders, trails, or greenways for pedestrians to use for active transportation. In addition, the Tilbury Golf Club and St. Clair National Wildlife Area reside within close proximity to the Panhandle Loop PSA. The Trans Canada Trail falls within the Leamington Interconnect PSA on the eastern limit of the PSA. Major parks, community centers, arenas, etc., can be found within the community of Tilbury; however, the Panhandle Loop or the Leamington Interconnect PSA do not affect any of these amenities. The PSA for the Panhandle Loop and Leamington Interconnect also contain watercourses, which offer opportunities for fishing.

4.4.6 Air Quality and Noise

The PSAs are rural in nature and contain mostly agricultural land, open space, and natural heritage features. Agricultural operations and local traffic contribute to air emission concentrations through vehicle use while the currently low traffic volumes in the PSAs represent a minimal source of noise. Other minor noise sources within the PSAs include occasional sounds due to anthropogenic agricultural activities and occasional sounds due to domestic activities such as property maintenance and recreation.

According to the Environmental Noise Guideline (MOECC, 2013), the landscape within the PSAs would likely be categorized as a Class 3 area. Class 3 is “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 Panhandle Loop PSA are in proximity to the small community of Tilbury. Tilbury would likely be categorized as a Class 2 area. A Class 2 area is “an area with an acoustical environment that has qualities representing both Class 1 and Class 3 areas.” Acoustical environments in a Class 2 area are dominated by the activities of people, usually road traffic during the day and evening and night background sound defined by the natural environment and infrequent human activity.

4.4.7 Land Use

The Leamington Interconnect PSA is in the Municipality of Leamington, Municipality of Lakeshore, and the Town of Kingsville, all situated in Essex County. The Panhandle PSA is in the Municipality of Chatham-Kent. The Panhandle Loop and Leamington Interconnect are proposed to be constructed looping existing pipeline infrastructure (Panhandle Loop) or adjacent to or within existing road allowances on public or private property (Leamington Interconnect).

According to the Official Plan for Essex County (Essex County, 2014) and the Official Plan for the Municipality of Chatham-Kent (Chatham-Kent, 2018), the PSAs are exclusively designated as Agricultural. In addition, the Panhandle Loop and Leamington Interconnect do not intersect any areas designated as significant terrestrial features or provincially significant wetlands in Essex County (Essex County, 2014) or the Municipality of Chatham-Kent (Chatham-Kent, 2018).

4.4.8 Landfills and Contaminated Sites

Landfills

The MECP's map of large landfills in Ontario (MECP, 2021) was reviewed to identify any landfill/waste disposal sites within the PSAs. No large landfill sites were identified within the PSAs.

A review of MECP's list of small landfill sites (MECP, 2022z) indicated that there are 12 small landfill sites in the Municipality of Chatham-Kent (all with a 'closed' status), two sites in the Municipality of Lakeshore (all with a 'closed' status), one site in the Town of Kingsville ('open' status), and zero in the Municipality of Leamington. It is unknown if there are any small landfill sites within the PSAs because the street address of the sites is unavailable. Additionally, it is currently unknown whether any of the 'open' small landfill sites identified will receive contaminated soils.

Contaminated Sites

A Record of Site Condition (RSC) summarizes the environmental condition of a property based on the completion of environmental site assessments (MECP, 2021). Environmental site assessments help identify any contaminants or potentially contaminating activity on a property compared to the applicable Site Condition Standards (SCS). In preparation for the Panhandle Regional Expansion Project work, AECOM reviewed the MECP's Environmental Site Registry to determine whether any RSCs have been filed in the area of the proposed work during the periods of October 1, 2004, and June 30, 2011 (MECP 2018a) and since July 1, 2011 (MECP, 2018b). No RSCs were identified within the PSAs.

AECOM also reviewed the Federal Contaminated Sites Inventory (Treasury Board of Canada Secretariat, n.d.) and no federal contaminated sites were identified within the PSAs.

4.4.9 Archaeological Resources

A Stage 1 AA has been completed for the PSAs (**Appendix E**).

Based on a review of the PSAs historical, environmental, and archaeological context, it has been determined that the potential for the recovery of pre-and post-contact Indigenous and 19th-century Euro-Canadian archaeological resources within the PSAs is high. The potential is high based on the presence of two registered pre-contact archaeological sites within 1 km of the PSAs, the proximity to the Thames River and Lake St. Clair, the favourable soil texture and drainage for agriculture, glacial geomorphology and elevated topography, and areas of early Euro-Canadian settlement and early transportation routes. The PSAs possesses several environmental characteristics that would have made this area attractive to pre-contact Indigenous populations, including the once diverse forest life and well-drained, cultivable soils. The potential for Euro-Canadian archaeological resources is also judged to be high based on the early settlement of the Kent and Essex Counties and the City of Tilbury by Euro-Canadian pioneers and evidence of early urban development. The Malott Cemetery is a pioneer cemetery located directly adjacent to the Panhandle Loop PSA.

Overall, the Stage 1 AA determined that most of the PSAs retains potential for identifying pre-and post-contact Indigenous and 19th-century Euro-Canadian resources (see **Figure 24** and **Figure 25**).

4.4.10 Cultural Heritage Resources

The Cultural Heritage Assessment Report: Existing Conditions and Preliminary Impact Assessment has been drafted for the Panhandle Loop and the Leamington Interconnect PSAs. The OEB *Environmental Guidelines* (2016) checklist has also been completed for the Panhandle Loop and the Leamington Interconnect PSA (**Appendix F**). The checklist identifies protected, and potential built heritage resources and cultural heritage landscapes of cultural heritage value or interest (CHVI) and makes recommendations for future work.

In addition to the Checklist, the MHSTCI, Ontario Heritage Trust (OHT), and the Municipality of Lakeshore were consulted since there was no online municipal heritage register for that municipality. As a result of the consultation, no protected heritage properties or heritage interests were identified. At the provincial level, Karla Barboza, Team Lead, Heritage, with MHSTCI, confirmed no provincial heritage properties or properties designated by the Minister within or adjacent to the PSAs. Krystal Power, Natural Heritage Coordinator/Planner for OHT, confirmed no OHT conservation easements or Trust-owned properties within or adjacent to the PSAs. No response has been received from the Municipality of Lakeshore.

After the completion of background research and a review of historical maps, a field review for the Panhandle Loop and Leamington Interconnect segments was completed on February 4, 2022, by an AECOM Cultural Heritage Specialist. The purpose of the field review was to document the area's current character and identify potential built heritage resources and cultural heritage landscapes that may still be extant as pinpointed during the review of the historical maps.

Based on the field review, resources representing three of the indicators of CHVI according to Section 4.3.4 of the OEB *Environmental Guidelines* (2016) were identified. Therefore, three resources with cultural heritage value or interest were identified adjacent to the Panhandle Loop: one potential built heritage resource and two potential cultural heritage landscapes (**Figure 26**):

- Built Heritage Resource (BHR) 1: 23696 Dashwheel Road, a farmhouse
- Cultural Heritage Landscape (CHL) 1: Malott Cemetery, maintained by the Municipality of Chatham-Kent (3049 Gray Line)
- CHL 2: Thames River, Canadian Heritage River

No protected or potential resources are identified within or adjacent to the Leamington Interconnect (**Figure 27**).

5. Effects Identification, Assessment and Mitigation

5.1 Methodology

The potential effects of the project on the physical, biophysical, and socio-economic features have been assessed in accordance with the *Environmental Guidelines* (2016).

The determination of effects and mitigation measures considered:

- Comments received through the consultation program;
- The information available from published and unpublished sources;
- Maps and digital data;
- Mitigation guidance documents; and
- The pipeline development experience of Enbridge Gas and AECOM.

In a number of cases site-specific field surveys and investigations are recommended before construction. The findings of these field studies are not anticipated to change the conclusions regarding potential adverse residual effects. Given the location of the project and the experience of AECOM in providing environmental services for natural gas pipelines, these additional studies will likely only confirm locations where mitigation measures or permitting will be required. Consultation will continue throughout the project development and construction. Additional mitigation measures may be identified prior to construction or through permitting activities.

5.2 Project Activities

5.2.1 Construction

Construction of the project is anticipated to be complete in Fall of 2023 (Panhandle Loop) and Fall 2024 (Leamington Interconnect). The pipeline construction process generally followed by Enbridge Gas includes the following activities:

1. **Site Preparation**
    a. Survey and staking crews will delineate project boundaries and install safety fencing, where required.
    b. The first activity typically prepares the construction area by installing environmental (silt fencing) and safety fencing (orange construction fence) at the required locations. Aspects of any traffic management plans, such as the installation of signage and the establishment of alternative vehicle/pedestrian access, are also implemented at this time.
    c. A pre-construction crew typically prepares the site by removing trees and shrubs as required from construction areas prior to the breeding bird nesting period (April 1 - August 31) with the intent of limiting the clearing as much as feasible. Tree and shrub removal typically occurs during the winter of the year of construction to avoid the breeding bird nesting period.
    d. A grading crew prepares the construction area for access by construction equipment. Topsoil is stripped and separated from the subsoil.
2. **Installing the new pipeline**
    a. The trench is excavated with the use of a hoe excavator. Laneway and driveway access is maintained as requested and where feasible.
    b. Pipe is laid on wooden skids on the working side of the construction zone adjacent to the area to be trenched.

c. Various segments of the pipe are welded together and lowered into the trench.
d. The installed pipeline and trench are backfilled with suitable material.
e. Road crossings will be completed by temporarily closing the road or through trenchless installation methods (e.g., Horizontal Directional Drilling (HDD), Boring). Watercourse crossings will be completed using trenchless installations methods or Dam and Pump Open Cut. Trenchless pipeline installation will be considered where feasible and appropriate.

3. **Finishing construction**

a. The pipeline is hydrostatically tested with surface water from nearby sources or water trucked to the site from approved suppliers. Once hydrostatic testing has been completed the water is drained to a suitable area and according to permitting requirements, the pipeline is dried, purged of air and then filled with natural gas.
b. Re-establishment of pre-construction conditions, including clean-up and repairs to roads, driveways, fences; replacement of topsoil, disposal of debris; and seeding of disturbed areas, ditch banks and drainage feature crossings. Landscaping plans may also be developed for site restoration if necessary.
c. Post-construction monitoring to ensure mitigation measures have been successful, including additional mitigation measures as necessary to correct any issues.

5.2.2 Operation and Maintenance

The Panhandle Loop is planned to be in service by 2023 and the Leamington Interconnect by 2024. Once the project components have been put into service, the following maintenance activities are undertaken:

- Regularly scheduled surveys and/or air surveillance are conducted to determine the presence of soil erosion and third-party structures or activities that could damage the pipeline.
- Protective systems will be maintained to prevent and mitigate corrosion along the pipeline.
- The stations and valves will be inspected and maintained regularly.
- Inline inspections of the pipeline and wells will be completed to ensure continued safe and reliable operation.

5.3 Potential Effects

The sections and tables below note the potential effects, mitigation measures, and net effects for the existing conditions as described in **Section 4.** A summary table of potential effects, mitigation measures and net effects can be found in **Appendix G**. In addition, mitigation photomosaics for both the Panhandle Loop and Leamington Interconnect can be found in **Appendix H**.

5.3.1 Physical Features

5.3.1.1 Geological Resources

Potential Effects

The anticipated excavation depth is typically 1.2 mbgs with greater depths potentially required at water crossings or roadways. Given the depth to bedrock recorded in WWRs range from 15.8 mbgs to 36 mbgs no interaction with bedrock is anticipated.

No potential effects from seismic activity are anticipated due to the low likelihood of significant seismic activity in the PSAs.

Mitigation Measures

There are no mitigation measures required for potential effects on geological resources and no net effects to bedrock are anticipated.

5.3.1.2 Groundwater Resources

Potential Effects

Potential effects on groundwater resources during construction and operation of the project include:

- Changes in groundwater quantity and groundwater flow patterns; and
- Changes in groundwater quality.

Excavations below the water table may be required for portions of the proposed pipeline alignment, particularly in areas where fine-textured surficial sediments occur at surface. In these areas, groundwater dewatering may be required to facilitate construction under dry working conditions. Construction dewatering has the potential to change groundwater quantity. Where dewatering occurs, local water table elevations may be temporarily lowered during construction. These effects are confined to the Zone of Influence (ZOI) that is formed from dewatering activities and are typically temporary in nature. Water wells located within the dewatering ZOI, where groundwater levels have been lowered to facilitate construction, have the potential to be affected temporarily by lower well yields and/or changes in water quality. A reduction in well yield and/or water quality may result in the temporary inability to use the well as a potable water source.

General construction activities such as vehicle and machinery operation and use of drilling fluids have the potential to change groundwater quality through minor contaminant releases. Spills consisting of materials that constitute a contaminant may affect groundwater and will therefore have to be managed.

- Potential effects associated with hydrostatic testing and dewatering include:
  - Where construction trenches encounter shallow groundwater conditions or when significant precipitation enters the trench dewatering may be necessary. During trench dewatering, discharge water may be released to the environment. An uncontrolled discharge of water could cause downstream flooding, erosion, sedimentation, or contamination.
  - 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.
- Potential effects to private water wells:
  - There are approximately 34 private water wells within the PSAs. These are spread across the Leamington Interconnect proposed route with a few clustered at the north end of the Panhandle Loop proposed Route. Depending on the proximity to wells, the depth of the well installation and the groundwater levels encountered during excavation, trench dewatering may affect water well quality or quantity at some of the overburden supply wells.
- Potential effects to municipal drinking water:
  - Ontario Source water mapping indicates there are no Wellhead Protection Areas (WPHA's) identified in the PSAs. The municipal drinking water intakes use surface water from Lake Erie and Lake St. Clair, which are at a distance from the PSAs.

Mitigation Measures

Table 5-1 identifies potential effects, proposed mitigation measures and net effects on groundwater resources that might occur during the construction and operation of the project.

Table 5-1: Potential Effects, Proposed Mitigation, and Net Effects on Groundwater Resources

Potential Effect	Proposed Mitigation Measures	Net Effects
■ Changes in groundwater quantity and groundwater flow patterns; and ■ Changes in groundwater quality	**Hydrostatic Testing and Dewatering** ■ Retain an independent hydrogeologist to assess the potential for construction to affect groundwater quantity and identify the need for a well monitoring program during construction. Prior to construction, Enbridge will obtain appropriate dewatering permits, and establish a water well monitoring plan/protocol, if necessary. ■ For groundwater dewatering, permit requirements vary dependent upon the rate of withdrawal required. For construction dewatering projects where groundwater takings will be greater than 50,000 L/day and less than 400,000 L/day registration on EASR is required. However, if anticipated groundwater takings exceed 400,000 L/day (per excavation), a Category 3 PTTW is required from the MECP. ■ If more than 50,000 L/d of surface water is used as the source water for the hydrostatic test, a PTTW application would be required. The application would include an assessment of the capacity of the source to provide the required volume and rate of water without effecting the ecosystem. The application would also include recommendations for mitigation measures. ■ Discharge locations used either during dewatering activities or during hydrostatic testing should be established using best practices to reduce the potential for erosion and scouring. ■ During discharge activities regular monitoring should occur to confirm that no erosion or flooding occurs and to confirm that the water quality meets the applicable standard. ■ Limit duration of dewatering to as short a time frame as possible. ■ Discharge piping should be properly secured and free of leaks. To reduce the likelihood of erosion at discharge locations minimizing velocities, discharging into a filter bag or diffuser, and utilizing protective riprap or equivalent to dissipate water energy can be utilized. If energy dissipation measures are found to be inadequate, the rate of dewatering should be reduced or dewatering discontinued until satisfactory mitigation measures are in place. ■ Direct dewatering discharge to affected watercourse, waterbody and/or wetland following appropriate water quality and temperature control measures. Discharge of water must comply with relevant regulations (i.e., MECP, Conservation Authority, NDMNRF, DFO, municipal, etc.), and as specified in any/all required discharge authorizations. ■ Any application for a PTTW or an EASR registration will include an assessment of the potential for introduction of contaminated water to soils or bodies of water and testing of hydrostatic and trench dewatering discharge water should be considered. The specific testing requirements can be influenced by the nature and quality of the source water used, the test process, the nature of the pipeline, and pipeline contents. A qualified environmental professional should be consulted to determine what testing is necessary for the discharge water. **Private Water Wells** ■ If dewatering requirements indicate a potential effect on the identified private wells in the project area, then a water well survey should be conducted. Based on the findings and the dewatering program, a private well monitoring program may be recommended for residents who rely on overburden groundwater supply for domestic use. This type of monitoring program often includes pre-construction water quality monitoring as well as water level monitoring. If the project caused effects to a domestic well, a potable water supply should be provided, and the water well should be repaired or restored as required. **Municipal Water Supply** ■ There are no nearby municipal supply wells, and therefore additional mitigation measures are not required to protect municipal groundwater drinking supply sources.	■ With the implementation of the mitigation measures, no significant adverse residual effects on groundwater are anticipated.

5.3.1.3 Aggregates and Petroleum Resources

Potential Effects

No potential effects to aggregate resources are anticipated as a result of the proposed project.

The Panhandle Loop PSA intersects some petroleum pools near the Dover Transmission Station and is within 250 m of eight existing wells that are classified as ‘abandoned’, ‘unknown’ or ‘no well found’. Due to the likely depth of the pools and the fact that there are no active wells present, no potential effects are anticipated. However, prior to construction, a survey team will conduct utility sweeps, confirm the location of existing infrastructure, including old/abandoned, and consult with landowners along the Panhandle Loop, as necessary. An environmental inspector will be onsite during construction in the event any contaminated soil or infrastructure is found in order to implement proper handling procedures and appropriate mitigation measures.

Mitigation Measures

Table 5-2 identifies potential effects, proposed mitigation measures and net effects on aggregate and petroleum resources that might occur during the construction and operation of the project.

Table 5-2: Potential Effects, Proposed Mitigation, and Net Effects on Aggregate and Petroleum Resources

Potential Effect	Proposed Mitigation Measures	Net Effects
■ The Panhandle Loop and Leamington Interconnect either parallel an existing natural gas pipeline corridor or contain no evidence of aggregate/petroleum resources present. Therefore, no effects are anticipated.	■ During the detailed design phase of the project, Enbridge Gas should review all available mapping to determine locations of any suspected petroleum resources. ■ Prior to construction, conduct utility sweeps, confirm the location of existing infrastructure, and consult with landowners to assist in identifying any old/abandoned infrastructure or potential areas of contaminated soil along the Panhandle Loop.	■ No net effects to aggregates and petroleum resources are anticipated.

5.3.1.4 Soil Resources

Potential Effects

Potential environmental effects on soil resources in active agricultural areas during construction and operation of the project include:

- Reduction in soil capability (quality) from mixing, compaction and rutting risk, accidental contaminant spills, and erosion;
- Reduction in soil thickness and change in soil distribution from wind and water erosion and soil handling;
- Changes to surface and subsurface drainage patterns from changes in topography; and
- Effects to surface water drainage patterns as a result of crushing or severing agricultural tiles.

Construction activities (e.g., excavation, use of heavy equipment, stripping and stockpiling of soil and dewatering discharge) may cause changes in soil quality through processes such as mixing, compaction, rutting, and wind and water erosion. These processes may alter soil capability, thickness, and structure, resulting in reduced soil productivity because of impaired soil fertility and rooting zone. Also, construction activities that damage existing agricultural tiles, changes the topography, or results in inadequate control of surface runoff and dewatering discharge has the potential to cause soil erosion of adjacent agricultural areas.

Disturbance due to excavation and heavy equipment may cause slumping and erosion during and following construction. General construction activities such as vehicle and machinery operation also have the potential to change soil quality through minor contaminant releases. Spills consisting of materials that constitute a contaminant may affect soils and will therefore have to be managed.

Pests and diseases can potentially be transported to a previously unaffected field(s) from the movement of equipment from one agricultural area to another.

Mitigation Measures

Table 5-3 identifies potential effects, proposed mitigation measures and net effects on soil resources that might occur during the construction and operation of the project.

5.3.1.5 Agricultural Resources

Potential Effects

Potential effects on agricultural resources during construction and operation of the project include:

- Damaged or severed tile drainage; and
- Potential spread of Soybean Cyst Nematode.

Agricultural tile drains could potentially be crushed and/or severed during construction activities, such as trenching and the movement of heavy machinery.

Potential effects to agricultural resources may also be similar in nature to **Section 5.3.1.4** and **Section 5.3.3.5**.

On agricultural fields, the potential exists for SCN to be spread from an effected field to a non-effected field by wind, animals, water erosion, machinery, boots, etc. This may lead to partial or full crop loss.

Mitigation Measures

Table 5-4 identifies potential effects, proposed mitigation measures and net effects on agricultural features that might occur during the construction and operation of the project. Mitigations applicable to **Section 5.3.1.4** and **Section 5.3.3.5** also apply to agricultural resources.

Table 5-3: Potential Effects, Proposed Mitigation, and Net Effects on Soil Resources

Potential Effect	Proposed Mitigation Measures	Net Effects
■ Reduction in soil quality and quantity due to erosion and sedimentation resulting from excavation, use of heavy equipment and stockpiling of cleared materials.	■ Surface soil can become eroded when vegetation is removed or disturbed. Where there is potential for soil erosion, ESC measures should be determined and installed before the start of construction works. During construction these measures should be reviewed by a qualified inspector. ■ Natural features should be preserved. However, when vegetation is removed the exposure should be for the minimum amount of time reasonable and natural vegetation should be re-established as soon as practical. Temporary vegetation and mulching can be used to protect areas as appropriate. ■ Sufficient quantities of materials to control erosion should be used on site and additional supplies kept near the work areas. ESC structures should be monitored to maintain their effectiveness during the full construction period and any subsequent rehabilitation period. ■ Extreme precipitation events could result in overwhelming in place mitigation measures causing 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. ■ A geotechnical engineer should provide professional guidance on the appropriate measures to prevent slumping of excavation walls. ■ 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 under O. Reg. 152/06 and 158/06 from LTVCA and ERCA, respectively, may contain conditions pertaining to ESC.	■ With the implementation of the mitigation measures and adherence to Enbridge construction standards, no significant adverse residual effects to or from the overburden material are anticipated.
■ Reduction in topsoil quantity and quality due to mixing and compaction ■ Reduction in soil capability (quality) from mixing, compaction and rutting risk, accidental contaminant spills, and erosion. ■ Reduction in soil quality and quantity due to the release of construction dewatering discharge resulting in erosion and sedimentation. ■ Reduction in soil quality due to accidental release of	**Excess Soils** ■ Top soil may be transported and used within other areas of the project, as required. Any top soil that is being transported will be managed in accordance with the Excess Soils Regulation (O. Reg. 406/19). ■ Since excess soils in Ontario are regulated, a qualified person for environmental site assessments will be obtained. ■ This individual will be knowledgeable in the current excess soils guidelines and applicable regulations. ■ This individual will provide instructions on the management of excess soils for this project. **Wet Soil Shutdown** ■ Construction activities will be limited to drier seasons, where feasible. ■ To mitigate the potential for topsoil and subsoil mixing and soil structure loss, lands affected by heavy rainfall will be monitored for wet soil conditions.	■ No significant adverse effects on soil or soil capabilities are anticipated with the implementation of the mitigation measures described.

Potential Effect	Proposed Mitigation Measures	Net Effects
contaminants during construction.	■ Where wet soil conditions are observed, construction activities should be temporarily paused on agricultural lands. ■ On-site inspectors will determine when construction activities can resume. ■ If construction must take place during wet soil conditions, soil protection measures will be implemented. ■ These measures can include confining construction to the smallest area practical, installing protection measures or using wide tracked or low ground pressure vehicles. **High Winds** ■ During construction, weather will be monitored for high wind conditions to preserve topsoil. ■ Protection measures to protect topsoils from high winds are suspension of earth moving activities, applying dust suppressants, and protecting stockpiles will barriers or windscreens. **Soil Stripping** ■ Consult with landowners regarding preferred topsoil handling measures (e.g., no stripping or additional stripping and potential storage preferences to avoid mixing of topsoil and subsoil). ■ To ensure the correct amount of topsoil will be replaced, levels will be measured prior to stripping. ■ Stripped topsoils and subsoils will be stockpiled separately where it is removed from agricultural lands. ■ Organic and duff layers should be removed, where feasible, in woodland areas. Organic material and subsoil should be stockpiled separately. **Soil Compaction** ■ Keep all equipment within identified work areas and confine construction activities to the narrowest area practical to minimize disturbance of adjacent soils. ■ If compaction occurs, a qualified individual should determine if compaction relief is necessary. Relief measures should be discussed with landowners prior to taking place. ■ Decompaction can be achieved by using a subsoiler prior to replacing topsoil. ■ Other methods of decompaction can include sub-soiling with a subsoiler, discing, chisel ploughing and cultivating. ■ Deep tillage or subsoiling can be implemented in areas where compaction persist. ■ Soil compaction can be measured/assessed by a penetrometer to ensure soil has been sufficient decompacted. **Soil Pest/Diseases** ■ A soil sampling plan on agricultural lands where soil pests and/or diseases are known should be developed and implemented, in consultation with landowner and an agrologist. ■ If an issue arises, the landowner and agrologist should develop a best practices protocol. ■ Imported topsoil for rehabilitation should be sampled and analyzed to identify concerns before placement on the easement. **Dewatering Discharge:** ■ Where dewatering of excavations is required, mitigation could include the use of splash pads, discharge energy diffusers, filter bags, sediment basins or similar measures at discharge locations to ensure that any water discharged to the natural environment does not result in scouring, erosion, or physical alteration of the soil at the discharge location, streams channel or banks.	

Potential Effect	Proposed Mitigation Measures	Net Effects
	■ Leave a layer of vegetation intact between the outfall and receiving waterbody to provide additional water dispersion and entrapment of suspended solids, if discharge is to a waterbody and/or wetland, where feasible. ■ Obtain applicable Conservation Authority/NDMNRF/MECP, and/or municipal permits for the release of dewatering discharge. **Accidental Release of Contaminants:** ■ Apply the following general mitigation measures to avoid soil contamination: – Ensure machinery is maintained free of fluid leaks. – All stationary equipment, such as generators shall have secondary containment to prevent spills. Potential contaminant storage will not occur within 50 m of a wetland or watercourse. – Site maintenance, vehicle maintenance, vehicle washing and refuelling to be done in specified areas at least 50 m away from wetlands and/or waterbodies or a required by regulatory authority. Where it is impracticable to maintain the 50 m buffer (such as in the case of an operating pump), the following fuelling measures will be followed: – The equipment will be positioned as far away as possible on a secure and level surface; – The equipment will have a secondary containment system in place; – Two workers will refuel the equipment such that one person is positioned at the fuel truck close to the emergency shut off, while the second person handles to nozzle/hose to refuel the equipment; and – An emergency spill kit will be set out in the open for immediate use, if required. ■ Develop and implement a Spill Prevention and Response protocol outlining steps to prevent and contain any chemicals and to avoid soil contamination. This plan will include, for example: – In the event of a contaminant spill, all work will stop until the spill is cleaned up. – Reporting procedures to meet federal, provincial, and local requirements (e.g., reporting spills and verification of clean-up), emergency contact and project management phone numbers. – Spill control and containment equipment/materials shall be readily available on site. – Protocols for access to additional spill clean-up materials, if needed. – Contaminated materials to be handled in accordance with relevant federal and provincial guidelines and standards. – Include the use of Material Safety Data Sheets, which provide information on proper handling of chemicals readily available for the types of chemicals that will be used on site. – Proper training of operational staff on associated emergency response plan and spill clean-up procedures. – Spills to be cleaned up as soon as possible, with contaminated soils/water removed to a licenced disposal site, if required. – Materials contained in spill clean-up kits are restocked as necessary. – Any soil encountered during excavation that has visual staining odours or other visual evidence of contamination effects should be analyzed to determine its quality in order to identify the appropriate disposal method. ■ Waste and excess materials management (including excess soil) to be completed in accordance with relevant federal and provincial guidelines and standards	

Table 5-4: Potential Effect, Proposed Mitigation, and Net Effects on Agricultural Features

Potential Effect	Proposed Mitigation Measures	Net Effects
■ Damaged or severed tile drainage	■ Consultation with landowners of agricultural fields should take place to confirm where drainage is present. ■ If tile drainage is present, standard mitigations during trenching should be implemented. ■ These standard mitigations can include: – Working with independent tile contractor to develop site-specific plans – Pre-construction tiling will be undertaken prior to the start of any operations, if necessary. – Maintain tile system function by installing header tile – Excavate pipeline trench to allow clearance between top of the proposed pipeline and the bottom of the existing drainage system – If a tile drain is severed of crushed, record and flag the tile – If a main drain, header drain or large diameter drain is severed, completed temporary repairs to maintain field drainage and prevent flooding of the work area and adjacent lands – Prevent the entry of soil, debris and rodents by capping both sides of the severed drains that cross trenches, as required – Following construction, repair damaged and severed drains ■ Invite landowner to inspect and approve repairs once completed but before area is backfilled	■ No significant adverse effects on agricultural tile drains are anticipated with the implementation of the mitigation measures described.
■ Potential spread of Soybean Cyst Nematode	■ Enbridge Gas should consult with landowners of agriculture fields to determine if they would like to proceed with soil sampling for SCN. If requested and agreed to by the landowner, soil sampling for SCN is recommended where construction activity is planned on agricultural crop lands. If a field is identified as having SCN, in consultation with potentially impacted landowners, the following mitigation measures should be considered: – To the extent feasible restrict construction activity to the non-agricultural pipeline construction area. – If the pipeline route or an adjacent farm field is identified as having SCN all equipment and boots should be properly cleaned before moving to an area that has not been shown to be impacted by SCN. This may involve thorough washing before moving equipment from an impacted field to nonimpacted field. – All properties impacted with SCN should be identified and communicated to the Contractor. A best practice protocol should be developed to handle SCN, with assistance from AECOM. ■ Any topsoil imported for clean-up activities should be analyzed for SCN by collecting a composite sample, sending it to a laboratory for analysis and reviewing results before any imported topsoil is placed on the easement. Imported suitable fill (not containing topsoil) or granular materials do not need to be tested for SCN.	■ With adherence to the best construction practices discussed in this report, no significant adverse effects from SCN along the Preferred Route are anticipated.

5.3.2 Biophysical Features

5.3.2.1 Surface Water

Potential Effects

Potential effects on surface water during construction and operation include:

- Changes in surface water quality; and
- Changes in surface water quantity.

Changes to surface water quality could occur wherever erosion is possible. Erosion of soils into nearby waterbodies and watercourses could occur as a result of dewatering discharge, and equipment use. Site preparation activities near waterbodies, such as vegetation clearing and soil grading, may result in unstable soils that are susceptible to erosion.

In addition to change in levels of suspended sediment, contamination of surface water could occur through accidental spills from vehicle and machinery operation (e.g., drilling fluids, leaks) near waterbodies and watercourses. Washing equipment (e.g., excavator) could also potentially result in contaminant releases to surface water.

Changes to surface water quantity during construction resulting from stream flow diversions, dewatering discharges, grading, removal or placement of fill and temporary stockpiling at/or near waterbodies and watercourses have the potential to change surface water drainage patterns. Overland surface water flow direction and volume may change as a result of loss of vegetation, changes in surficial topography and changes in surficial soils.

Construction dewatering during the pipeline installation has the potential to change surface water quantity. Where dewatering occurs, water level of waterbodies may be temporarily lowered during construction.

If a flooding event were to occur during construction, this 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 as a result of equipment entering a watercourse. The intensity of these effects would depend on the extent, duration, and magnitude of the flooding event.

Mitigation Measures

Table 5-5 identifies potential effects, proposed mitigation measures and net effects on surface water that might occur during the construction and operation of the project.

Table 5-5: Potential Effects, Proposed Mitigation, and Net Effects on Surface Water

Potential Effect	Proposed Mitigation Measures	Net Effects
■ Changes in surface water quality and quantity	■ Develop plans for spill prevention and response prior the start of construction to provide a detailed response system to respond to the release of petroleum, oils, lubricants and/or other hazardous materials released into the environment. Site supervisors must keep a spill kit on-site at all times and train workers in the use of this kit. ■ Operate construction equipment (i.e., back hoes, etc.) in a manner that minimizes disturbance to the banks of waterbodies (e.g., avoiding unnecessary travel, machine rotations, etc.) and ensure equipment is kept out of waterbodies, wherever possible. ■ All vehicles, machinery and other construction equipment shall not enter the water. ■ Restrict construction equipment to designated controlled vehicle access routes to minimize the potential contamination. ■ Construction equipment should arrive on site in a clean condition. Frequent checks and maintenance should ensure that no fluid leaks occur. All stationary equipment, such as generators shall have secondary containment to prevent spills. ■ Construction equipment must be refuelled, washed, and serviced a minimum of 50 m away from all waterbodies and other drainage features to prevent any deleterious substances from entering a water resource, or as designated by the local regulatory authority. Where it is impracticable to maintain the 50 m buffer (such as in the case of an operating pump), the following fuelling measures will be followed: – The equipment will be positioned as far away as possible on a secure and level surface; – The equipment will have a secondary containment system in place; – Two (2) workers will refuel the equipment such that one person is positioned at the fuel truck close to the emergency shut off, while the second person handles to nozzle/hose to refuel the equipment; and – An emergency spill kit will be set out in the open for immediate use, if required. ■ Fuel and other construction related fuels/lubricants must be stored securely in a designated area that is a minimum of 50 m away from any waterbody or drainage feature, or as designated by the local regulatory authority. ■ Implement necessary erosion and sediment control (ESC) measures (i.e., silt fencing) for Project work near watercourses to prevent potential erosion and sedimentation into nearby watercourses. ■ Clearly delineate work area using erosion fencing or other barriers, to avoid effecting hydrological functions associated with permanent open water. ■ Control quantity and quality of stormwater discharge using best management practices. ■ Minimize grading activities to maintain existing drainage patterns as much as possible. ■ Schedule construction activities near water to occur within the low flow period of the late summer months, where possible, to avoid or minimize effects. ■ Develop plans to deal with on-site flooding in order to mitigate any possible effects to the aquatic.	■ With the implementation of the mitigation measures, no significant adverse residual effects on surface water are anticipated.

Potential Effect	Proposed Mitigation Measures	Net Effects
■ Flooding events leading to construction effects, soil erosion, sedimentation, contamination, etc.	■ The probability of a flooding event effecting project construction is reduced by construction occurring outside of the spring thaw. Should in-water or near water works be proposed during the spring thaw, appropriate sediment and erosion control measures will be implemented. ■ 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 possible, unless necessary for watercourse crossings. ■ All work in the floodplain will be subject to a permit under O. Reg. 152/06 and 158/06 from LTVCA and ERCA, respectively.	■ With the implementation of the mitigation measures, no significant adverse residual effects from flooding events are anticipated.

5.3.2.2 Fish and Fish Habitat and Aquatic SAR

Potential Effects

Potential effect on fish and fish habitat and Aquatic SAR during construction operation include:

- Changes in fish habitat (including other aquatic biota habitat such as invertebrates); and
- Fish mortality risk (including other aquatic such as invertebrates).

Fish habitat includes spawning grounds or any other areas, including nursery, rearing, food supply and migration areas, on which fish depend directly or indirectly in order to carry out their life processes (Government of Canada, 1985). Potential effects to fish and fish habitat resulting from pipeline replacement activities are primarily due to erosion and sedimentation. Disturbance to surficial soils associated with clearing and grubbing of riparian vegetation in close proximity to waterbodies results in an increased risk of erosion. Changes to suspended sediment concentrations caused by water runoff from disturbed waterbody banks and riparian areas can lower the productivity of aquatic systems and have detrimental effects to the health of fish (DFO, 2010a). Short-term increases in turbidity can result in the degradation of spawning habitat or decreases in egg-to-larval survival, while long-term or frequent exposure can result in fish population declines and changes in fish community structure (Robertson et al., 2006).

Removal of riparian vegetation reduces the amount of organic matter input to waterbodies, which in turn may reduce the amount of available food and shelter for aquatic species (DFO, 2010b).

Changes in fish habitat may result due to increased contaminants in surface water and on waterbody banks. Where vehicles and machinery operate within 30 m of a waterbody, there is potential for minor contaminant releases due to fuel and engine fluid leaks, accidental spills, and equipment washing (e.g., excavator).

Changes in fish mortality risk may occur due to in-water construction works associated with watercourse crossings.

Alternatives for watercourse crossing techniques that may be implemented as part of the project are outlined in **Table 5-6.** Crossing methods will be confirmed through detailed design and discussions with appropriate regulatory authorities (e.g., LTVCA, ERCA).

Table 5-6: Water crossing Techniques

Technique	Method	Key Considerations
Dry Open-cut Crossing	Open trench excavated across drains, ditches, swales, or creeks during dry conditions.	Must be conducted during dry conditions with no rain in forecast.
Isolated Open-Cut Crossing	Open trench excavated across drains, ditches, swales, or creeks during flow	In-water workspace must be isolated (e.g., dam and pump) and fish/turtles removed prior to commencing work.
Trenchless Crossing	Horizontal directional drilling (HDD); or Jack/Punch & Bore	Risk of inadvertent fluid releases (escape of high-pressure drilling mud to the environment); risk of stream bed collapse.

If trenchless construction is necessary, the release of pressurized drilling fluids into watercourses from fractures in substrate could increase turbidity in the water column and once it settles to the streambed it could cover substrates, fish spawning locations, benthic organisms, and aquatic vegetation. Additionally, there is risk of fish mortality due to gill abrasion and other physical injuries.

A field investigation of each watercourse crossing will be conducted to determine if fish and/or fish habitat is present. Depending on the investigation and the current condition of the watercourse, potential effects will be known.

Mitigation Measures

Table 5-7 identifies potential effects, proposed mitigation measures and net effects on fish and fish habitat and Aquatic SAR that might occur during the construction and operation of the project.

Table 5-7: Potential Effects, Proposed Mitigation, and Net Effects on Fish and Fish Habitat and Aquatic SAR

Potential Effect	Proposed Mitigation Measures	Net Effects
■ Changes in fish habitat (including other aquatic biota habitat such as invertebrates) ■ Fish mortality risk (including other aquatic biota such as invertebrates)	■ DFO has developed the following general mitigation measures to protect fish and fish habitat. Additional pipeline-specific measures related to the various construction methods are provided following DFO's standard general mitigation measures. All measures taken should be consistent with DFO's measures to protect fish and fish habitat as published on the DFO website (DFO 2019). If there are concerns or discrepancies between the contractor intended actions and the DFO recommendations, additional correspondence with DFO is advised. **General Mitigation Measures** ■ All temporary and permanent crossings should be completed following the measures outlined in industry standards and company specifications for construction. ■ All vehicles, machinery and other construction equipment shall not enter the water. There must be no fording of any waterbody. ■ Watercourses should not be obstructed or impede the free movement of water and fish. ■ Where construction activity occurs within 30 m of a waterbody clearly delineate the construction area to avoid accidental damage to riparian vegetation. ■ Operate machinery in a manner that minimizes disturbance to the watercourse bed and banks. ■ Protect entrances at machinery access points (e.g., using swamp mats) and establish single site entry and exit where feasible and practical. ■ Construction equipment should arrive on site in a clean condition. Frequent checks and maintenance should ensure that no fluid leaks occur. ■ Fuel and other construction related fuels/lubricants must be stored securely in a designated area that is a minimum of 50 m away from any waterbody or drainage feature, or as designated by the local regulatory authority. ■ Generators and gas-powered water pumps shall be stored in secondary containment when located in close proximity to a waterbody. ■ Signs will be installed at all watercourses a minimum of 50 m from the top of bank locations, or as designated local regulatory authority, indicating stream name and "no fuelling beyond this point." ■ Develop plans for spill prevention and response prior to the start of construction to provide a detailed response system to respond to the release of petroleum, oils, lubricants and/or other hazardous materials released into the environment. Keep an emergency spill kit on site in case of fluid leaks or spills from machinery. In the unlikely event of a spill the MECP Spills Action Centre should be contacted immediately. **Flow Diversion/Dewatering** ■ In-water work for warmwater habitats is prohibited from March 15 to June 30 (MNRF 2013). All watercourses within the PSAs are designated or are assumed to be warmwater. ■ For in-water works downstream flows should be maintained using dam and pump techniques. Maintenance of downstream flow should avoid potential upstream flooding and desiccation of downstream aquatic habitat and organisms.	■ Death of fish or HADD of fish habitat will be minimized through the implementation of mitigation measures, no significant adverse residual effects are anticipated. ■ Crossing techniques will be confirmed in consultation with appropriate regulatory bodies to avoid effects to fish and fish habitat.

Potential Effect	Proposed Mitigation Measures	Net Effects
	■ Dewatering operations should be controlled to prevent erosion or the release of sediment laden or contaminated water to the watercourse. Equipment like settling basins, filter bags, or energy dispersion measures can be utilized. ■ An isolation/contamination plan should be designed and implemented to isolate any in-water work zones. **Fish & Wildlife Rescue Plan** ■ Prior to dewatering fish trapped in the construction area should be collected, enumerated, and moved upstream of the construction area. ■ Methods used should ensure safe capture, handling, and release to prevent harm or mortalities. All intakes of pumping hoses should be equipped with a fish protection screen as per DFO specifications. ■ Fish rescue plans should be designed for each watercourse crossing and executed by qualified professionals with a Licence to Collect Fish issued by the NDMNRF. ■ If during the course of the fish and wildlife rescue SAR are found to be present within the site all work local work will be stopped until a management plan has been determined with consultation, if available, from MECP & DFO. The most likely form of action will be an immediate relocation outside of the impact zone paired with additional monitoring to ensure no immediate negative effects. **Riparian Vegetation Removal** ■ Maintain vegetative buffers around water bodies and clearly delineate work area using erosion fencing, or other barriers, to avoid effecting hydrological functions associated with permanent open water. ■ Minimize riparian vegetation removals. If removal is unavoidable use proper clearing techniques and protect retained vegetation. ■ Prohibit or limit access to banks or areas adjacent to waterbodies, to the extent required to protect the structural integrity of banks or shorelines ■ Implement vegetation rehabilitation plan following construction/disturbance to re-plant riparian vegetation to pre-construction or better condition as required **Erosion and Sedimentation Control** ■ Utilize industry standard ESC measures including but not limited to erosion control fencing, fabrics, straw, straw bales, settling ponds, in-water silt curtains or other isolation techniques. ■ Where significant erosion and sedimentation risk occurs develop a site-specific ESC plan and monitor the installation and maintenance to ensure continued compliance. ■ Stabilize or use appropriate Sediment and Erosion control measures for any waste materials requiring storage/stockpiling a minimum of 30 m from any watercourse unless silt fence is installed to prevent soil movement/sedimentation into the watercourse. This could include covering spoil piles with biodegradable mats or tarps or planting them with grass or shrubs. Stabilization measures will depend on the level of risk at the time the material is stockpiled (e.g., risk of substantial rainfall, local topography).	

Potential Effect	Proposed Mitigation Measures	Net Effects
	■ Vegetate any disturbed areas by planting and seeding preferably with native trees, shrubs or grasses and cover such areas with erosion control matting to prevent soil erosion and to help seeds germinate. ■ Implement the mitigation measures outlined below for different types of watercourse crossings. For detailed information on mitigation measures, contingency plans, and construction sequences of different types of watercourse crossings, refer to the Generic Sediment Control Plans provided in **Appendix I**. **Permitting** ■ Work within ERCA and LTRCA's regulated boundary, which the extent of the proposed route is, may require a permit under O. Reg.152/06. ■ Work within fish habitat, which many of the watercourses are, is regulated by the *Fisheries Act*. It prohibits activities that result in the death of fish or the harmful alteration, disruption, or destruction (HADD) of fish habitat unless authorized by the DFO. ■ The Species at Risk Act (SARA) prohibits the killing, harming, harassing, capturing, or taking of a species or damaging or destroying the residence of a species that is listed as endangered or threatened. For federally regulated aquatic species these activities may be permitted through a Species at Risk Act (SARA) Permit which is administered by DFO. ■ If in-water works (i.e., open cut, dam and pump) are expected, a consultation with DFO will be required. ■ Adhere to all permits and approvals of federal and/or provincial agencies related to watercourse crossings. ■ Notify the appropriate federal or provincial agencies related to watercourse crossings prior to commencement of a watercourse crossing in accordance with regulatory permit conditions. Should on-site conditions require a change in approach to a watercourse crossing, appropriate federal or provincial agencies must be notified.	

5.3.2.3 Designated Natural Areas and Vegetation

Potential Effects

Potential effects to vegetation and ecological communities during construction include:

- Removal of and/or damage to vegetation; and
- Loss and/or degradation of ecological communities including designated natural areas.

Site preparation (e.g., vegetation clearing, site grading), construction of temporary stockpile areas, and excavation may negatively affect vegetation (including tree branches, trunks, and/or roots) and ecological communities through direct loss. In addition, these activities may damage vegetation or degrade ecological communities through soil removal and/or disturbance, compaction, increased erosion, or sedimentation, altered surface water drainage, and/or soil or water contamination (e.g., oils, grease, gasoline, or other substances) from construction equipment and/or materials storage and handling. Loss or damage to vegetation and degradation of ecological communities has the potential to alter the structure and ecological function of communities, as well as change species composition and diversity.

Spread of invasive plant species could also occur as a result of vegetation clearing through the spread of invasive seeds on construction equipment and through disturbance of naturally vegetated areas allowing for colonization of invasive species.

Potential effects to vegetation and ecological communities during operation include:

- Removal of and/or damage to vegetation.

Removal of and/or damage to vegetation may occur as a result of periodic mowing or trimming through mechanical means; however, such maintenance activities will be infrequently required and limited to previously disturbed areas. As such, no significant effects to ecological communities including designated natural areas are anticipated during the operation phase of the project.

Mitigation Measures

Table 5-8 identifies potential effects, proposed mitigation measures and net effects on designated natural areas and vegetation that might occur during the construction and operation of the project.

Table 5-8: Potential Effects, Proposed Mitigation, and Net Effects on Designated Natural Areas and Vegetation

Potential Effect	Proposed Mitigation Measures	Net Effects
■ Removal of and/or damage to vegetation; and ■ Loss and/or degradation of ecological communities including designated natural areas	■ Minimize vegetation removal to the extent possible and limit to within the construction footprint. Designated natural areas (including significant wetlands and significant woodlands) will be avoided, wherever possible. ■ Obtain appropriate government approvals to construct pipeline facilities adjacent to designated natural areas (e.g., significant woodlands). Any permitting that may be required to be determined in consultation with the MECP, NDMNRF, LTVCA and ERCA. ■ Prune any tree limbs or roots that are accidentally damaged by construction activities within 48 hours of damage using appropriate arboricultural techniques. ■ Clearly delineate the construction area to avoid accidental damage to species to be retained. Delineation will be in the form of construction fencing and/or barriers with the latter implemented if sediment and erosion control is also acquired. ■ Inspection staff may also consider substituting other demarcating types for fencing, such as staking and flagging, where it is determined that there is no apparent risk to nearby natural features. ■ Re-vegetate cleared areas as soon as reasonably possible. Native seed mixes should be used to revegetate natural areas. If there is insufficient time in the growing season to effectively re-vegetate the disturbed areas, overwintering treatments such as erosion control blankets or fibre matting should be installed to contain the site over the winter months. ■ Prior to removal, landowners should be consulted on any vegetation removed from their property. Any merchantable wood must be offered to the landowner or, where possible, used in pipeline construction or associated works. ■ Any slash generated as part of clearing and grubbing the pipeline easement must be chipped or disposed to the satisfaction of the landowner. ■ Trees directly above or adjacent to the pipeline or pipeline infrastructure will be removed and not replaced to facilitate future maintenance. Trees on private land(s) will be negotiated with the landowner and trees removed in temporary construction areas will be replaced, in accordance with the Enbridge Tree Replacement Program. ■ Minimize spread of invasive plant species by ensuring equipment and machinery is clean prior to arriving on-site. ■ Regularly clean vehicles and equipment. ■ Apply dust suppressants to unpaved areas when necessary, as determined by inspection staff. Application frequency and method will vary, but should be determined by site-specific weather conditions, including recent precipitation, temperatures, and wind speeds. Input from the construction team may warrant an increased frequency of dust suppression. ■ Dust control plans should be developed in consultation with the local municipality. ■ Implement a speed limit for construction equipment and trucks on construction roads/routes. ■ Install wind fences, where determined to be necessary by the on-site inspection staff. Installation of these fences will depend on site-specific conditions, including wind speeds, topography, land cover and the extent of surrounding natural wind breaks. ■ Store any stockpiled material > 30 m from a wetland or waterbody unless silt fence is installed to prevent soil movement/sedimentation into the wetland or waterbody.	■ Vegetation loss, adjacent to the construction area will be minimized through the application of mitigation measures. ■ Vegetation loss is likely to occur but will not result in significant adverse effects. ■ Degradation of ecological communities, adjacent to the construction area will be minimized through the implementation of mitigation measures. ■ Degradation of ecological communities will largely be avoided by siting the project adjacent to the public road RoW, or existing infrastructure, however, where adjacent ecological communities are affected, no significant adverse effects are expected.

5.3.2.4 Wildlife and Wildlife Habitat

Potential Effects

Potential effects to wildlife and wildlife habitat during construction include:

- Loss and/or degradation of wildlife habitat; and
- Mortality, harm and/or disturbance/displacement of wildlife.

Direct loss of habitat may occur during site preparation (e.g., vegetation clearing, site preparation), construction of temporary stockpile areas, and excavation. In addition to direct loss, these activities may cause degradation of wildlife habitat through soil removal and/or disturbance, compaction, increased erosion, or sedimentation, altered surface water drainage, and/or soil or water contamination (e.g., oils, grease, gasoline, or other substances) from construction equipment and/or materials storage and handling. Further, changes to surface water drainage patterns and/or obstruction of lateral flows in surface water caused by land contour changes may also negatively affect wildlife habitat.

Vegetation removal, sub-surface excavation, and increased traffic due to construction may result in a higher potential for accidental wildlife mortality. Pipe installation activities, specifically, is of particular concern during sensitive life stages (e.g., breeding season, hibernation).

Bird nest mortality may occur during vegetation removal in any areas where suitable habitat exists within the work area. Most birds and their nests are protected under the *Migratory Birds Convention Act* (MBCA). Although roads adjacent to and intersecting the proposed work areas represent an existing source of wildlife mortality, increased traffic due to construction presents additional risk for wildlife mortality, particularly reptiles, through collisions with construction traffic and/or heavy equipment.

Open-cut crossings through suitable turtle habitat may result in the changes to amphibian and turtle mortality risk due to in-water construction works associated with watercourse crossings. In addition, suitable nesting habitat may be affected if located near the construction footprint.

Noise and human presence associated with construction activities have the potential to alter wildlife behaviour, and potentially lead to disturbance or displacement of wildlife.

Potential effects to wildlife and wildlife habitat during operation include:

- Mortality, harm and/or disturbance/displacement of wildlife.

Removal of and/or damage to vegetation may occur as a result of periodic mowing or trimming through mechanical means. These activities have the potential for accidental mortality of and/or injury to SAR. Maintenance activities will be infrequently required and generally limited to previously disturbed areas.

Mitigation Measures

Table 5-9 identifies potential effects, proposed mitigation measures and net effects on wildlife and wildlife habitat that might occur during the construction and operation of the project.

Table 5-9: Potential Effects, Proposed Mitigation, and Net Effects on Wildlife and Wildlife Habitat

Potential Effects	Proposed Mitigation Measures	Net Effects
■ Loss and/or degradation of wildlife habitat including significant wildlife habitat during construction ■ Changes in habitat, mortality risk or behaviour during construction	■ Construction activities will be located primarily on agricultural land or adjacent to road RoW to minimize effects to wildlife habitat and SWH. Minimize vegetation removal to the extent possible and limit to within the construction footprint. Avoid potential significant wildlife habitat wherever possible. ■ Clearly delineate the construction footprint to avoid accidental damage to retained vegetation. Delineation will be in the form of construction fencing and/or silt fence barriers with the latter implemented if erosion and sediment control is also required. ■ Inspection staff may also consider substituting other demarcating types for fencing, such as staking and flagging, where it is determined that there is no apparent risk to nearby vegetation communities. ■ Install and maintain sediment and erosion controls such as silt fence barriers, rock flow check dams, compost filter socks or approved alternative along the edge of the construction footprint area if within 30 m of a wetland or waterbody where appropriate to delineate work area and avoid effecting water quality. ■ Ensure machinery is maintained free of fluid leaks. Vehicle maintenance, washing and refuelling to be done in specified areas at least 50 m away from wetlands and/or waterbodies. Avoid the use of herbicides, to the extent possible, within significant during the construction. ■ Conduct field investigations in advance of construction to identify wildlife habitats and determine significance and necessary mitigation measures to avoid or reduce any anticipated effects to wildlife or their habitats. ■ Conduct tree clearing outside of the bat roosting window April 1 to October 1. ■ Conduct vegetation clearing outside of the breeding bird nesting period (April 1st to August 31st) to avoid incidental take and limit disturbance to birds (including SOCC) or their nests, unless nest and nesting activity surveys have been completed by a qualified avian biologist and no active nests are present. If vegetation removal or trimming must occur during the breeding bird nesting period (April 1st – August 31st), nest and nesting activity searches will be conducted by a qualified avian biologist no more than 24 hours in advance. If an active nest or nesting activity of a protected bird is observed, the area will be protected and no construction activities will occur until the young have fledged or until the nest is no longer active, as confirmed by a qualified biologist. ■ Schedule construction activities within 30 m of woodlands to occur during daylight hours to avoid excessive noise and/or light disturbances to wildlife, wherever possible. ■ If construction activities within 30 m of woodlands must occur outside of daylight hours, spotlights will be directed downward and/or away from the woodland to limit potential light disturbance to breeding birds. ■ Obey site speed limits identified in plans for traffic management. ■ Construction equipment and vehicles must yield the RoW to wildlife.	■ Loss or degradation of local wildlife habitat will be minimized through the application of mitigation measures ■ Disturbance and/or mortality to local wildlife will be minimized through the implementation of mitigation measures.

Potential Effects	Proposed Mitigation Measures	Net Effects
	■ Trench operations should be backfilled as soon as reasonable to facilitate wildlife movement across the ROW. ■ Workers must never threaten, harass, or injure wildlife. ■ Stockpile areas placed prior to June 30 (turtle egg laying period; Ontario Nature, 2016) in proximity to suitable turtle habitat will be assessed by the environmental inspector to determine if they are suitable turtle nesting habitat, and exclusionary fencing will be installed where necessary. Stockpile that are placed after June 30 do not require assessment or installation of exclusionary fencing as this is after the typical period for turtle/snake egg laying. Exclusionary fencing may be installed along watercourses and the work areas to avoid fencing individual stockpiles. ■ No watercourse crossing construction will occur during the turtle and snake overwintering period of October 30 to April 1. ■ Prior to dewatering herptile species trapped in the construction area should be collected, enumerated, and moved upstream of the construction area. ■ Methods used should ensure safe capture, handling, and release to prevent harm or mortalities. ■ If during the course of the fish and wildlife rescue SAR are found to be present within the site all work local work will be stopped until a management plan has been determined with consultation, if available, from MECP and DFO. The most likely form of action will be an immediate relocation outside of the impact zone paired with additional monitoring to ensure no immediate negative effects. ■ Elevated noise levels and vibration generated by construction within or adjacent to bird SAR habitats during the breeding bird season of April 1 and August 31 may also cause birds to abandon their nests.	
■ Unlikely but possible mortality, harm, and/or disturbance/displacement of wildlife during operations	■ Maintenance vehicles must yield the RoW to wildlife. ■ Workers will report any wildlife incidents to Enbridge environmental department for record keeping and regulatory reporting where required ■ Workers must never threaten, harass, or injure wildlife. ■ Conduct vegetation maintenance outside of the breeding bird nesting period (April 1st to August 31st) to avoid incidental take and limit disturbance to birds (including SOCC) or their nests, unless nest and nesting activity surveys have been completed by a qualified avian biologist and no active nests are present. If vegetation removal or trimming must occur during the breeding bird nesting period (April 1st – August 31st), nest and nesting activity searches will be conducted by a qualified avian biologist no more than 24 hours in advance. If an active nest or nesting activity of a protected bird is observed, the area will be protected and no construction activities will occur until the young have fledged or until the nest is no longer active, as confirmed by a qualified biologist.	■ Disturbance and/or mortality to local wildlife will be minimized through the implementation of mitigation measures.

5.3.2.5 Species at Risk

Potential Effects

Potential effects on species at risk during construction and operation of the project include:

- Loss and/or degradation of SAR wildlife habitat; and
- Mortality, harm and/or disturbance/displacement of SAR.

Potential effects identified under **Section 5.3.2.4** during construction will likely also apply to SAR. The following additional effects have been considered:

Bobolink and Eastern Meadowlark:

- While the proposed works has the potential to effect hayfields, it is largely dependent on if farmers have chosen to plant hay that year. Additionally, all works are expected to be temporary in nature, with fields reverting back to agricultural uses once construction is complete. Given the temporary nature of potential disturbance, and through the implementation of mitigation measures to avoid effects to breeding birds such as limiting vegetation removals to outside of the breeding bird window, it is highly unlikely that the project will result in significant effects to these species.
- Although unlikely, Bobolink and Eastern Meadowlark may be accidently injured or killed as a result of collisions with construction vehicles or equipment. The risk of mortality, although existing due to the presence of roads, may be elevated as a result of increased vehicular or heavy equipment traffic as a result of construction.
- Elevated noise levels and vibration generated by proposed project works within or adjacent to habitats suitable for breeding Bobolink and Eastern Meadowlark between May 1 and July 31 (Bobolink and Eastern Meadowlark breeding period as per Ontario Regulation 242/08 section 23.2 (2)) may also cause these birds to abandon their nests.
- Direct loss and/or damage of Bobolink and Eastern Meadowlark habitat may occur during site preparation, construction of temporary stockpile areas, transportation of equipment and materials, and excavation.

Chimney Swift and Barn Owl

- Buildings are not expected to be affected by the proposed scope of work.

Bat SAR

- Removal of potentially suitable roost trees could result in the mortality of bat SAR if present and if conducted during the bat roosting season (between April 1 and September 30). Increased noise and vibration as a result of construction activities or the presence of artificial light if proposed works occur at night may negatively affect bats through disturbance/displacement.
- Direct loss and/or damage of bat SAR habitat including suitable maternity roost trees or forested habitats is unlikely but could occur during site preparation, construction of temporary stockpile areas, transportation of equipment and materials, and excavation. These activities may negatively affect bat SAR habitat through increased erosion and sedimentation; soil removal/disturbance and compaction; and accidental soil or water contamination by oils, gasoline, grease and other materials from construction equipment and materials storage or handling.
- Removal of candidate bat maternity roost habitat and/or potentially suitable maternity roost trees is unlikely. However, if it is required consultation with the MECP will occur to determine permitting needs.

Reptile SAR

- Reptile SAR may be accidently injured or killed as a result of collisions with construction vehicles or equipment, including excavation or compaction of nests. The risk of mortality, although existing due to the presence of roads, may be elevated as a result of increased vehicular or heavy equipment traffic.
- Effects to both the Thames River and Jeannettes Creek are expected to be avoided by using trenchless crossing methods underneath the watercourses. Baptiste Creek is also expected to be crossed using trenchless methods, however, should a trenched installation method be required, effects of the construction will likely be mitigated through the implementation of measures such as the installation of exclusionary fencing, timing windows to avoid sensitive life stages, and SAR training for construction staff and subcontractors. Additionally, all effects, including those to riparian habitat, are expected to be temporary, with habitat restoration activities occurring after construction is complete. The St. Clair Marsh Complex PSW is not expected to be affected by the proposed scope of work.
- Direct loss and/or damage of reptile SAR habitat may occur during site preparation, construction of temporary stockpile areas, transportation of equipment and materials, and excavation. These activities may negatively affect reptile SAR habitat through increased erosion and sedimentation; soil removal/disturbance and compaction; and accidental soil or water contamination by oils, gasoline, grease and other materials from construction equipment and materials storage and handling.

In all cases of potential SAR, mitigation will be necessary to minimize the effects to the species and warrants consultation with the MECP to determine any permitting needs.

Effects to SAR during operations will be similar those of other wildlife species as noted under “wildlife and wildlife habitat” as outlined in **Section 5.3.2.4** above.

Mitigation Measures

Table 5-10 identifies potential effects, proposed mitigation measures and net effects on species at risk that might occur during the construction and operation of the project.

Table 5-10: Potential Effects, Proposed Mitigation, and Net Effects on Species at Risk

Potential Effect	Proposed Mitigation Measures	Net Effects
■ Loss and/or degradation of SAR habitat during construction ■ Changes in habitat, mortality risk or behaviour of SAR during construction	■ Measures to protect terrestrial SAR and SAR habitat are similar to those required for the protection of non-SAR wildlife. Therefore, the mitigation measures presented above for wildlife are acceptable to all SAR and SAR habitat present within the PSAs. However, site-specific and species-specific mitigation may be necessary should any SAR dependent on specialized and/or sensitive habitat features be identified within the PSAs during future surveys. This will be confirmed through future surveys and in consultation with appropriate regulatory agencies. ■ Potential for bird SAR and their habitat to occur within the PSAs was identified during the background information review. Site investigations will be conducted in spring/summer 2022 to confirm habitat suitability for SAR birds. Mitigation and avoidance measures will be developed and implemented to avoid effects to the SAR. If necessary, a permit or other authorization from the MECP will be obtained to ensure adherence to the ESA. ■ Potential for reptile SAR and their habitat to occur within the PSAs was identified during the background information	■ Disturbance and/or mortality of SAR will be minimized through the application of mitigation measures. No significant adverse effects are anticipated.

Potential Effect	Proposed Mitigation Measures	Net Effects
	review. A reptile SAR habitat assessment will be conducted in spring 2022 to determine if suitable habitat is present. If suitable habitat is present mitigation and avoidance measures will be developed and implemented to avoid effects to the SAR. If necessary, a permit or other authorization from the MECP will be obtained to ensure compliance with ESA. ■ Potential for bat SAR and their habitat to occur within the PSAs was identified during the background information review. A site visit will be conducted in spring 2022 to determined habitat suitability for SAR bats, including a leaf off snag survey. If the habitat is deemed suitable for SAR bats within the area of proposed works, acoustic monitoring will be conducted to determine presence/absence of SAR bats and mitigation measures will be developed and implemented to avoid effects to the SAR. If necessary, a permit or other authorization from the MECP will be obtained to avoid contravention of the ESA.	
■ Unlikely but possible mortality, harm, and/or disturbance/displacement of wildlife during operations	■ Mitigation measures identified under “wildlife and wildlife habitat” will be applicable to SAR. ■ Enbridge will follow conditions of any approvals, or mitigation advice provided by MECP.	■ Disturbance to SAR and SAR habitat will be minimized through the application of mitigation measures. No significant adverse effects are anticipated.

5.3.3 Socio-Economic Environment

5.3.3.1 Indigenous Interests

Potential Effects

Potential effects to Indigenous interest during the construction and operation of the project include:

- Effects to traditional Indigenous territories, communities, and practices; and
- Disturbance to Indigenous artifacts.

The project may affect traditional territories of Indigenous communities, and during construction, harvesting and hunting in the construction RoW could be impeded. Archaeological surveys could also result in the finding of Indigenous artifacts.

Mitigation Measures

Table 5-11 identifies potential effects, proposed mitigation measures and net effects on Indigenous interests that might occur during the construction and operation of the project.

Table 5-11: Potential Effects, Proposed Mitigation, and Net Effects on Indigenous Interests

Potential Effect	Proposed Mitigation Measures	Net Effects
■ Effects to traditional Indigenous territories, communities, and practices ■ Disturbance to Indigenous artifacts	■ Further Stage 2 archaeological assessment is required for areas not previously assessed. Indigenous communities will be invited to participate in the monitoring of Stage 2 Archaeological Assessment.	■ By undertaking the engagement and archaeological assessments, no significant adverse residual effects on Indigenous interests are anticipated.

Potential Effect	Proposed Mitigation Measures	Net Effects
	■ Enbridge Gas has sought input from the identified Indigenous communities and will continue engaging with Indigenous communities as the project moves forward. Enbridge Gas will also continue to work with their respective Economic Development departments and Enbridge Gas' contractors to find opportunities for their participation in providing goods and services during construction. Information on the current state of Indigenous engagement will be provided in the application to the OEB. ■ Indigenous communities should be consulted with for any permits where a duty to consult applies.	

5.3.3.2 Demographics

Potential Effects

No effects to community demographics are anticipated as a result of the proposed project.

Mitigation Measures

There are no mitigation measures required as no potential effects is anticipated to community demographics and no net effects to demographics are anticipated.

5.3.3.3 Employment

Potential Effects

Negative effects on the local economy and/or employment are not anticipated due to the construction or operation of the project. However, the construction and operation of the project may result in direct and/or indirect income to local businesses during the construction phase. The project will result in increased property tax assessment paid on the new pipeline to local municipalities by Enbridge Gas annually which provides new revenues to support local services.

Mitigation Measures

As no negative effects are anticipated, no mitigation measures are required. Enbridge Gas will make all reasonable efforts to procure goods and services from local suppliers, subject to product availability and pricing. No net effects to employment and business are anticipated.

5.3.3.4 Community Services and Infrastructure

Potential Effects

Potential effects on community services and infrastructure during construction and operation of the project include:

- Increase in demand for housing/accommodations;
- Increase in construction traffic volumes; and
- Increase in the use of existing local infrastructure, emergency services and community services.

The presence of temporary workers in the local communities during the construction period have 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. As there are limited

temporary accommodations available within or adjacent to the PSAs, it is anticipated that non-local project workers will stay in accommodations closer to larger towns and cities, such as the Municipality of Leamington.

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 that the workers will reside near any one community, as well as the structure of the work shifts, will limit the need for workers to use the services and infrastructure in local communities.

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

During operation, the work force will remain the same as current operations with no planned changes as the project is a replacement of the existing pipeline. Some operation workers might already reside in the local area; however, some might need to come from outside communities and may use local community and emergency services.

Mitigation Measures

Table 5-12 identifies potential effects, proposed mitigation measures and net effects on community services and infrastructure that might occur during the construction and operation of the project.

Table 5-12: Potential Effects, Proposed Mitigation, and Net Effects on Community Services and Infrastructure

Potential Effect	Proposed Mitigation Measures	Net Effects
■ Increase in demand for housing/accommodations ■ Increase in construction traffic volumes ■ Increase in use of existing local infrastructure, emergency services and other community services	■ 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, 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 – Reduce on-road disturbance and land closures	■ Community services and infrastructure appear to have additional capacity to absorb potential increased temporary demands that may result from the project. ■ Adverse effects on traffic will be minimal because the Panhandle Loop and Leamington Interconnect intersect mainly rural communities where roads currently have low levels of traffic and alternative routes are readily accessible. ■ Given the available capacity of the local community services and infrastructure, along with the implementation of the mitigation measures, no significant adverse residual effects on community services and infrastructure are anticipated.

Potential Effect	Proposed Mitigation Measures	Net Effects
	– Store equipment as far from the edge of the road as practical – Install construction barricades at road crossings ■ Traffic disruptions during construction will be reduced by adherence to the Traffic Management Plan. Guidelines will be developed for vehicular use on the RoW and associated access roads to avoid traffic congestion and accidents. Access to existing transportation infrastructure will be addressed through standard mitigation and will be reversible once the construction phase ends. ■ 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 consultation with residents and businesses adjacent to the Panhandle Loop and Leamington Interconnect will be held in advance of construction commencement to discuss potential specific effects 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.	

5.3.3.5 Culture, Tourism and Recreational Facilities

Potential Effects

Potential effects on culture, tourism and recreational facilities during construction and operation of the project include:

- Increase in noise, dust, air emissions;
- Undesirable aesthetic effects, real or perceived safety concerns and general disturbance (i.e., impairment of the use of property); and
- Restricted land access.

Cultural, tourism, and recreational facilities may experience noise, dust, and air emissions associated with construction activity. Construction activity can also temporarily affect the aesthetic landscape of the construction area and could impede property access. Potential safety concerns also exist at locations where properties, visitors, and vehicles come close to construction activities.

Mitigation Measures

Table 5-13 identifies potential effects, proposed mitigation measures and net effects on culture, tourism and recreational facilities that might occur during the construction and operation of the project.

Table 5-13: Potential Effects, Proposed Mitigation, and Net Effects on Culture, Tourism and Recreational Facilities

Potential Effect	Proposed Mitigation Measures	Net Effects
■ Increase in noise, dust, air emissions ■ Undesirable aesthetic effects, real or perceived safety concerns and general disturbances (i.e., impairment of the use of property). ■ Restricted land access	■ It is recommended additional consultation with residents and businesses adjacent to the Panhandle Loop and Leamington Interconnect occur in advance of construction commencement. Contact information for a designated Enbridge Gas representative should be available prior to and during construction to address questions and concerns. ■ While pipeline construction activities and machinery have the potential to temporarily affect street aesthetics, restoration of the construction area will leave little evidence that a pipeline exists. Construction should be conducted as expeditiously as possible, to reduce duration of activities. Vegetative buffers at watercourse and road crossings should be restored where feasible. ■ Access to businesses and residential properties should be maintained always. If required, signs should be used to direct people to correct access. ■ Apply dust suppressants to unpaved areas, when necessary, as determined by inspection staff. Application frequency and method will vary, but should be determined by site-specific weather conditions, including recent precipitation, temperatures, and wind speeds. Input from the construction team may warrant an increased frequency of dust suppression. ■ Enbridge should develop plans for traffic management prior to the commencement of construction activities, if necessary. ■ The Contractor should implement plans for traffic management for all roads affected by construction activities. The traffic management planning should, at a minimum, follow the Ontario Traffic Manual Book 7 and should additionally include: – Warn oncoming motorists of construction activity. – Restrict the movement of personnel and materials to and from the construction site. – Employ a trained traffic control officer to assist with truck movements where possible. – Control traffic at road crossings. – Reduce lane disturbances and closures. – Store equipment as far away from the roadway as possible. – Utilize and install construction barricades at road crossings. ■ Return all road RoWs to their original condition or better following construction. ■ The period of time that a road is closed (except for local access) should be reduced to the shortest extent possible. Enbridge Gas should meet with representatives of the effected municipality(ies) and local school board(s) to discuss potential road crossing procedures and address the following issues: – Deterioration of roadways due to increased traffic; – Crossing procedures including resurfacing or grading of roadways, and traffic safety; – Road restrictions and haul routes; and – Road surface and municipal drain restoration. ■ Any municipal approvals required for land restrictions and haul routes.	■ With the implementation of the mitigation measures, no significant adverse residual effects on cultural, tourism, and recreational facilities are anticipated.

5.3.3.6 Air Quality and Noise

Potential Effects

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

Mitigation Measures

Table 5-14 identifies potential Effects, proposed mitigation measures and net effects on air quality and noise that might occur during the construction and operation of the project.

Table 5-14: Potential Effects, Proposed Mitigation, and Net Effects on Air Quality and Noise

Potential Effect	Proposed Mitigation Measures	Net Effects
■ Increase in noise, dust, air emissions.	■ The idling of vehicles should be avoided, and vehicles and/or equipment should be turned off when not in use. ■ Construction activities that result in noise should be restricted to daylight hours and will adhere to any applicable local noise by-laws. In the event that construction activities that may cause excessive noise must occur outside of these time frames, application(s) for Noise By-law exemption will be submitted for approval. ■ During construction, practices to reduce and limit air emissions should include, but not be limited to: – Maintaining equipment in compliance with regulatory requirements. – Protecting stockpiles of friable material with barriers and/or widescreens during dry conditions and covering friable material during transportation. ■ Dust suppression of source areas.	■ With the implementation of the mitigation measures, no significant adverse residual effects from air quality and noise are anticipated.

5.3.3.7 Land Use

Potential Effects

Natural gas pipelines and their associated facilities/structures are permitted land uses, and therefore no effects are anticipated.

Mitigation Measures

No mitigation measures are required as no potential effects is anticipated and no net effects to land use are anticipated.

5.3.3.8 Landfills and Contaminated Sites

Potential Effects

Potential effects on landfills and contaminated sites during construction and operation of the project include:

- Contamination of soil, surface and/or groundwater resources due to improper waste disposal; and
- Contaminated soils discovered during trench excavation.

Although there are no known waste disposal sites located within or adjacent to the PSAs, improper disposal of waste material generated during construction activities could result in the contamination of soil, surface water and/or groundwater resources. Contaminated soil may be encountered during construction activities adjacent to existing hydrocarbon and pipeline infrastructure. Additionally, contaminated soil may be encountered during construction activities along public roadway RoWs as well as through agricultural properties.

Mitigation Measures

Table 5-15 identifies potential effects, proposed mitigation measures and net effects on landfills and contaminated sites that might occur during the construction and operation of the project.

Table 5-15: Potential Effects, Proposed Mitigation, and Net Effects on Landfills and Contaminated Sites

Potential Effect	Proposed Mitigation Measures	Net Effects
■ Contamination of soil, surface and/or groundwater resources due to improper waste disposal; and ■ Contaminated soils discovered during trench excavation.	■ Site-specific Soil Management Plans for waste collection and disposal management should be developed by the contractor prior to the execution of the project and should include provisions for: – The transportation of waste and recycling off-site by private waste contractors licensed by the MECP; – The removal of excess materials from the site; and – The reuse and recycling of materials. ■ Should excess soil be generated on-site during construction activities that will require off-site management, or if contaminated soils are suspected (e.g., odour, film, sheen, staining, previous known contamination issues in the vicinity), representative soil samples should be collected and submitted for chemical analysis to determine management options and appropriate handling and health and safety guidelines.	■ With the implementation of the mitigation, no significant adverse residual effects from Landfills and Contaminated Sites are anticipated.

5.3.3.9 Archaeological Resources

Potential Effects

Potential effects on archaeological resources during construction and operation of the project include:

- Disturbance to previously undocumented archaeological resources.

The Stage 1 AA has determined that the majority of the PSAs retain potential for the recovery of archaeological resources, thus there is potential for effects to archaeological resources not previously identified. It should be noted that smaller portions of the PSAs have either been previously assessed, previously disturbed, or do not retain archaeological potential.

Mitigation Measures

Table 5-16 identifies potential effects, proposed mitigation measures and net effects on archaeological resources that might occur during the construction and operation of the project.

Table 5-16: Potential Effects, Proposed Mitigation, and Net Effects on Archaeological Resources

Potential Effect	Proposed Mitigation Measures	Net Effects
■ Disturbances to previously undocumented archaeological resources.	■ Based on the findings of the Stage 1 AA, Stage 2 AA is required. ■ The results of the Stage 2 AA will provide recommendations for further assessment, protection, and mitigation of archaeological resources. Where feasible for the project, archaeological sites should be mitigated by avoidance and protection/preservation measures. Or where avoidance and protection/preservation measures are not feasible, archaeological resources may be mitigated by excavation. ■ Consultation with local Indigenous Nations should be conducted for Stage 2, 3 and 4 archaeological investigations/mitigation. Mitigation options should be discussed with interested Indigenous Nations	■ With the implementation of the AA and mitigation measures prior to ground disturbance as part of the project, no adverse effects on archaeological resources are anticipated.

5.3.3.10 Cultural Heritage Resources

Potential Effects

The preliminary impact assessment for the Cultural Heritage Assessment Report: Existing Conditions and Preliminary Impact Assessment (CHAR) is based on the OEB *Environmental Guidelines* (2016) (Section 5.2). Three properties were determined potential cultural heritage resources with cultural heritage value or interest. They are all adjacent to the Panhandle Loop. Therefore, the effects of the project were assessed on the adjacent potential cultural heritage resources along the Panhandle Loop.

Based on the routes of the Panhandle Loop and Leamington Interconnect, the one potential built heritage resource and two cultural heritage landscapes are not anticipated to be directly (physically) effected. The Panhandle Loop may transect parcels of land that contain a potential built heritage resource and cultural heritage landscape; however, the installation of the pipeline will not require the removal or relocation of any structures, commemorative markers, or monuments, since none were identified in the path of the pipeline route. Given that the infrastructure will be underground, effects to the agricultural lands and the Thames River are anticipated to be minimal.

Mitigation Measures

Table 5-17 identifies potential effects, proposed mitigation measures and net effects on cultural heritage resources that might occur during the construction and operation of the project.

Table 5-17: Potential Effects, Proposed Mitigation, and Net Effects on Cultural Heritage Resources

Potential Effect	Proposed Mitigation Measures	Net Effects
■ Effects to cultural heritage resources	■ Where temporary landscape disturbance may occur due to the installation of the pipelines, ensure that any landscape disturbance is restored to pre-construction conditions in the effected lands outside the existing road allowances (i.e., restore to an active agricultural field). ■ Should the limits of the PSAs documented in the CHAR change, then further mitigation will be required. Mitigation measures may include, but are not limited to, completing a cultural heritage evaluation report, or employing suitable measures such as landscaping, buffering or other forms of mitigation, where appropriate. ■ The CHAR will be submitted to MHSTCI for review and comment. ■ No further cultural heritage work required for this proposed undertaking.	■ With the implementation of the mitigation measures, no adverse effects on cultural heritage resources are anticipated.

6. Cumulative Effects Assessment

In addition to assessing project-specific effects, the *Environmental Guidelines* (2016) require that proponents consider cumulative environmental effects that might result from the project. Cumulative effects examine the potential effects of the proposed project in combination with other developments already in place or planned within or near the PSAs. The OEB has specified that only effects that are additive or interact with effects that have been identified as resulting from pipeline construction and operation are to be considered as part of the cumulative effects assessment. If environmental effects are anticipated to be compounded with the application of other developments, then it is necessary to determine whether these cumulative effects require additional mitigation measures. The cumulative effects assessment included in this section has been prepared considering this direction from the *Environmental Guidelines* (2016).

6.1 Methodology

The first stage of the cumulative effect's assessment is to determine whether the project has the potential to contribute to cumulative effects in combination with other past or existing development or development that is certain and/or reasonably foreseeable. Two conditions must be met for the project to act cumulatively with the environmental effects of other developments.

- The project has net environmental effects on physical, biophysical, or socio-economic features; and
- The net effects of the project have potential to act cumulatively with the environmental effects of other developments (i.e., effects overlap in time and geographic extent).

If these conditions are not met, there is no reasonable expectation that cumulative effects will occur, and further assessment is not warranted. If both conditions are met, then the assessment of cumulative effects proceeds following the methods used to assess the project net effects in **Section 5.3**. If there is reasonable doubt about whether a cumulative interaction might take place, a conservative approach is taken, and the interaction is carried forward for an assessment of cumulative effects. This is particularly the case if there is a heightened concern about the status of the feature and the consequence of potential cumulative effects.

6.2 Study Boundaries

The Route Alternative Study Areas for both the Panhandle Loop and Leamington Interconnect (**Figure 1** and **Figure 3**) were used for the cumulative effect's assessment. The boundary has been delineated according to Section 4.3.14 of the OEB *Environmental Guidelines* (2016), which is considered appropriate for the limited residual project effects that are anticipated to remain after mitigation measures are implemented and interactive with other concurrent, unrelated projects. The temporal boundaries considered other developments already in place (i.e., past and existing) and reasonably foreseeable future developments known at the time of developing the ER. Since the project is not predicted to have net effects during operations, only the construction, operation and/or decommissioning of future developments occurring before the completion of construction were considered in the assessment of cumulative effects. That is, the potential for the project to act cumulatively with other developments is during the construction phase only.

6.3 Project Inclusion List

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

- Atlas of Canada – Indigenous Mining Agreements (Government of Canada, 2020)
- BuildON: our infrastructure plan (Government of Ontario, 2022a)

- Environmental Registry of Ontario (Government of Ontario, 2022b)
- Infrastructure Ontario Projects (Government of Ontario, n.d.):
- Ontario Mining Operations Map and Advanced Mineral Projects in Ontario 2021 Map (Ontario Mining Association, 2021)
- Renewable Energy Projects Listing (Government of Ontario, 2021)
- Impact Assessment Agency of Canada, Canadian Impact Assessment Registry (IAAC, 2022)
- Government of Ontario, Environmental Assessment Projects by Category (Government of Ontario, 2022c)
- MTO, Ontario's Highways Program Interactive Map (2016-2024) (MTO, 2022)
- Canadian Energy Regulator, Major Facilities Applications (CER, 2021)
- Essex County, Road Closures and Detours (County of Essex, 2022)
- Chatham-Kent, Construction Projects (Municipality of Chatham-Kent, 2022)
- OEB Applications Currently Before the Board (facilities applications only) (OEB, 2021)
- Hydro One, Major Projects (Hydro One, n.d.)

Based on the review of publicly available resources, the **Table 6-1** summarizes the projects for consideration of cumulative effects:

6.4 Analysis of Cumulative Effects

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

6.4.1 Construction

Residual project effects, which may occur during project construction, are outlined in **Section 4**, considering the additive and interactive effects at their maximum intensity. The cumulative effects assessment assumes that construction of other unrelated projects and the proposed pipelines will occur concurrently.

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

Soil

Soil erosion and reduced soil capability is a potential residual effect associated with the project's construction. Mitigation measures for soil are outlined in **Section 5.3.1.4.** Provided that concurrent projects follow mitigation measures similar to those outlined in this report, the likelihood of erosion control failure and magnitude of such an event occurring concurrently is low based on the nature of the proposed projects. As such, adverse cumulative residual effects on the natural environment from erosion are not anticipated to be significant, and cumulative effects on soil capability are not expected.

Vegetation

Where there is natural vegetation within or adjacent to the proposed pipeline routes, potential effects include the removal of native vegetation and indirect effects such as dust, erosion, and accidental spills. However, with the implementation of the mitigation measures outlined in **Section 5.3.2.3** of this ER and provided that concurrent projects follow mitigation measures similar to those outlined in this report, adverse cumulative residual effects on vegetation are not anticipated to be significant.

Table 6-1: Project Inclusion List for Cumulative Effects

Project Name	Project Location	Proponent	Schedule	Project Description	Interaction with the Proposed Project
Irwin Drain Culvert Replacement	County Road 31	Essex County	Construction in 2023	Culvert replacement	The proposed culvert replacement work occurs within the Leamington Interconnect Route Alternative Study Area. May affect any pre-construction surveys/studies.
Essex County Road Rehabilitation Program	County Road 8 and County Road 31	Essex County	County Road 31: 2026 County Road 8 western portion: 2023 County Road 8 eastern portion: 2026	Road rehabilitation	The proposed road rehabilitation works occur within the Leamington Interconnect Route Alternative Study Area.
County Wide Active Transportation System (CWATS)	County Road 31 and 8	Essex County	Unknown	Paving the shoulders of County Road 31 and 8 to provide an active transportation corridor.	The proposed shoulder paving along County Road 31 and 8 occurs within the Leamington Interconnect Route Alternative Study Area.
Chatham to Lakeshore Line	Municipality of Lakeshore and Municipality of Chatham-Kent	Hydro One	Construction in 2023-2024	Construction of a new double-circuit 230 kilovolt transmission line from Hydro One's Chatham Switching Station to the future Lakeshore Switching Station.	The proposed project occurs within the Panhandle Loop Route Alternative Study Area.
Lakeshore Transmission Stations Project	Municipality of Lakeshore	Hydro One	Construction ongoing and proposed completion date of 2023	Construction of a new transformer station, which will also include a new 230 kV switching equipment.	The proposed project is right on the western boundary of the Panhandle Loop Route Alternative Study Area.
Tremblay Creek Culvert	Municipality of Lakeshore	Ministry of Transportation	2023-2024	Culvert replacement	The proposed culvert replacement work occurs within the Panhandle Loop Route Alternative Study Area.
Gracey Side Road Underpass	Municipality of Lakeshore	Ministry of Transportation	2023-2024	Bridge rehabilitation	The proposed bridge rehabilitation work occurs within the Panhandle Loop Route Alternative Study Area.

Wildlife and Wildlife Habitat

Potential residual effects on wildlife and wildlife habitat associated with the construction of the project are accidental direct mortality, habitat removal and sensory disturbance. Mitigation measures for wildlife and wildlife habitat are outlined in **Section 5.3.2.4**. In the event of project-related wildlife deaths, the NDMNRF or MECP should be contacted. If mortality occurs between concurrent projects for similar species, the Ministry will be able to note the occurrences and coordinate with Enbridge Gas to adjust construction activities. Potential cumulative effects resulting from sensory disturbance (i.e., noise, air pollution and dust) are discussed below.

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

Air Quality and Noise

Potential residual effects on air quality associated with the construction of the project and concurrent projects are an increase in noise and air pollutants from the operation of vehicles and equipment and an increase in dust from construction activities. Mitigation measures for air quality and noise are outlined in **Section 0.** Provided that the concurrent projects follow mitigation measures similar to those outlined in this ER, cumulative effects should be of low magnitude and reversible. Therefore, adverse residual cumulative effects on air quality and noise are not anticipated to be significant.

6.4.2 Operation and Maintenance

Development and maintenance activities, which are likely to occur during operation and maintenance of the project include:

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

Operation and maintenance activities undertaken by Enbridge Gas should be completed in coordination with the Enbridge Gas Environmental Planning Team and will consider potential effects on natural heritage and socio-economic environment. Appropriate mitigation measures should be developed and implemented based on the proposed maintenance work. Enbridge Gas should obtain all necessary agency permits and approvals, as required. Given the limited scale of effect of any potential operation and maintenance activities, it is anticipated that residual effects will be minimal and that should any interaction occur with other projects, significant 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 before or concurrent with the construction of the project. The Route Alternative Study Area for the Panhandle Loop (**Figure 1**) and Leamington Interconnect (**Figure 3**) were used to assess the project's potential for additive and interactive effects and other developments on environmental and socio-economic features.

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

7. Environmental Monitoring and Contingency Plans

7.1 Monitoring

Monitoring is recommended to confirm that proposed mitigation measures are effectively implemented. Inspection staff will conduct regular site inspections to monitor and assess the effectiveness of the environmental protection and mitigation measures (e.g., sediment and erosion control measures) and work collaboratively and proactively with Enbridge Gas and their Contractor to address any deficiencies. If the planned mitigation measures are ineffective during construction, contingency measures should be implemented to handle such situations.

The effects of the pipeline construction are, for the most part, expected to be temporary and of short duration given previous pipeline construction experience. The outlined mitigation measures have been effective on previous Enbridge projects. Enbridge Gas will adhere to the following general monitoring practices:

- Trained personnel will be on-site to monitor construction and be responsible for checking that the ER's mitigation measures and monitoring requirements are executed. Enbridge Gas will implement an orientation program for inspectors and contractor personnel to provide information regarding Enbridge Gas's environmental program and commitments and safety measures.
- Recommendations and commitments made in this ER and other applicable permits and reports will be incorporated into an Environmental Protection Plan (EPP) detailing construction activity. The EPP should also include site and feature-specific mitigation. The EPP should become part of the construction specification, as noted in section 5.8 of the OEB *Environmental Guidelines* (2016).
- A walking inspection of the entire pipeline route will be done approximately one year after construction to determine whether areas require further rehabilitation or as required by OEB conditions of approval.

Environmental monitoring activities recommended for the project are outlined in the following subsections.

7.1.1 Water Wells

Enbridge Gas will implement a water well monitoring program if there is a potential for water wells to be affected by the project. An independent hydrogeologist shall be retained to assess the need for and develop a well monitoring program if necessary. Should private domestic water wells be affected by project construction, a potable water supply will be provided, and the water well should be repaired or restored as required.

7.1.2 Sediment Erosion and Slope Stability

An Environmental Inspector shall conduct inspections of sediment and erosion control measures to confirm activities comply with plans to control site erosion. Inspection frequency will be increased during significant rainfall events. Areas of exposed soil should be monitored during construction by the Environmental Inspector. Restored bank slopes should be inspected one year after construction for erosion, and if necessary, restoration measures should be implemented.

If sediment and erosion control measures are not working effectively, the Contractor must repair and/or re-install deficient sediment and erosions control barriers within a reasonable time frame. There should also be a standby supply of erosion and sediment control devices/supplied for emergency installation.

7.1.3 Watercourse Crossings

Activities conducted at the watercourse crossings may affect water quality, fish, wildlife, and fish and wildlife habitat. All watercourse crossings will be monitored during construction to confirm that the mitigation measures outlined in **Section 5.3.2.1** and **Section 5.3.2.2** are followed and are effective. Inspection frequency during construction should be increased at watercourse crossings and near other sensitive environmental features such as woodlands and wetlands. Qualified fisheries and wildlife biologists should conduct the fish and wildlife (turtle/snake) salvage and monitor for any potential effects to fish and wildlife after relocation during open-cut crossings.

For trenchless crossings, plans for inadvertent fluid release should be developed, and associated equipment should be available to respond should trenchless watercourse crossing installation methods be used. If dewatering is proposed, back-up pumps and associated equipment should also be available for emergency dewatering.

7.1.4 Vegetation

Upon the completion of construction, the re-establishment of vegetation cover should be monitored and mitigation measures such as silt fencing should be retained in place until cover is fully established. If there is insufficient time in the growing season to effectively re-vegetate the disturbed area, overwintering treatments such as erosion control blankets or fibre matting should be installed to contain the site over the winter months. Vegetative cover should be planted as soon as weather permits in the next growing season, followed by maintenance and inspection to confirm the successful establishment of native vegetation.

Trees within the road RoW will be replaced in negotiation with the respective Municipal regulator, where applicable. Trees directly above and adjacent to the pipeline within the road RoW will be removed and will not be replaced to help facilitate future maintenance. Trees on private lands(s) will be negotiated with the landowner, and trees that are removed on temporary construction areas will be replaced with seedlings at a ratio of 2 to 1, based on area using NDMNRF density recommendation of 1000 trees per acre.

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

7.1.5 Wildlife

An environmental inspector should verify that wildlife protection timing windows are adhered to, as applicable. To avoid contravention of the MBCA, any vegetation removal activities should occur between September 1st and March 31st to ensure that all bird nesting activities have been completed and that most chicks have reached the adult stage (Environment and Climate Change Canada, 2018). In most cases, nest searches during the nesting season (April 1st to August 31st) are not recommended within complex habitats, as the ability to detect nests is largely low while the risk of disturbance to active nests is high. Disturbance increases the risk of nest predation and abandonment by adults. Therefore, nest searches are not recommended unless nests are known to be easily located without disturbing them. Nest searches may be completed during the nesting period (April 1st to August 31st) by a qualified biologist within ‘simple habitats’ (Canadian Wildlife Services., 2014). Simple habitats refer to habitats containing few likely nesting spots or a small community of migratory birds. Examples of simple habitats include:

- An urban park consisting mainly of lawns with a few isolated trees;
- A vacant lot with a few possible nest sites;
- A previously cleared area where there is a lag between clearing and construction activities (a place where ground nesters may have been attracted to nest in cleared areas or stockpiles of soils, for instance).

Similarly, nest searches can also be considered when investigating:

- Conspicuous nest structures (such as nests of Great Blue Herons (*Ardea Herodias*), Bank Swallows, and Chimney Swifts);
- Cavity nesters in snags (such as woodpeckers); or
- Colonial-breeding species that can often be located from a distance (such as a colony of terns or gulls)

7.1.6 Species at Risk

Construction monitoring will be needed due to the likely presence of SAR within the project limits. The nature of monitoring will be determined in consultation with the MECP and DFO and will depend on the species present.

7.1.7 Cultural Heritage Resources

Where temporary landscape disturbance may occur due to the installation of the pipelines, ensure that any landscape disturbance is restored to pre-construction conditions in the effected lands outside the existing road allowances (i.e., restore to an active agricultural field).

Should limits of the PSAs documented in the CHAR change, then further mitigation will be required. Mitigation measures may include, but are not limited to, completing a cultural heritage evaluation report, or employing suitable measures such as landscaping, buffering or other forms of mitigation, where appropriate.

7.1.8 Stakeholder Relations

A Lands Relations Agent and/or a Community Liaison will be assigned to the project to be the point of contact for local residents, business owners and members of the public. These Enbridge Gas' representatives will provide project updates, attempt to coordinate potentially disruptive construction components with those effected, receive comments or complaints, and act as the communication lead between construction and individual residents and business owners.

7.2 Contingency Measures

Contingency planning is necessary to prevent a delayed or inadequate response to unexpected events or conditions during construction. Contingency planning involves the preparation of plans and procedures that should be implemented if an unexpected event occurs. The absence of contingency plans may result in short or long-term environmental or socio-economic effects and possibly threaten public safety.

The following sections outline unexpected events that require contingency planning. Although these events are not anticipated, Enbridge Gas and the pipeline contractor will be prepared to act if they occur. Construction personnel will be made aware of the contingency plans and will know how to implement them.

7.2.1 Watercourse Sedimentation

Generally, ESC measures will minimize the risk of sediment-laden runoff entering watercourses and other natural heritage features. However, in some cases, extreme runoff events could result in the collapse of sediment fencing, overflow or bypass of barriers, and slope or trench failures, leading to sedimentation of watercourses.

If sedimentation occurs, immediate action should be taken to repair dysfunctional ESC features, install temporary measures, or install additional ESC measures that will contain the erosion as quickly as practical. The source of sedimentation and degree of effect 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.

7.2.2 Accidental Contaminant Spills

In the event of an accidental contaminant spill, immediate determination of the extent and magnitude of the spill should occur. Spills should be immediately reported to the on-site inspection team, and the MECP Spills Action Centre. Plans for spill response should be implemented and results of the spill clean-up recorded. Frequent inspection of the emergency response equipment shall occur to ensure required materials are available and readily accessible.

7.2.3 Archaeological or Heritage Resources

Should previously undocumented archaeological or heritage resources be discovered during construction activities, they may be a new archaeological site subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person who discovers the archaeological or heritage resources must cease work immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48(1) of the *Ontario Heritage Act*.

Should human remains be identified during ground-disturbing activities associated with the project, all work must cease in the area, a licensed archaeologist must be engaged, and the appropriate authorities will be notified, including the local police, the coroner's office, the Cemeteries Regulation Unit of the Ontario Ministry of Government and Consumer Services, and the MHSTCI.

8. Conclusion

This Environmental Report outlined the existing physical, biophysical, and socio-economic environment along the proposed pipeline routes and related facilities for the Panhandle Loop and Leamington Interconnect. At the onset of the environmental study process, AECOM undertook a route evaluation process to identify Alternative Pipeline Routes and select Preliminary Preferred Routes.

The project, including the Preliminary Preferred Routes, was presented to stakeholders at information sessions held in November – December 2021 and February 2022. During consultation, feedback was received from the residents and regulatory agencies, with necessary adjustments being made to the Preferred Routes.

This report also presents the potential effects and proposed mitigation measures associated with the installation of the proposed pipelines (**Section 5.3**). With the implementation of the recommendations in this report, including the additional field investigations, as well as adherence to all permitting, regulatory and/or legislative requirements, potential adverse environmental effects of the project will largely be avoided and, where avoidance is not possible, effects have been minimized to the point where they are not likely significant.

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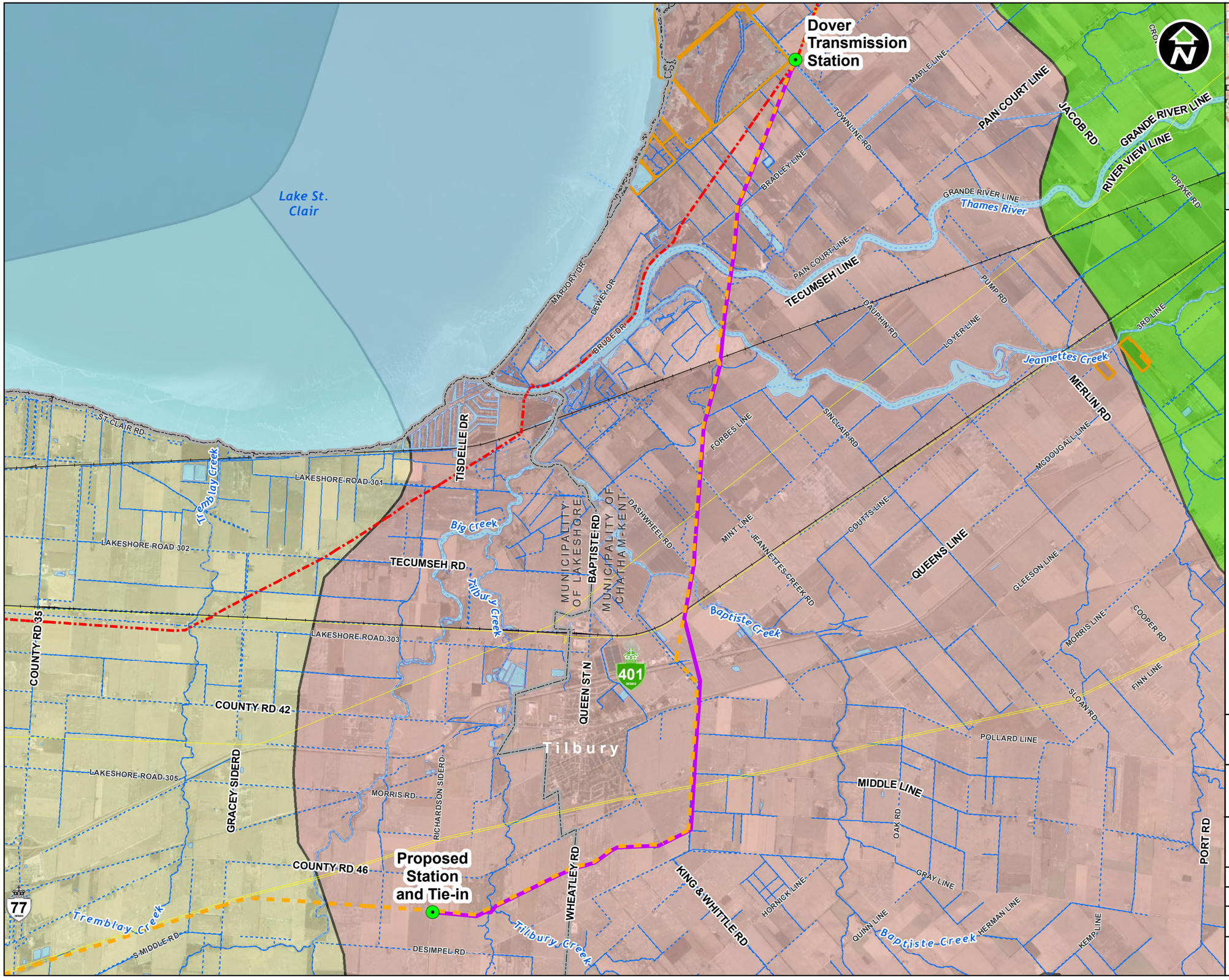
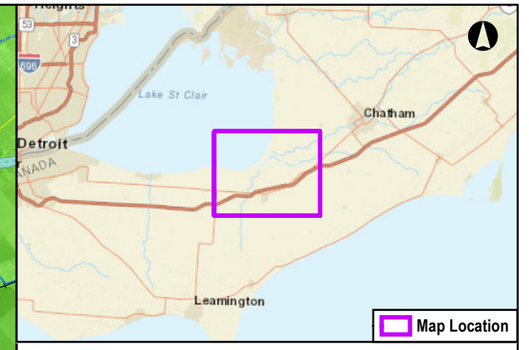
Appendix A

Figures





Legend

- Station
- Preferred Route
- Existing 16 Inch Panhandle Pipeline
- Existing 20 Inch Panhandle Pipeline
- Hydro Line
- Railway
- Constructed Drain
- Permanent Stream
- Waterbody
- ANSI, Life Science
- Municipal Boundary

Bedrock Geology

- 59a: Limestone, dolostone, shale - Hamilton Group
- 59c: Limestone, dolostone, shale - Dundee Fm
- 60a: Shale - Kettle Point Formation

Panhandle Regional Expansion Project

Bedrock Geology (Panhandle)

0 2 4
Kilometers
DATUM: NAD 1983 UTM Zone 17N

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Figure 5

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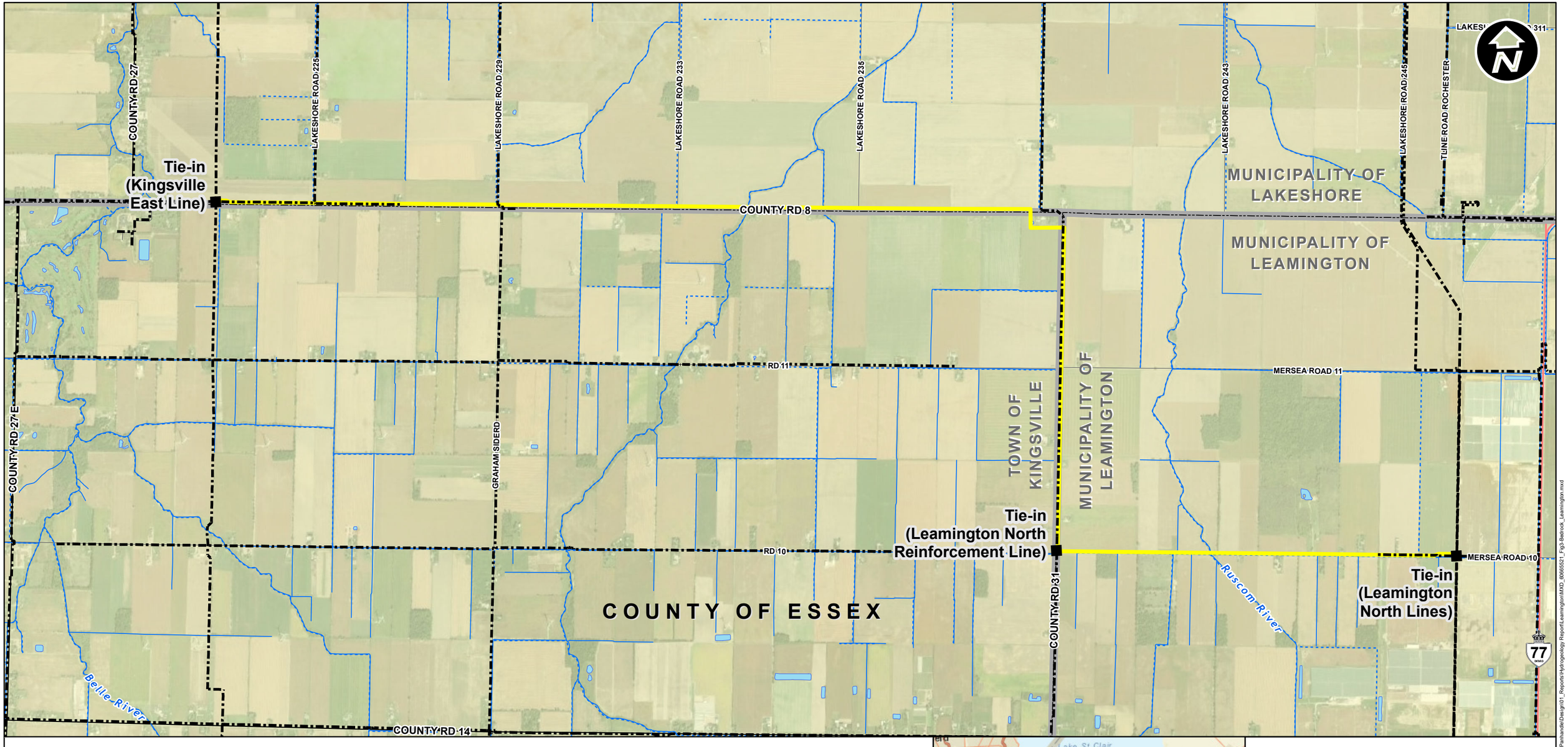
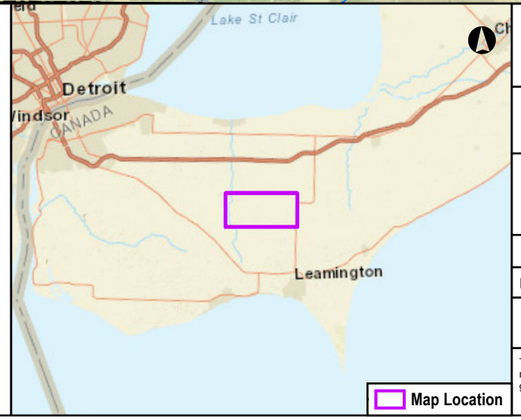


Legend

- Tie-in
- Preferred Route
- Existing Enbridge Gas Pipeline
- Constructed Drain
- Permanent Stream
- Intermittent Stream
- Waterbody
- Municipal Boundaries

Bedrock Geology

- 59c: Limestone, dolostone, shale - Dundee Fm



Panhandle Regional Expansion Project

Bedrock Geology (Leamington)

0 150 300 600 900 1,200 1,500 1,800 2,100
Meters
DATUM: NAD 1983 UTM Zone 17N

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Figure 6

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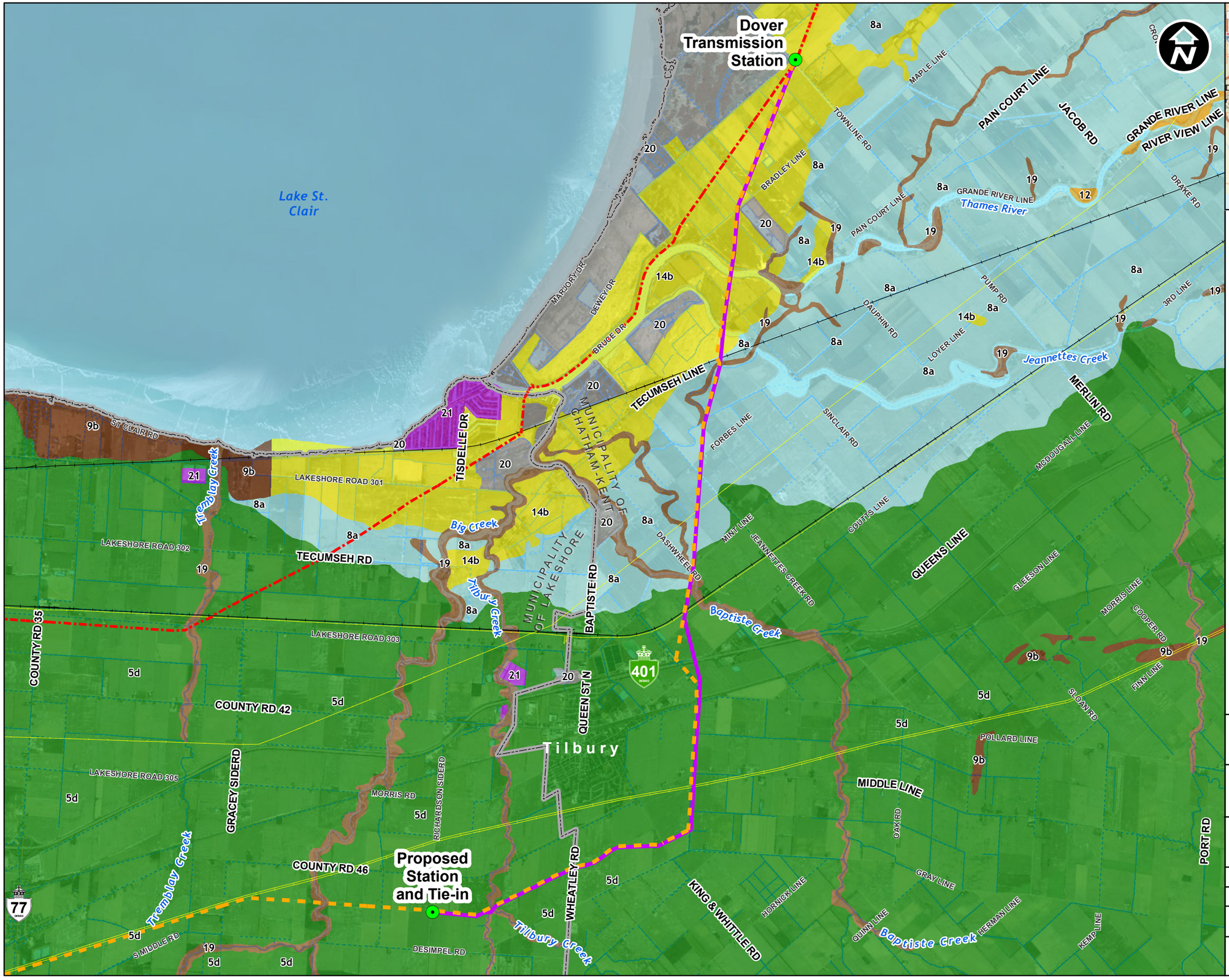

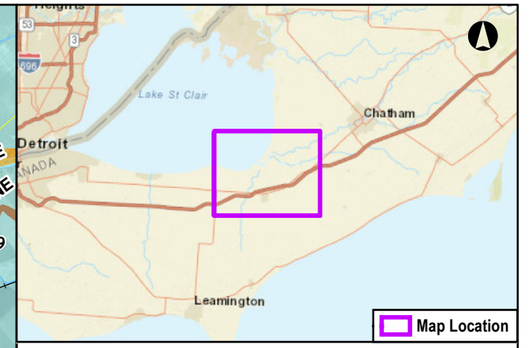

Legend

- Station
- Preferred Route
- Existing 16 Inch Panhandle Pipeline
- Existing 20 Inch Panhandle Pipeline
- Hydro Line
- Railway
- Constructed Drain
- Permanent Stream
- Waterbody
- Municipal Boundary

Surficial Geology

- 5d: Glaciolacustrine-derived silty to clayey till
- 8a: Fine-textured glaciolacustrine deposits
- 9b: Littoral-foreshore deposits
- 12: Older alluvial deposits
- 14b: Littoral-foreshore deposits
- 19: Modern alluvial deposits
- 20: Organic deposits
- 21: Man-made deposits

Panhandle Regional Expansion Project

Surficial Geology (Panhandle)

0 2 4
Kilometers
DATUM: NAD 1983 UTM Zone 17N

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COUNTY RD 27

LAKESHORE ROAD 225

LAKESHORE ROAD 229

LAKESHORE ROAD 233

LAKESHORE ROAD 235

LAKESHORE ROAD 243

LAKESHORE ROAD 245

TUNE ROAD ROCHESTER

LAKES 311

Tie-in
(Kingsville
East Line)

COUNTY RD 8

MUNICIPALITY OF
LAKESHORE

MUNICIPALITY OF
LEAMINGTON

RD 11

MERSEA ROAD 11

COUNTY RD 27 E

GRAHAM SIDERD

TOWN OF
KINGSVILLE

MUNICIPALITY OF
LEAMINGTON

Tie-in
(Leamington North
Reinforcement Line)

RD 10

COUNTY RD 31

MERSEA ROAD 10

Tie-in
(Leamington
North Lines)

Ruscom River

COUNTY OF ESSEX

77

Belle River

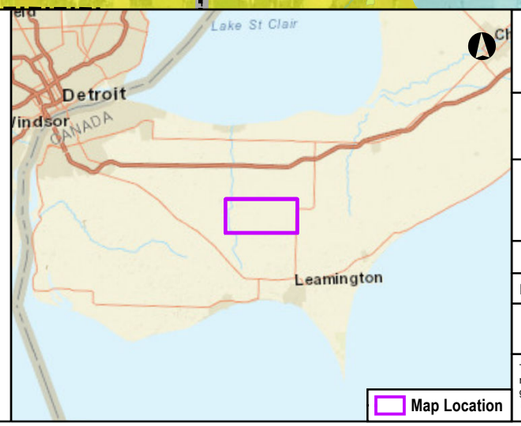
COUNTY RD 14

Legend

- Tie-in
- Preferred Route
- Existing Enbridge Gas Pipeline
- Constructed Drain
- Permanent Stream
- Intermittent Stream
- Waterbody
- Municipal Boundaries

Surficial Geology

- 5d: Glaciolacustrine-derived silty to clayey till
- 8a: Fine-textured glaciolacustrine deposits
- 9b: Littoral-foreshore deposits
- 19: Modern alluvial deposits



Panhandle Regional Expansion Project

Surficial Geology (Leamington)

0 150 300 600 900 1,200 1,500 1,800 2,100

Meters
DATUM: NAD 1983 UTM Zone 17N

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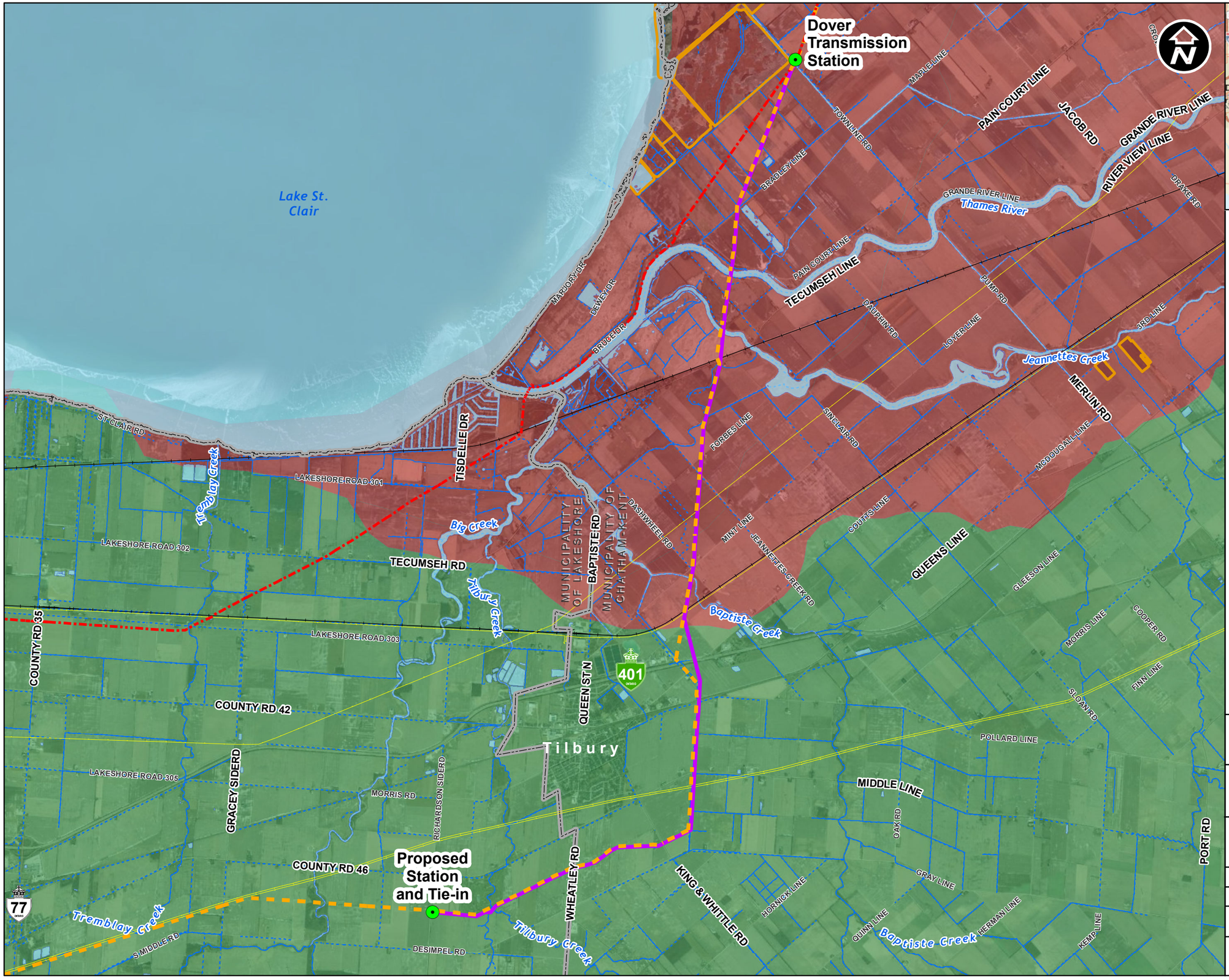

Legend

- Station
- Preferred Route
- Existing 16 Inch Panhandle Pipeline
- Existing 20 Inch Panhandle Pipeline
- Hydro Line
- Railway
- Constructed Drain
- Permanent Stream
- Waterbody
- ANSI, Life Science
- Municipal Boundary

Quaternary Geology

- Lacustrine deposits
- Tavistock Till

Panhandle Regional Expansion Project

Quaternary Geology (Panhandle)

0 2 4
Kilometers
DATUM: NAD 1983 UTM Zone 17N

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Tie-in (Kingsville East Line)

COUNTY RD 27

LAKESHORE ROAD 225

LAKESHORE ROAD 229

LAKESHORE ROAD 233

LAKESHORE ROAD 235

LAKESHORE ROAD 243

LAKESHORE ROAD 245

TUNE ROAD ROCHESTER

LAKES' 311

COUNTY RD 8

MUNICIPALITY OF LAKESHORE

MUNICIPALITY OF LEAMINGTON

RD 11

MERSEA ROAD 11

COUNTY RD 27 E

GRAHAM SIDERD

TOWN OF KINGSVILLE

MUNICIPALITY OF LEAMINGTON

Tie-in (Leamington North Reinforcement Line)

RD 10

COUNTY RD 31

MERSEA ROAD 10

Tie-in (Leamington North Lines)

Ruscom River

COUNTY OF ESSEX

77

Belle River

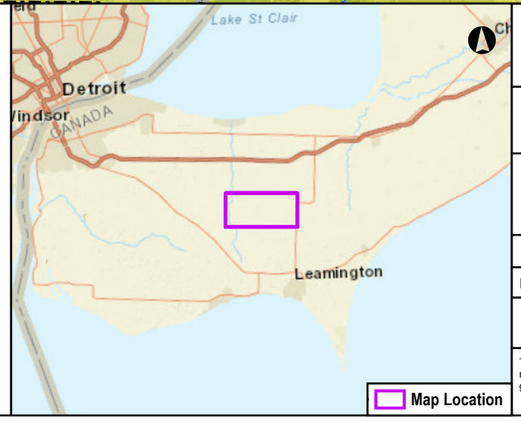
COUNTY RD 14

Legend

- Tie-in
- Preferred Route
- Existing Enbridge Gas Pipeline
- Constructed Drain
- Permanent Stream
- Intermittent Stream
- Waterbody
- Municipal Boundaries

Quaternary Geology

- Glaciolacustrine Deposits: Silt and Clay
- Tavistock Till



Panhandle Regional Expansion Project

Quaternary Geology (Leamington)

0 150 300 600 900 1,200 1,500 1,800 2,100

Meters

DATUM: NAD 1983 UTM Zone 17N

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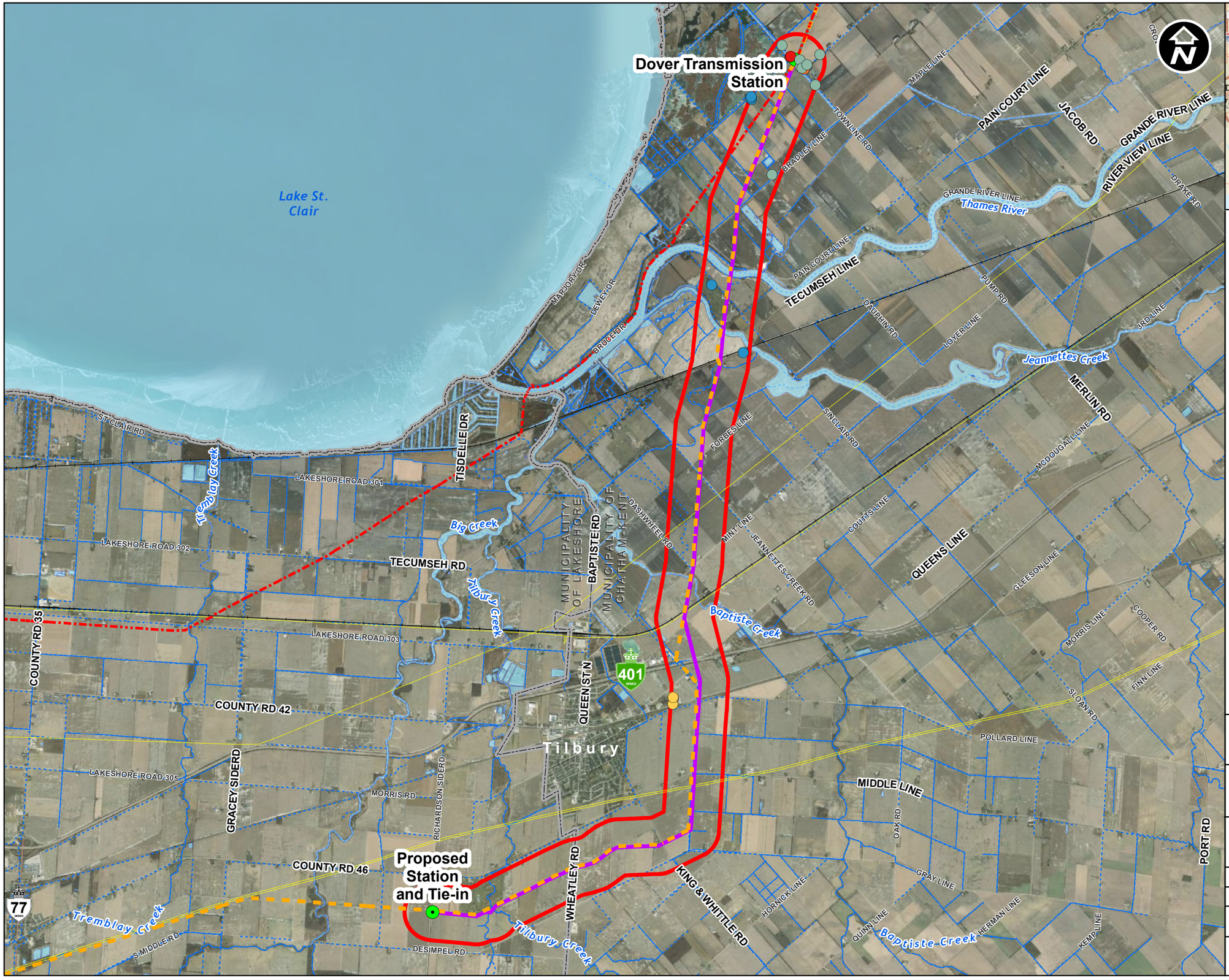

Legend

Water Well Use

- Commerical
- Domestic
- Monitoring and Test Hole
- Municipal
- Other
- Station
- Preferred Route
- Existing 16 Inch Panhandle Pipeline
- Existing 20 Inch Panhandle Pipeline
- Hydro Line
- Railway
- Constructed Drain
- Permanent Stream
- Waterbody
- Municipal Boundary
- Project Area

Panhandle Regional Expansion Project

MECP Water Well Records (Panhandle)

0 2 4
Kilometers
DATUM: NAD 1983 UTM Zone 17N

March 2022	1:65,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
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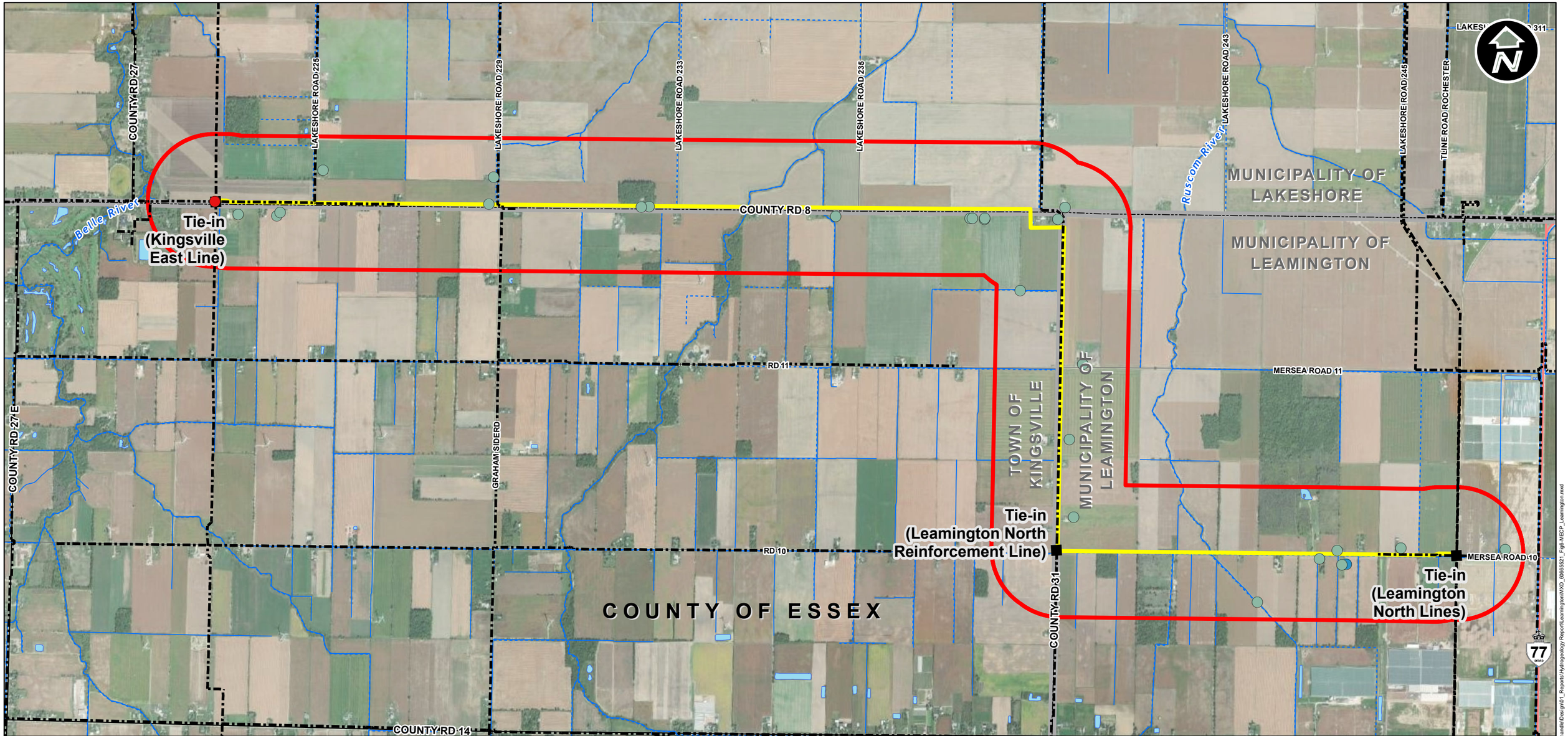
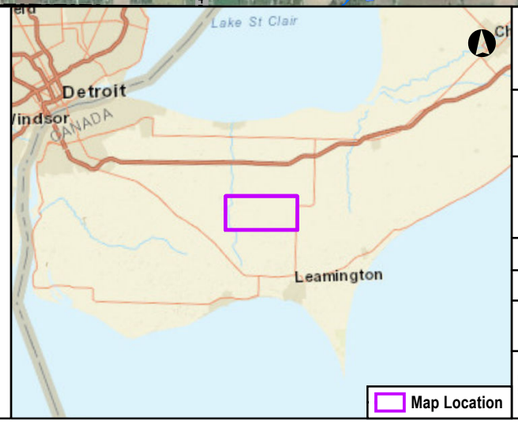


Legend

- Tie-in
- Preferred Route
- Existing Enbridge Gas Pipeline
- Constructed Drain
- Permanent Stream
- Intermittent Stream
- Waterbody
- Municipal Boundaries
- Project Area

Water Well Use

- Commerical
- Domestic
- Livestock
- Other



Panhandle Regional Expansion Project

MECP Water Well Records (Leamington)

0 150 300 600 900 1,200 1,500 1,800 2,100

Meters

DATUM: NAD 1983 UTM Zone 17N

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Figure 12

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Dover Transmission Station

Proposed Station and Tie-in

Lake St. Clair

Tilbury

Thames River

Jeannettes Creek

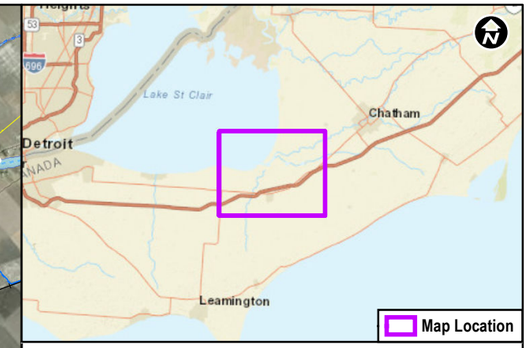
Tremblay Creek

Big Creek

Tilbury Creek

Baptiste Creek

MAPLE LINE
TOWN LINE RD
BRADLEY LINE
PAIN COURT LINE
JACOB RD
GRANDE RIVER LINE
RIVER VIEW LINE
DRAKE RD
TECUMSEH LINE
DAUPHIN RD
PUMP RD
LOYER LINE
3RD LINE
MERLIN RD
MARJORY DR
DEWEY DR
BRUGE DR
ST CLAIR RD
TISDELLE DR
LAKESHORE ROAD 301
LAKESHORE ROAD 302
LAKESHORE ROAD 303
LAKESHORE ROAD 305
TECUMSEH RD
COUNTY RD 35
COUNTY RD 42
COUNTY RD 46
GRACEY SIDERD
RICHARDSON SIDERD
MORRIS RD
S MIDDLE RD
DESIMPEL RD
WHEATLEY RD
KING & WHITTLE RD
BAPTISTE RD
QUEEN ST N
DASHWHEEL RD
FORBES LINE
SINCLAIR RD
MINT LINE
JEANNETTES CREEK RD
COUTTS LINE
QUEENS LINE
CLEESON LINE
MCDOUGALL LINE
MORRIS LINE
COOPER RD
FINN LINE
SLOAN RD
POLLARD LINE
MIDDLE LINE
OAK RD
GRAY LINE
HORNICK LINE
QUINN LINE
HERMAN LINE
KEMP LINE
PORT RD
MUNICIPALITY OF LAKESHORE
MUNICIPALITY OF CHATHAM-KENT
401
77



Legend

- Petroleum Well
- Station
- Preferred Route
- Existing 16 Inch Panhandle Pipeline
- Existing 20 Inch Panhandle Pipeline
- Hydro Line
- Railway
- Constructed Drain
- Permanent Stream
- Waterbody
- Municipal Boundary
- Petroleum Pool

Panhandle Regional Expansion Project

Petroleum Pools

0 2 4
Kilometers
DATUM: NAD 1983 UTM Zone 17N

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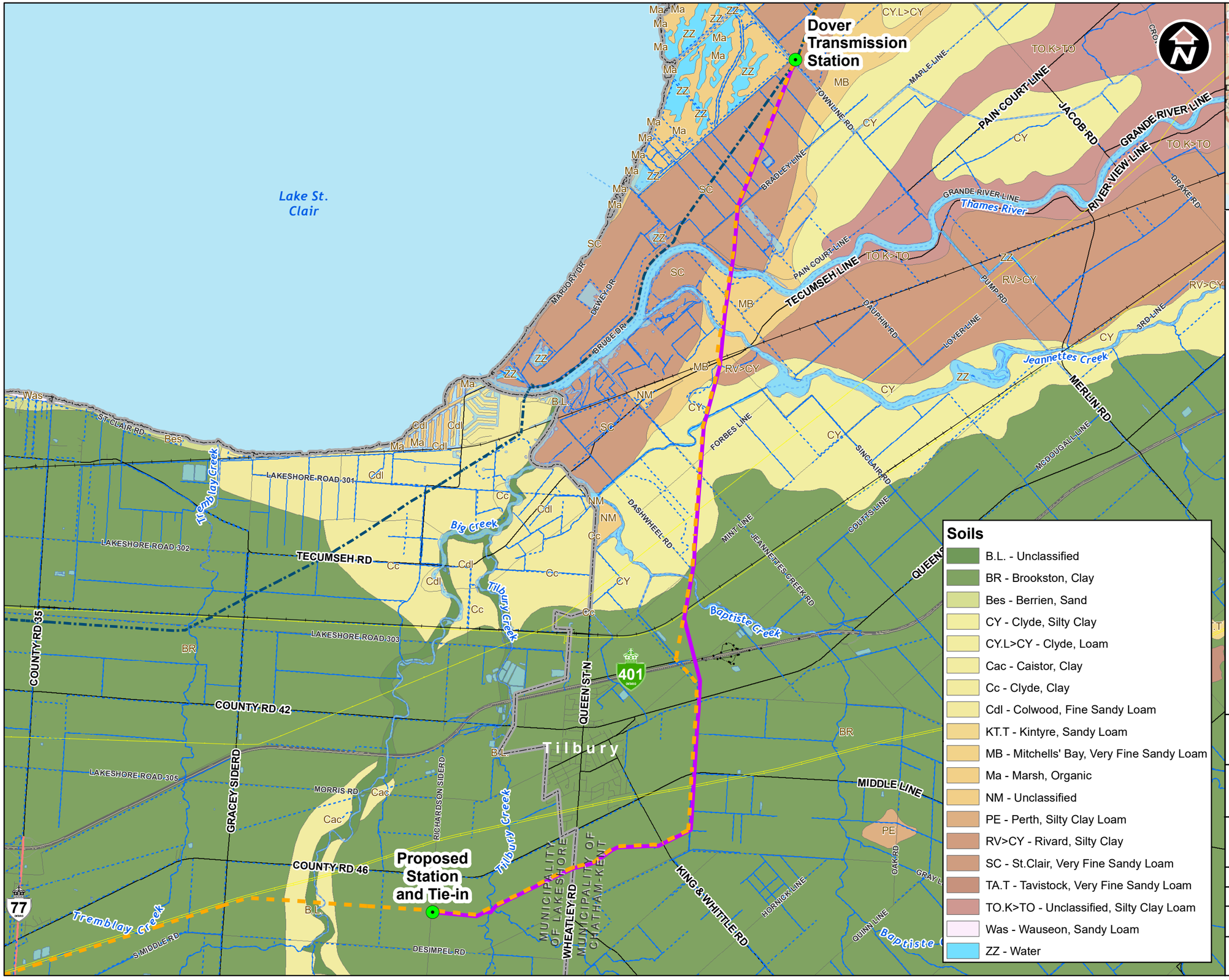

Panhandle Regional Expansion Project

Soil Types (Panhandle)

0 2 4
Kilometers
DATUM: NAD 1983 UTM Zone 17N

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P#:60665521	V#:	

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Figure 14

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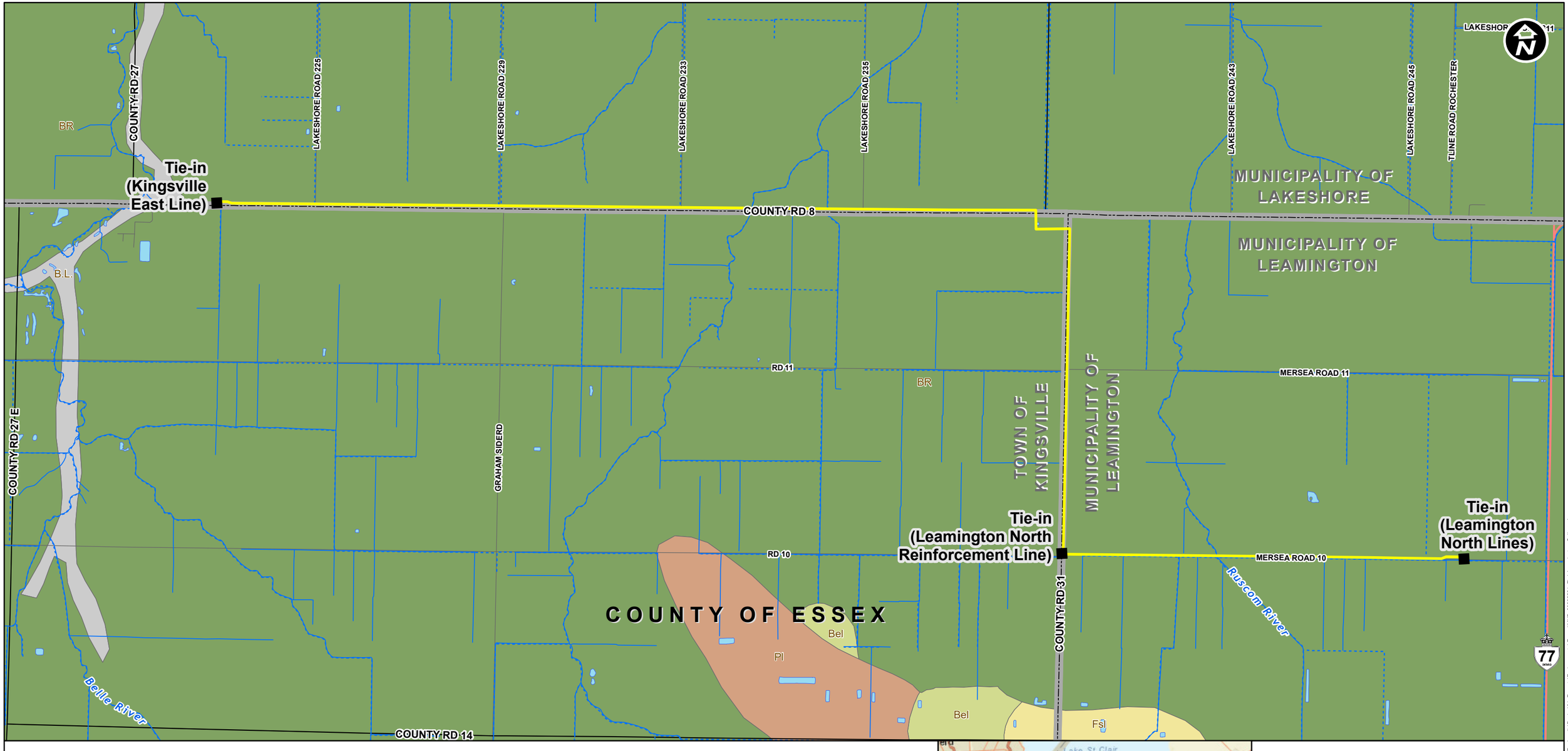
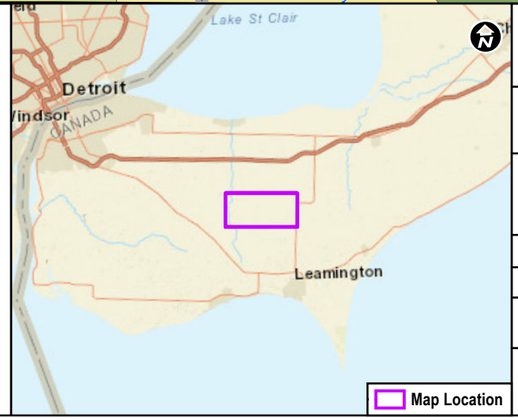


Legend

- Tie-in
- Preferred Route
- Constructed Drain
- Permanent Stream
- Intermittent Stream
- Waterbody
- Municipal Boundaries

Soils

- B.L. - Unclassified
- BR - Brookston, Clay
- Bel - Berrien, Sandy Loam
- Fsl - Fox, Sandy Loam
- Pl - Parkhill, Loam



Panhandle Regional Expansion Project

Soil Types (Leamington)

0 150 300 600 900 1,200 1,500 1,800 2,100
Meters
DATUM: NAD 1983 UTM Zone 17N

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Figure 15

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Map location: \\na.aecomnet.com\f6\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\01_Reports\Environmental Report\MXD_60665521_Fig1-Leamington_Soils.mxd
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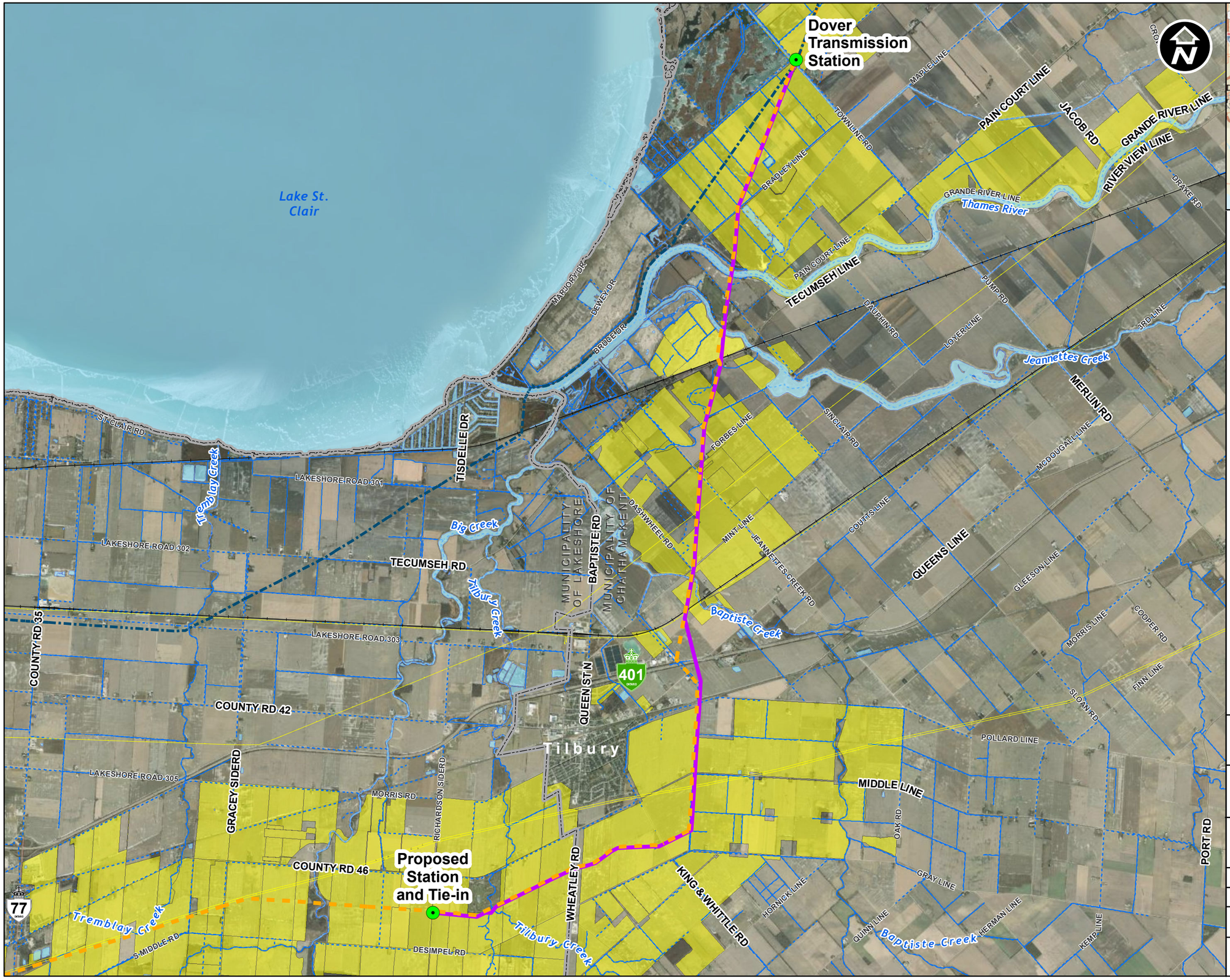

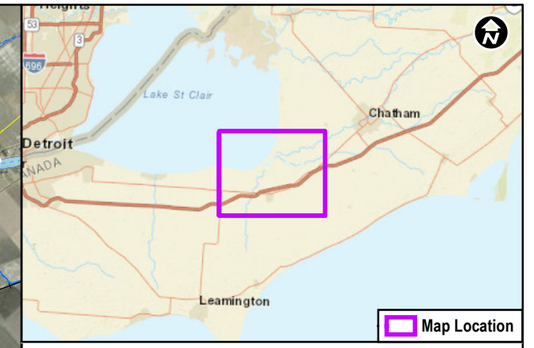

Legend

- Station
- Preferred Route
- Existing 16 Inch Panhandle Pipeline
- Existing 20 Inch Panhandle Pipeline
- Hydro Line
- Railway
- Constructed Drain
- Permanent Stream
- Waterbody
- Municipal Boundary
- Tile Drainage Areas

Panhandle Regional Expansion Project

Tile Drainage Areas (Panhandle)

0 2 4
Kilometers
DATUM: NAD 1983 UTM Zone 17N

March 2022	1:65,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
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Figure 16

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Map location: \\na.aecomnet.com\fs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\01_Reports\Environmental Report\MXD_60665521_Fig2-PanhandleLoop_Drainage.mxd
Date Saved: 3/18/2022 3:06:15 PM User Name: clarkb

COUNTY RD 27
LAKESHORE ROAD 225
LAKESHORE ROAD 229
LAKESHORE ROAD 233
LAKESHORE ROAD 235
LAKESHORE ROAD 243
LAKESHORE ROAD 245
TUNE ROAD ROCHESTER
LAKESHOR 11

Tie-in (Kingsville East Line)

COUNTY RD 8

MUNICIPALITY OF LAKESHORE

MUNICIPALITY OF LEAMINGTON

RD 11

MERSEA ROAD 11

COUNTY RD 27 E

GRAHAM SIDERD

TOWN OF KINGSVILLE

MUNICIPALITY OF LEAMINGTON

Tie-in (Leamington North Reinforcement Line)

RD 10

COUNTY OF ESSEX

COUNTY RD 31

MERSEA ROAD 10

Tie-in (Leamington North Lines)

Ruscom River

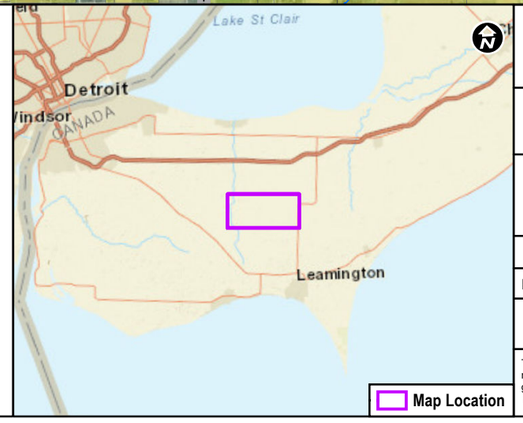
77

Belle River

COUNTY RD 14

Legend

- Tie-in
- Preferred Route
- Constructed Drain
- Permanent Stream
- Intermittent Stream
- Waterbody
- Municipal Boundaries
- Tile Drainage Areas



Panhandle Regional Expansion Project

Tile Drainage Areas (Leamington)

0 150 300 600 900 1,200 1,500 1,800 2,100
Meters
DATUM: NAD 1983 UTM Zone 17N

March 2022	1:28,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
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Figure 17

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Map location: \\na.aecomnet.com\f6\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\01_Reports\Environmental Report\MXD_60665521_Fig2-Leamington_Drainage.mxd
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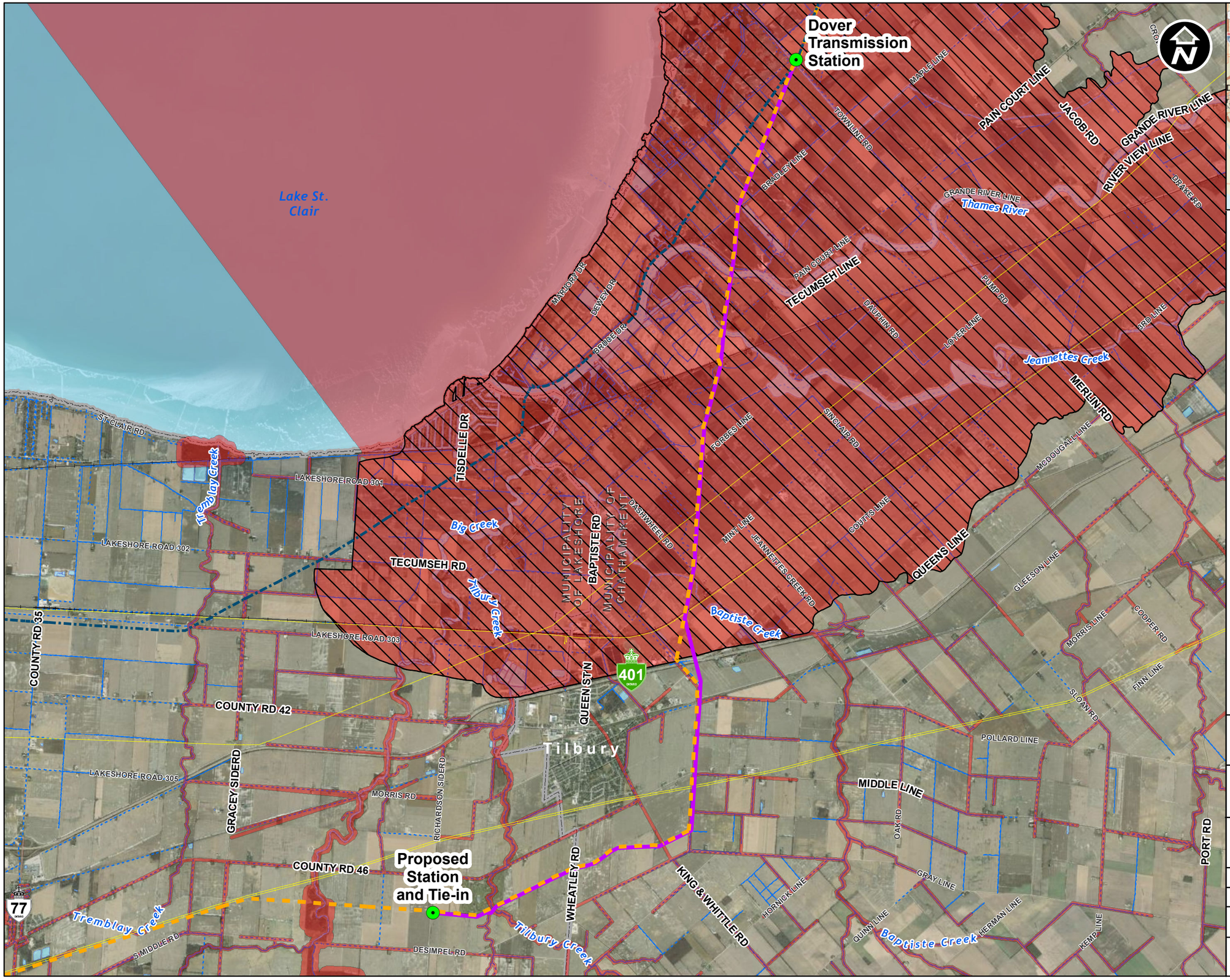

Legend

- Station
- Preferred Route
- Existing 16 Inch Panhandle Pipeline
- Existing 20 Inch Panhandle Pipeline
- Hydro Line
- Railway
- Constructed Drain
- Permanent Stream
- Waterbody
- Municipal Boundary
- LTVCA Regulated Area
- LTVCA Flood Prone Area

Panhandle Regional Expansion Project

Regulated Areas and Floodplain (Panhandle)

0 2 4

Kilometers
DATUM: NAD 1983 UTM Zone 17N

March 2022	1:65,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
P#:60665521	V#:	
AECOM		**Figure 18**

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LAKESHORE ROAD 225
LAKESHORE ROAD 229
LAKESHORE ROAD 233
LAKESHORE ROAD 235
LAKESHORE ROAD 243
LAKESHORE ROAD 245
TLINE ROAD ROCHESTER

MUNICIPALITY OF LAKESHORE

MUNICIPALITY OF LEAMINGTON

Tie-in (Kingsville East Line)

COUNTY RD 8

RD 11

MERSEA ROAD 11

GRAHAM SIDERD

TOWN OF KINGSVILLE

MUNICIPALITY OF LEAMINGTON

Tie-in (Leamington North Reinforcement Line)

Tie-in (Leamington North Lines)

RD 10

MERSEA ROAD 10

COUNTY RD 31

Ruscom River

COUNTY OF ESSEX

Legend

- Tie-in
- Preferred Route
- Constructed Drain
- Permanent Stream
- Intermittent Stream
- Waterbody
- Municipal Boundaries
- ERCA Regulated Areas
- ERCA Maximum Observed Flooding

Detroit
CANADA
Leamington
Map Location

Panhandle Regional Expansion Project

Regulated Areas and Floodplain (Leamington)

0 125 250 500 750 1,000 1,250 1,500 1,750
Meters
DATUM: NAD 1983 UTM Zone 17N

March 2022	1:25,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
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Figure 19

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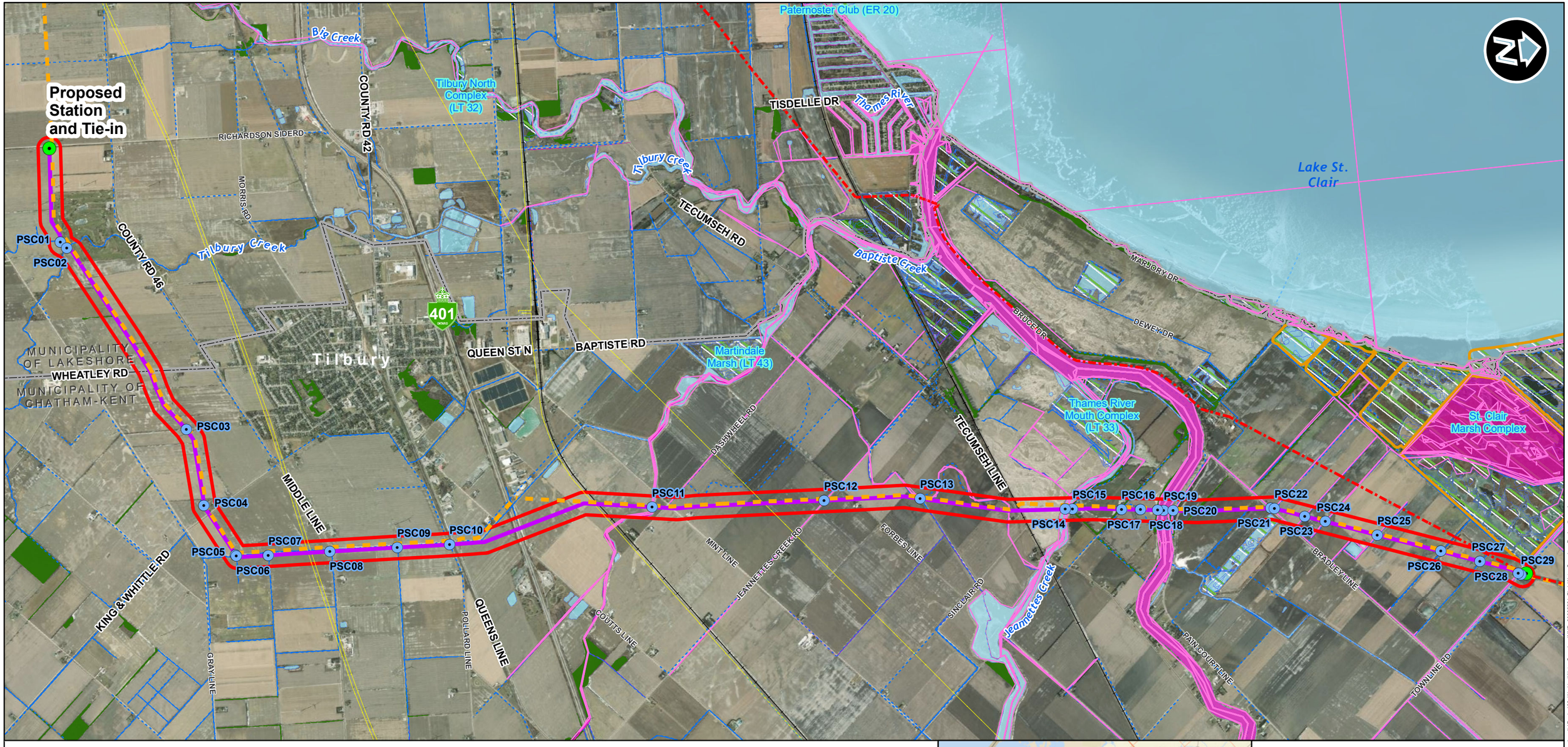
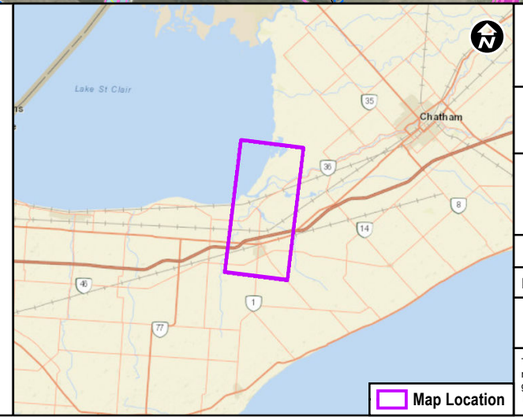


Legend

- Watercourse Crossing
- Station
- Preferred Route
- Existing 16 Inch Panhandle Pipeline
- Existing 20 Inch Panhandle Pipeline
- Hydro Line
- Railway
- Constructed Drain
- Permanent Stream
- Waterbody
- Provincially Significant Wetland
- ANSI, Life Science
- Wooded Area
- Municipal Boundary
- Study Area (Panhandle Study Area)
- DFO SAR Critical Habitat
- Fisheries and Oceans Canada Species at Risk Distribution (Range)



Panhandle Regional Expansion Project

Preliminary SAR Screening (Panhandle)

0 200 400 800 1,200 1,600 2,000 2,400 2,800
Meters
DATUM: NAD 1983 UTM Zone 17N

April 2022	1:40,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
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Figure 20

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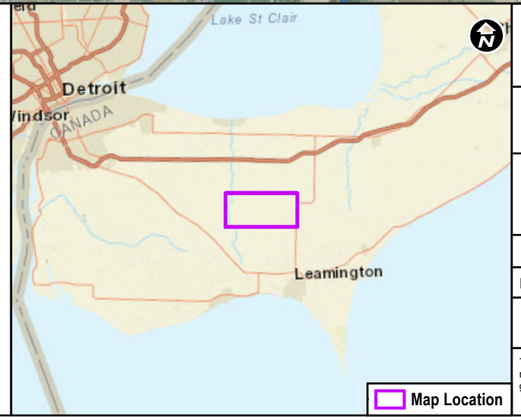
Map location: \\na.aecomnet.com\fs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\03_Working\Water Crossings\MXD_60665521_Fig1-Water Crossings Panhandle.mxd
Date Saved: 4/8/2022 9:53:20 AM User Name: clarkb

Tie-in (Kingsville East Line)
LSC1
LSC3
LSC2
LSC4
LSC5
LSC6
LSC7
LSC8
LSC9
COUNTY RD 8
RD 11
RD 10
MERSEA ROAD 11
MERSEA ROAD 10
COUNTY RD 27
COUNTY RD 27 E
COUNTY RD 14
COUNTY RD 31
LAKESHORE ROAD 225
LAKESHORE ROAD 229
LAKESHORE ROAD 233
LAKESHORE ROAD 235
LAKESHORE ROAD 243
LAKESHORE ROAD 245
TUNE ROAD ROCHESTER
GRAHAM SIDERD
Belle River
Ruscom River
Tie-in (Leamington North Reinforcement Line)
Tie-in (Leamington North Lines)
77

Legend

- Watercourse Crossing
- Tie-in
- Preferred Route
- Constructed Drain
- Permanent Stream
- Intermittent Stream
- Waterbody
- Wooded Area
- Municipal Boundaries
- Study Area (Leamington Study Area)



Panhandle Regional Expansion Project

Preliminary SAR Screening (Leamington)

0 250 500 1,000 1,500 2,000
Meters
DATUM: NAD 1983 UTM Zone 17N

April 2022	1:28,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
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Figure 21

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Map location: \\ra.aecomnet.com\fil\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\03_Working\Water Crossings\MXD_60665521_Fig2-Water Crossings Leamington.mxd
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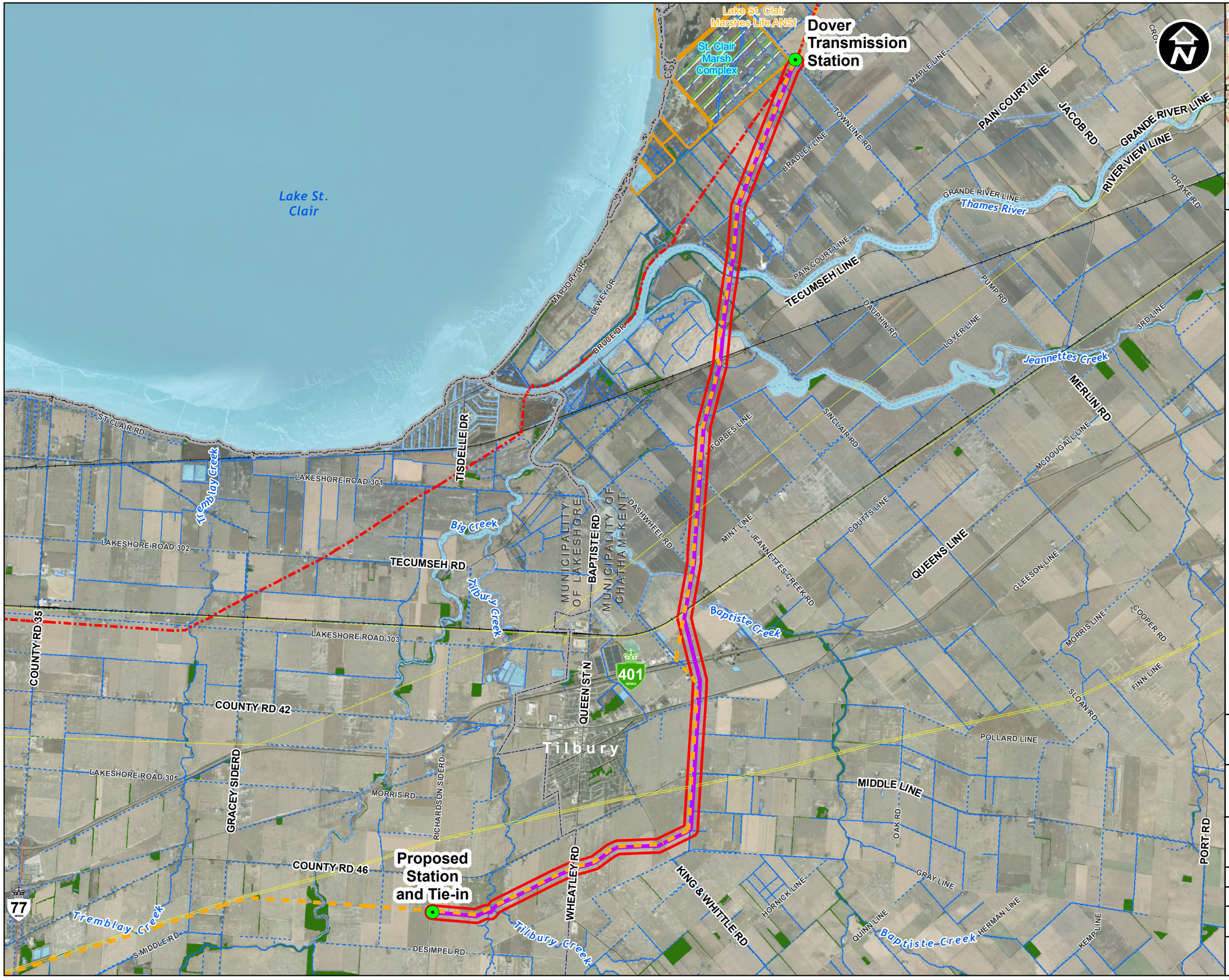

Legend

- Station
- Preferred Route
- Existing 16 Inch Panhandle Pipeline
- Existing 20 Inch Panhandle Pipeline
- Hydro Line
- Railway
- Constructed Drain
- Permanent Stream
- Waterbody
- ANSI, Life Science
- Provincially Significant Wetland
- Wooded Area
- Municipal Boundary
- Background Review Study Area

Panhandle Regional Expansion Project

Natural Areas (Panhandle)

0 2 4
Kilometers
DATUM: NAD 1983 UTM Zone 17N

March 2022	1:65,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
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Figure 22

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Map location: \\na.aecomnet.com\ts\AMER\Kitchener-CA\CN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\01_Reports\Background Review\MXD_60665521_Fig1-Panhandle_Background.mxd
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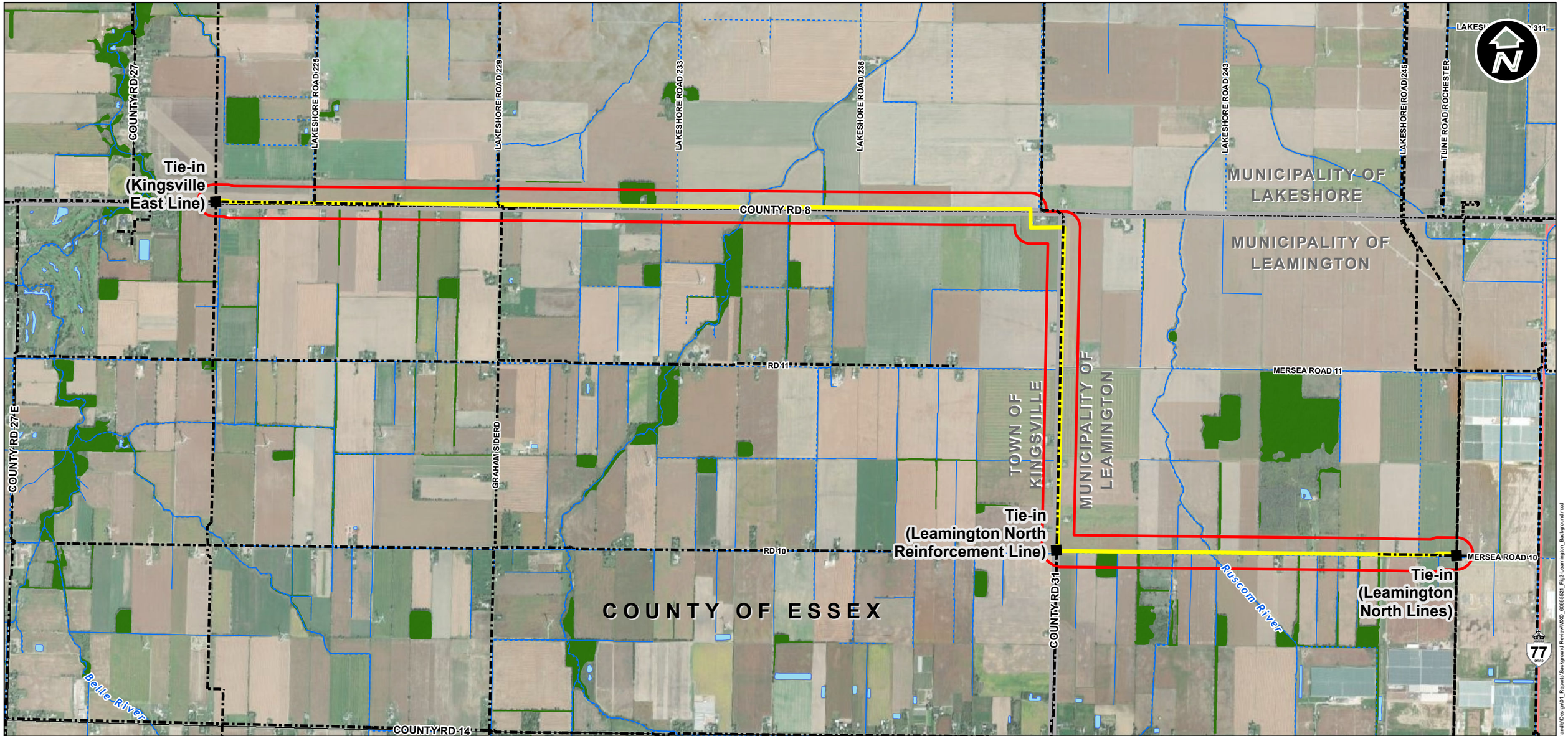
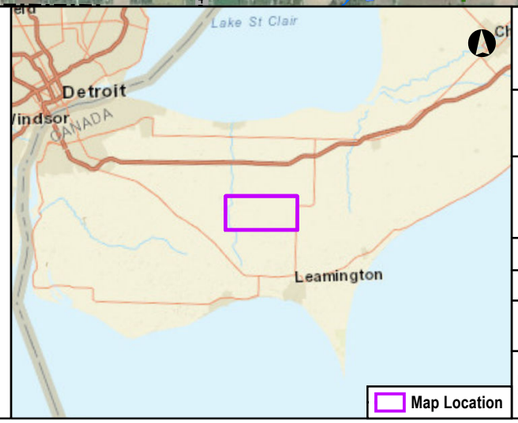


Legend

- Tie-in
- Preferred Route
- Existing Enbridge Gas Pipeline
- Constructed Drain
- Permanent Stream
- Intermittent Stream
- Waterbody
- Wooded Area
- Municipal Boundaries



Panhandle Regional Expansion Project

Natural Areas (Leamington)

0 150 300 600 900 1,200 1,500 1,800 2,100
Meters
DATUM: NAD 1983 UTM Zone 17N

March 2022	1:28,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
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Figure 23

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Map location: \\ca.aecomnet.com\fs\AMER\Kitchener-CANCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\01_Reports\Background Review\MXD_60665521_Fig2-Leamington_Background.mxd
Date Saved: 9/25/2022 11:14:22 AM User Name: clark6



Legend

- Station
- Preferred Route
- Existing 16 Inch Panhandle Pipeline
- Existing 20 Inch Panhandle Pipeline
- Hydro Line
- Railway
- Constructed Drain
- Permanent Stream
- Waterbody
- Municipal Boundary
- Preferred Route 200m Buffer
- Archaeological Potential
- Disturbed

Panhandle Regional Expansion Project

Preliminary Archaeological Potential (Panhandle)

0 2 4
Kilometers
DATUM: NAD 1983 UTM Zone 17N

March 2022	1:65,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
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Figure 24

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Date Saved: 3/16/2022 3:51:31 PM User Name: CaitlO

Tie-in (Kingsville East Line)

COUNTY RD 27

LAKESHORE ROAD 225

LAKESHORE ROAD 229

LAKESHORE ROAD 233

LAKESHORE ROAD 235

LAKESHORE ROAD 243

LAKESHORE ROAD 245

TUNE ROAD ROCHESTER

LAKES' 311

COUNTY RD 8

MUNICIPALITY OF LAKESHORE

MUNICIPALITY OF LEAMINGTON

RD 11

MERSEA ROAD 11

COUNTY RD 27 E

GRAHAM SIDERD

TOWN OF KINGSVILLE

MUNICIPALITY OF LEAMINGTON

Tie-in (Leamington North Reinforcement Line)

Tie-in (Leamington North Lines)

RD 10

MERSEA ROAD 10

COUNTY OF ESSEX

COUNTY RD 31

Ruscom River

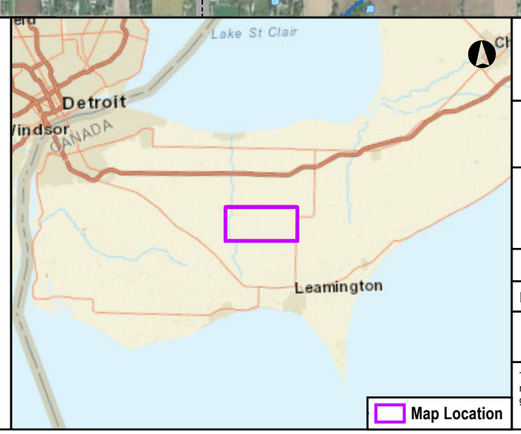
77

Belle River

COUNTY RD 14

Legend

- Tie-in
- Preferred Route
- Constructed Drain
- Permanent Stream
- Intermittent Stream
- Waterbody
- Municipal Boundaries
- Preferred Route 200m Buffer
- Archaeological Potential
- Disturbed



Panhandle Regional Expansion Project

Preliminary Archaeological Potential (Leamington)

0 150 300 600 900 1,200 1,500 1,800 2,100

Meters

DATUM: NAD 1983 UTM Zone 17N

March 2022	1:28,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
P#:60665521	V#:	

AECOM

Figure 25

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Map location: \\na.aecomnet.com\fs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\01_Reports\Arch Potential\MXD_60665521_Fig2-Leamington_Arch.mxd
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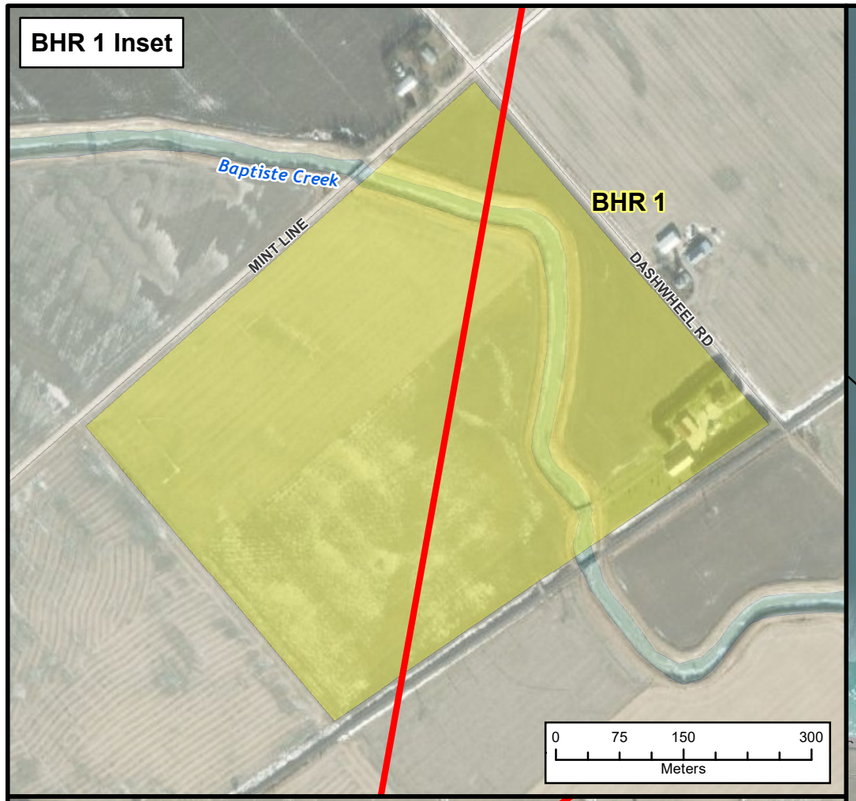

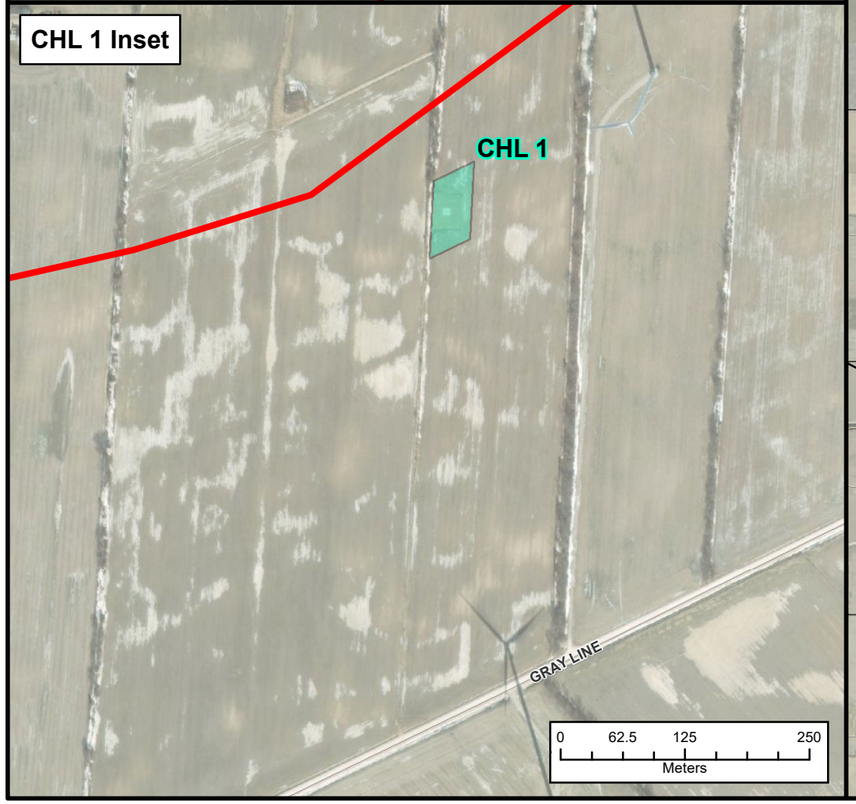



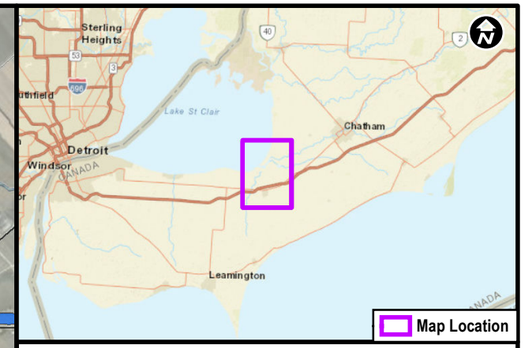

Legend

- Panhandle Loop – Preliminary Preferred Route
- Built Heritage Resource
- Cultural Heritage Landscape
- Canadian Heritage River
- Municipal Boundary

Panhandle Regional Expansion Project

Cultural Heritage Resources (Panhandle)

0 2 4
Kilometers
DATUM: NAD 1983 UTM Zone 17N

March 2022	1:65,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
P#:60665521	V#:	

AECOM

Figure 26

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Map location: \\na.aecomnet.com\kit\AMER\Kitchener-CA\KCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\01_Reports\Environmental Report\MXD_60665521_Fig5-2-CHR.mxd
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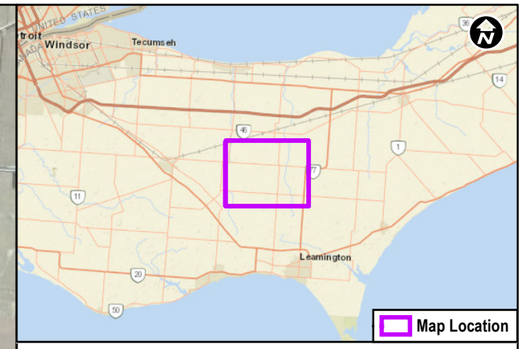

Legend

- Cemetery
- Leamington Interconnect – Preliminary Preferred Route
- Municipal Boundary

Panhandle Regional Expansion Project

Cultural Heritage Resources (Leamington)

0 1.25 2.5
Kilometers
DATUM: NAD 1983 UTM Zone 17N

March 2022	1:35,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
P#:60665521	V#:	

AECOM

Figure 27

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Map location: \\ca.aecomnet.com\NA\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\01_Reports\Environmental Report\MXD_60665521_Fig5-1-CHR.mxd
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Appendix B

Consultation

Appendix B1

Letter of Delegation

Ministry of Energy

Energy Networks & Indigenous Policy Branch

Indigenous Energy Policy

77 Grenville Street, 6th Floor
Toronto, ON M7A 2C1
Tel: 416-325-6810

Ministère de l'Énergie

Direction Générale des Réseaux Énergétiques et des Politiques Autochthones

Politique Énergétique Autochtone

77, rue Grenville, 6e étage
Toronto, ON M7A 2C1
Tél. 416-325-6810

Ontario

VIA EMAIL

August 6, 2021

Adam Stiers
Manager, Regulatory Applications – Leave to Construct
Enbridge Gas Inc.
500 Consumers Road,
North York, ON M2J 1P8

Re: Panhandle Regional Expansion Project

Dear Adam Stiers,

Thank you for your emails, dated June 29, 2021 and July 13, 2021, notifying the Ministry of Energy (Energy) of Enbridge Gas' (Enbridge) intention to apply to the Ontario Energy Board (OEB) for Leave to Construct for part of the proposed Panhandle Regional Expansion Project (the Project).

I understand that Enbridge is planning to construct new natural gas pipeline facilities to increase the capacity of the Panhandle Transmission System. Furthermore, I understand that this project is expected to include pipeline reinforcement, transmission laterals/interconnects, and measurement and pipeline connection facilities within Enbridge's Dawn Storage Facility.

On behalf of the Government of Ontario (the Crown), Energy 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 (Indigenous Communities) in the area. In doing so, Energy has determined that the Project may have the potential to affect such Indigenous communities.

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

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

I am writing to advise you that on behalf of the Crown, Energy is delegating the procedural aspects of consultation in respect of the Project to Enbridge through this letter. Energy expects that Enbridge will undertake the procedural aspects of consultation with respect to any regulated requirements for the proposed Project. The Crown will fulfill the substantive aspects of consultation and retain oversight over all aspects of the process for fulfilling the Crown's duty.

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

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

Community	Mailing Address
Aamjiwnaang First Nation	978 Tashmoo Avenue Sarnia, ON N7T 7H5 T: (519) 336-8410 F: (519) 336-0382 Web: Aamjiwnaang First Nation
Bkejwanong (Walpole Island) First Nation)	RR 3, Wallaceburg, ON N8A 4K9 T: (519) 627-1481 F: (519) 627-0440 Web: Walpole Island First Nation
Caldwell First Nation	14 Orange Street Leamington, ON N8H 1P5 1-800-206-7522 T: 519-322-1766 F: 519-322-1533 Web: Caldwell First Nation
Chippewas of the Thames First Nation	RR 1, Muncey, ON N0L 1Y0 T: (519) 289-5555 F: (519) 289-2230 Web: Chippewas of the Thames First Nation
Chippewas of Kettle and Stony Point First Nation	6247 Indian Lane Kettle and Stony Point First Nation, ON N0N 1J1 T: (519) 786-2125 F: (519) 786-2108 Web: Chippewas of Kettle and Stony Point First Nation
Oneida Nation of the Thames	RR 2, Southwold, ON N0L 2G0 T: (519) 652-3244 F: (519) 652-9287 Web: Oneida Nation of the Thames

This rights-based consultation list is based on information that is subject to change. Consultation is ongoing throughout the duration of the project, including project development and design, consultation, approvals, construction, operation, and decommissioning. First Nation and Métis communities may make new rights assertions at any time, and further project related developments can occur that may require additional First Nation and/or Métis communities to be notified and/or consulted.

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

Acknowledgement

By accepting this letter, the Proponent acknowledges this Crown delegation and the procedural consultation responsibilities enumerated in the appendix. If you have any questions about this request, you may contact Gillian Brown, Senior Advisor, Indigenous Energy Policy (gillian.brown2@Ontario.ca).

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

Sincerely,



Dan Delaquis
Manager, Indigenous Energy Policy

C: Ontario Pipeline Coordinating Committee (OPCC)

APPENDIX: PROCEDURAL CONSULTATION

Roles and Responsibilities Delegated to the Proponent

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

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

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

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

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

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

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

expects the Proponent to fulfill all of its delegated procedural consultation responsibilities to the satisfaction of the Crown.

If the Crown considers that there are outstanding issues related to consultation, the Crown may directly undertake additional consultation with Indigenous communities, which could result in delays to the Project. The Crown reserves the right to provide further instructions or add communities throughout the consultation process.

Roles and responsibilities assumed directly by the Crown

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

- identifying for the Proponent, and updating as appropriate, the Indigenous communities to consult for the purposes of fulfillment of the Crown duty;
- carrying out, from time to time, any necessary assessment of the extent of consultation or, where appropriate, accommodation, required for the project to proceed;
- supervising the aspects of the consultation process delegated to the Proponent;
- determining in the course of Project approvals whether the consultation of Indigenous communities was sufficient;
- determining in the course of Project approvals whether accommodation of Indigenous communities, if required, is appropriate and sufficient.

Consultation Record

- It is important to ensure that all consultation activities undertaken with Indigenous communities are fully documented. This includes all attempts to notify or consult the community, all interactions with and feedback from the community, and all efforts to respond to community concerns. Crown regulators require a complete consultation record in order to assess whether Aboriginal consultation and any necessary accommodation is sufficient for the Project to receive Ontario government approvals. The consultation record should include, but not be limited to, the following:
- a list of the identified Indigenous communities that were contacted;
- evidence that notices and Project information were distributed to, and received by, the Indigenous communities (via courier slips, follow up phone calls, etc.). Where a community has been non-responsive to multiple efforts to contact the community, a record of such multiple attempts and the responses or lack thereof.
- a written summary of consultations with Indigenous communities and appended documentation such as copies of notices, any meeting summaries or notes including where the meeting took place and who attended, and any other correspondence (e.g., letters and electronic communications sent and received, dates and records of all phone calls);

- responses and information provided by Indigenous communities during the consultation process. This includes information on Aboriginal or treaty rights, traditional lands, claims, or cultural heritage features and information on potential adverse impacts on such Aboriginal or treaty rights and measures for avoiding, minimizing or mitigating potential adverse impacts to those rights; and
- a summary of the rights/concerns, and potential adverse impacts on Aboriginal or treaty rights or on sites of cultural significance (e.g. burial grounds, archaeological sites), identified by Indigenous communities; how comments or concerns were considered or addressed; and any changes to the Project as a result of consultation, such as:
    - changing the Project scope or design;
    - changing the timing of proposed activities;
    - minimizing or altering the site footprint or location of the proposed activity;
    - avoiding impacts to the Aboriginal interest;
    - environmental monitoring; and
    - other mitigation strategies.

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

The contents of what will make up the consultation record should be shared at the onset with the Indigenous communities consulted with and their permission should be obtained. It is considered a best practice to share the record with the Indigenous community prior to finalizing it to ensure it is a robust and accurate record of the consultation process.

Appendix B2

Newspaper Notice Tear Sheets

Wrapping up the season amid the fall colours

By Greg Coulter

WHEATLEY — With the local foliage in full colour, another camping season ended on November 1 at Wheatley Provincial Park.

Park staff saw an incredibly busy summer with the most-ever campers coming through the gates.

Rob Henry of Grand Bend spent the last two weeks at the park and wished he could stay for another month.

He had nothing but praise for the facility, adding, "The staff here is awesome, the washrooms were spotless, the showers were hot, the washers and dryers worked perfectly. The scenery and trails were very interesting, I look forward to returning next year."

While the camping is over, the park will remain available for walking and enjoying all spectacular scenery that it has to offer.

As staff prepare to winterize the facility the gate may be open at times, but patrons are reminded not to block it if it is closed.



Rob Henry of Grand Bend, one of the last campers at Wheatley Provincial Park, scurries to complete his campsite cleanup prior to his 2 p.m. checkout.

SUN photo by Greg Coulter



HONOURED FOR CRAFT

LEAMINGTON — Local wood craftsman Gene Forshaw was honoured last week at Leamington Home Hardware by the Greater Essex County District School Board. Forshaw's woodworking hobby began in 1999 after retiring from Chrysler Canada. He'd been a welder and hot-rod builder up until a cancer diagnosis brought that work to a halt. Over the years, he's built toys, games and other wood items, but his specialty is in cremation urns. Gene is also a bandsaw specialist and performs the bandsaw demos at Leamington Home Hardware's annual Tool Show. His craftsmanship is evident in the urns he is producing. From left are Home Hardware owner Wayne Young, Kingsville High School Construction teacher Matt Daudlin, Gene Forshaw and fellow woodworking enthusiast Jamie Wiper.

SUN photo

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Panhandle Regional Expansion Project:

Notice of Commencement and Virtual Information Session

AECOM

Project Overview: To increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. The Panhandle Regional Expansion Project includes the construction of the following:

- Approximately 23 kilometres (km) of new pipeline, looping the existing 20-inch Panhandle Pipeline. The new pipeline will be up to 42 inches in diameter and located adjacent to an existing pipeline.
- Construction of a 12 km pipeline up to 16 inches in diameter adjacent to or within an existing road allowance on public or private property to connect the existing Leamington North Lines to both the Kingsville and Leamington Lines.
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Environmental Report: AECOM is preparing an environmental report to assess the potential environmental and socio-economic effects that may result from the project and outline plans for avoiding / mitigating any effects, where possible. The environmental report will accompany a Leave-to-Construct application that will be submitted to the Ontario Energy Board in the spring of 2022.

Virtual Information Session	
Date:	Materials will be available at 5 p.m. on November 17 until December 3, 2021.
Website:	www.virtualengagement.ca/panhandle
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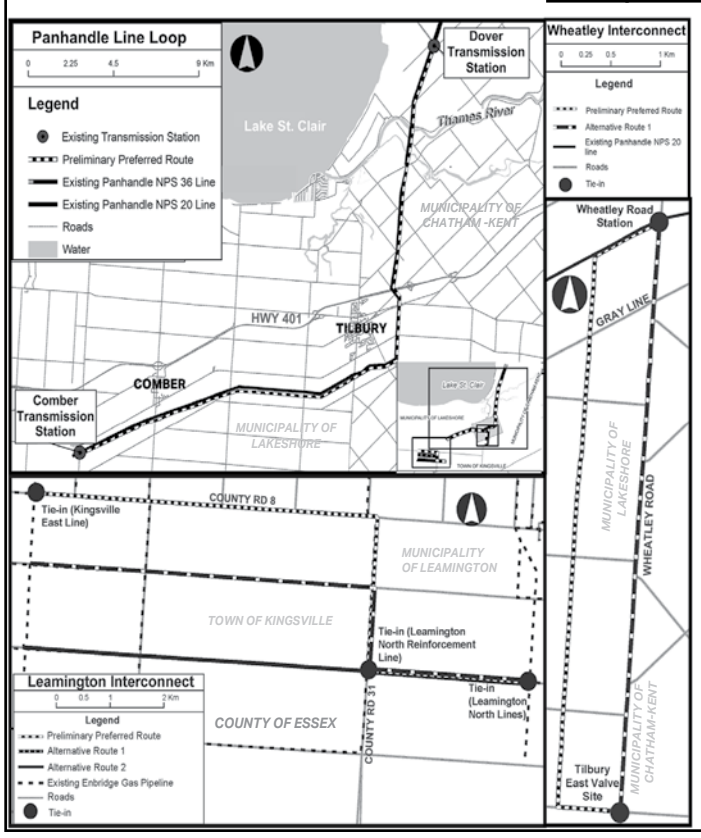

Get Involved:
We want to hear from you. Join our virtual information session so you can learn about the project and provide feedback on the proposed routes. It will also give an overview of the planning process and studies completed. Your feedback will be considered and integrated into the environmental report. Please feel free to provide your comments either through the project website or by email.

For questions or if you need assistance to participate, please contact:

Mark van der Woerd
Environmental Planning Lead
mark.vanderwoerd@aecom.com
289-439-9803

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Hybrid meetings boost transparency: Bortolin

CITY COUNCIL FROM A1

The first in-person council meetings will likely not allow people sitting in the gallery, which is currently restricted to 32 people, Vlachodimos said. Eventually, up to 32 people may be allowed in the gallery, as long as they adhere to masking and social distancing rules.

Individual councillors may opt for attending in-person or continuing online.

"This is potentially the new normal," he said. "As restrictions are lifted we need to bring back some normalcy but also remember we are still in a pandemic, so we need to follow some extra precautions and a different approach than what we were used to prior to the pandemic."

Ward 3 Coun. Rino Bortolin, who chaired Monday's meeting of the development and heritage standing committee, said he's excited about the hybrid model because it combines the benefits of a Zoom meeting with the face-to-face advantages of being in-person. It essentially takes the multiple cameras available in the council chambers and splices in all people who are on Zoom.

"We hear a delegation just as if they were in council chambers and they will have the presence just as if they were in council chambers," he said.

Bortolin said the hybrid model will be particularly useful in lengthy council meetings with multiple issues. Someone wishing to speak as a delegation won't have to wait in council chambers for hours. Instead, they can monitor the meeting from home or work, and receive a city email when their time to speak is near.

"What it does is it removes all these barriers of having to be in council chambers, the technology now really irons out all those things that made it uncomfortable or clunky," he said.

"It actually moves very fast and works very good."

Bortolin said when the pandemic arrived in March 2020, the council chambers — created as an open, inviting public space as part of the 2018 new city hall — became "almost useless" because in-person meetings were outlawed.

"But I think now, between the new chambers and this new hybrid model, we may have one of the most open and transparent meeting systems around."

He said the virtual meetings were a good pivot during the first 20 months, but there's a different feeling being in the same room with people.

He expects the hybrid meetings will still have delegates appearing via Zoom, while council and senior administration will be in-person, with junior staff or staff addressing just one issue Zooming in.

A report from Vlachodimos going to council Monday is recommending that the start time for these hybrid council meetings be changed to 1 p.m. as a pilot project, from the pre-pandemic time of 6 p.m.

A survey of similar-size Ontario cities shows that most have daytime starts. Vlachodimos explained that running a hybrid meeting will require more behind-the-scenes staffing than a pre-pandemic meeting, and he wants to have all available staff "on deck" during those meetings in case something goes wrong.

That happened a few months ago when Zoom went down globally and IT staff had to scramble to switch to a different platform at the last minute. That would have been difficult to manage after hours, Vlachodimos said.

Evening starts for council meetings used to help members of the public attend or watch on TV. But times have changed, he said. New technology means people can participate as delegates via Zoom without having to drive downtown, and the meetings can be watched on demand via the city's streaming platform.

bcross@postmedia.com

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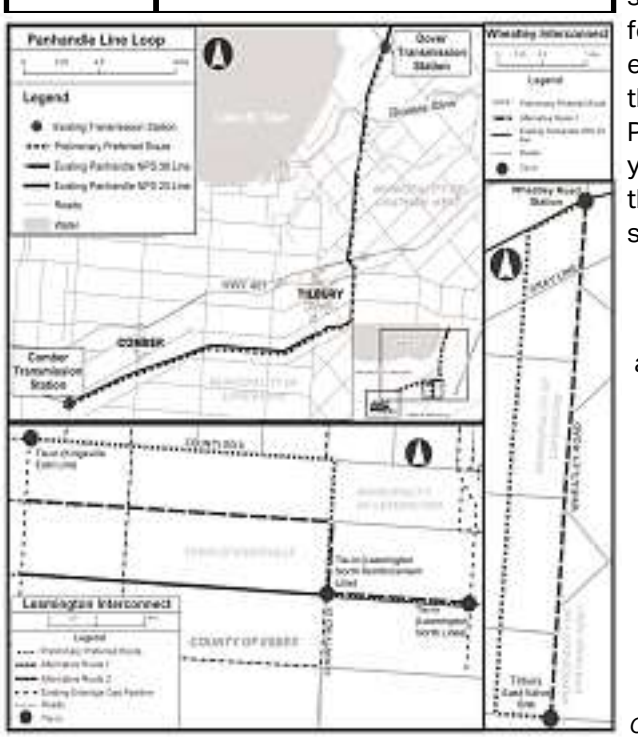

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Mark van der Woerd
Environmental Planner

mark.vanderwoerd@aecom.com
289-439-9803

On Behalf of
ENBRIDGE

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Grace Rumble, 12, organized a coat drive at St. Anne Catholic school in Blenheim, collecting 110 coats along with hats and scarves that were donated to the Operation Cover Up program run by the Chatham-Kent Salvation Army. The Grade 7 student dropped off the coats on Wednesday to Allie Matthews, community and family services manager. *ELLWOOD SHREVE*

Collecting coats for those in need a Rumble family tradition

Grade 7 student organizes school coat drive to support Operation Cover Up

ELLWOOD SHREVE

Grace Rumble organized a coat drive at her school, collecting 110 winter coats, along with hats and scarves, for Operation Cover Up.

That altruism is nothing new for the 12-year-old Grade 7 student at St. Anne Catholic school in Blenheim. In fact, it's a family tradition.

Grace said she has helped her sister, Klare, 16, and brother, Drew, 14, with coat collections held at the school in the past.

Since her older siblings are now in high school, she decided to do it on her own this year.

Her reason for wanting to help others is simple: "If I needed a coa,t I would want people to help me, so I just like to help the community."

She made a newsletter and posters, and put the word out during the morning announcements at school, asking people to bring in gently used coats. She also posted to social media seeking donations from family and friends.

The Rumble family has enjoyed similar successes with previous coat drives. The 110 coats collected this year was one short of the record 111 coats donated in the past.

"It makes me feel very loved to know that we have a community that will support people when they need it," Grace said.

She said she thinks about the people who are helped by the donations.

Operation Cover Up is a program run by the Chatham-Kent Salvation Army.

Allie Matthews, community and family services manager, said 600 coats have been distributed this year through the program so far. She expects another 200 coats will be given out before the campaign wraps up Saturday.

To receive a coat, those in need can go to the Salvation Army Community and Family Services office at 19 Raleigh St. in Chatham to get a coupon for a coat distributed through the agency's thrift stores.

Matthews said the donation brought in by Grace on Wednesday will definitely boost the inventory, adding she was inspired by the girl's effort.

"She did this all on her own," Matthews said. "It warms my heart to see kids step up and help out those who needed the most."

Although Operation Cover Up ends on Saturday, Matthews said people in need can still get coats any time of the year.

eshreve@postmedia.com

CKHA expands addiction medicine clinic to Wallaceburg hospital site

DAILY NEWS STAFF

The Chatham-Kent Health Alliance is working to address the increased demand for help with addiction issues by expanding its Rapid Access to Addiction Medicine Clinic to its Wallaceburg hospital site one day a week.

"Since its launch in 2019, our Rapid Access to Addiction Medicine Clinic has helped fill the gap in harm reduction resources locally," hospital group president and CEO Lori Marshall said in a media release.

"Operating an additional clinic day out of our Wallaceburg site will further our delivery of patient-centered addiction care and reaffirms our commitment to program and service delivery at this site."

The Wallaceburg rapid access clinic operates every Tuesday from noon to 4 p.m. in room 102. The clinic provides low-barrier access for individuals 16 and older seeking treatment and support for any substance use disorder.

Individuals do not need an appointment and are seen on a walk-in basis, hospital officials said. Individuals are asked to bring a valid health card and a list of current medications.

Services include:

- Brief counselling and support
- Trauma informed care;Medications for opioid and alcohol use
- Naloxone kits
- Referrals and connections to community services
- Physical health assessment
- Referrals to residential treatment, if appropriate

"The (rapid access) model of care provides evidence-based treatment quickly and follows patients closely along the care pathway; this model has proven to have a significant impact on addressing addiction-related conditions," said Alan Stevenson, the hospital group's vice-president of mental health and addictions, in the release.

> *We will continue to work closely with our community partners and providers as well; this is key to ensuring the success of the clinic.*

"I am pleased that we have the opportunity to expand our (clinic) services to (the hospital's) Wallaceburg site and increase our reach to individuals requiring these services in Wallaceburg and the surrounding area.

Dr. Dele Oyebode, the hospital group's chief of psychiatry and the program medical director of mental health and addiction, praised the clinic as an "effective model of addiction care."

"I am thrilled the services provided by the (clinic) will be more accessible to those living in North Kent," he said. "We will continue to work closely with our community partners and providers as well; this is key to ensuring the success of the clinic."

The clinic in at 47 Emma St. in Chatham continues to operate from noon to 4 p.m. on Monday, Wednesday, Thursday and Friday, with Thursday reserved for booked appointments only to help with ongoing substance abuse treatment, hospital officials said.

More information about the clinic's services is available online at www.ckha.on.ca/raam. The clinic can also be reached directly during hours of operation at 519-352-6400 ext. 6740 in Chatham and 519-352-6400 ext. 8311 in Wallaceburg.

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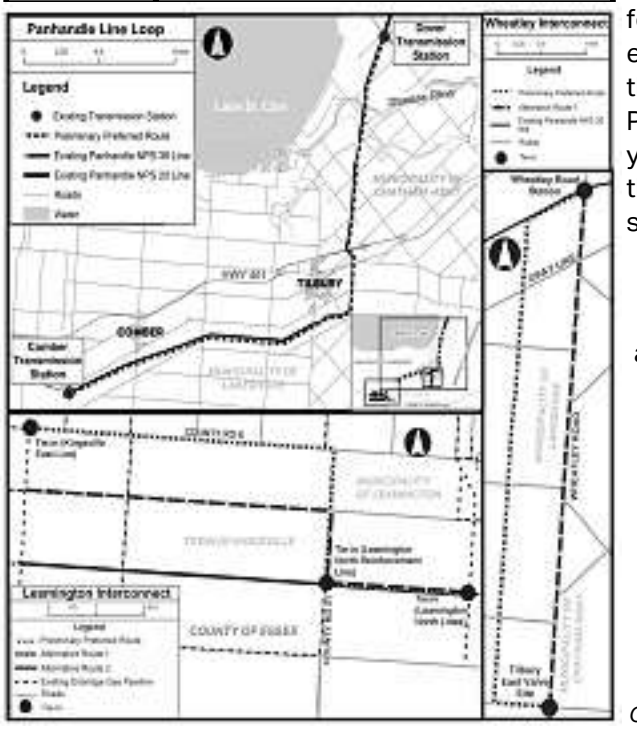

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On Behalf of
ENBRIDGE

Running for Rondeau camp experience

By Bruce Corcoran
bruce@chathamvoice.com

Jaime Hauseman wants to see more children enjoy summer camps at the Rondeau Yacht Club, and she's willing to run most any distance to make that a reality.

Hauseman, a Kitchener resident who owns a cottage in the Rondeau Provincial Park, is organizing a fundraising run this month with the goal to provide money to financially assist families to send their children to the club.

"I am a cottage owner in the park and I sent my four year old over the past summer. I just saw how much she grew – her independence and everything," Hauseman said. "I thought there are probably a lot of people for whom it's not feasible to send their kids to this camp."

Hauseman said this is not a yacht club stuffed with elitism.

"They call it the yacht club, but the camp does several sessions," she explained. "In the morning, the activities would start with a canoe lesson. They'd learn how to paddle, learn canoe safety and how to get a life jacket on, for example. Then, they'd learn about a sailboat and then would get a swimming lesson."

Hauseman said she was impressed with how her daughter, Norie, took to everything, especially being in and near the water.

"How familiar and how comfortable she got around the water was amazing. I don't want my kids to think water is danger. It's fun; you just have to know how to work with it," the mother explained.

As for the run, it takes place Nov. 20 at 9 a.m. in the park. People can register through GoFundMe. Just visit the site and search "camp for kids at Rondeau" and follow the instructions.

Hauseman said run participation has no set monetary value.

"If you go to our GoFundMe page, you can put in the comments on if you plan on running. It's all what you can afford to donate," she said.

For those wanting to help, but not looking to run in the 5K or 10K, Hauseman said volunteers are needed for Race Day.

As for Hauseman, she said she'll be out on the run, which starts near the tennis courts.



Contributed image

Norie Hauseman, 4, second from left, learned a great deal at summer camp at the Rondeau Yacht Club this past summer, her mother, Jaime, said. So the mom has organized a fundraising run Nov. 20 to help send kids to the camp next summer.

"I also am a competitive runner. I was to run overseas in a race the first week of December," she said, adding COVID-19 made that impossible.

Hauseman hopes the run will establish a base of funds that would allow families to apply for subsidized spots in the yacht club caps, "or we'll take care of the whole fee depending on their financial situation."

The goal would be to send children to camp each week of summer programs at the club, Hauseman said.

COVID booster clinic to open in December

By Pam Wright
Local Journalism Initiative
pamwrightlji@gmail.com

Chatham-Kent Public Health (CKPH) is gearing up once again for mass vaccination clinics for those who qualify for a COVID-19 booster.

Residents who are 70 plus; people at risk due to medical conditions; health-care staff, community service workers and caregivers; people who had two shots of the AstraZeneca vaccine; and First Nation, Inuit and Metis adults round out the list of people eligible for the booster.

According to CKPH communications specialist Jeff Moco, the health unit has been dispensing booster shots for the past three weeks to long-term care and retirement home residents who were eligible.

Plans for a full rollout are a go, with the mass vaccination clinic returning to Chatham's Bradley Centre.

Moco said officials are also preparing for clinics for children age 5 to 11 years, adding public health is preparing to immunize between 700 to 800 youngsters.

As well as the Bradley Centre, clinics are also planned for schools.

Approval of the children's vaccine is still pending under Health Canada, but it's expected to be given the green light before the end of the year.

As many as 15,000 shots could be administered locally in December, Moco said.

"We're planning for the big picture," Moco explained, adding organizers need to be flexible to accommodate evolving changes in order to "shift as needed."

Some pharmacies will also be able to provide booster shots.

One of the major changes in the booster rollout is that eligible residents who want the shot are not allowed to do walk-in appointments. Pre-booking is required.

Chatham-Kent Medical Officer of Health Dr. David Colby told a recent municipal media scrum he believes the booster will be well received.

Third doses are being provided based on waning immunity after six months for those who are at risk of severe illness from the virus.

Eligible residents in Chatham-Kent can book their third dose at www.GetYourShotCK.ca or by calling 519-351-1010.

Panhandle Regional Expansion Project:
Notice of Commencement and Virtual Information Session

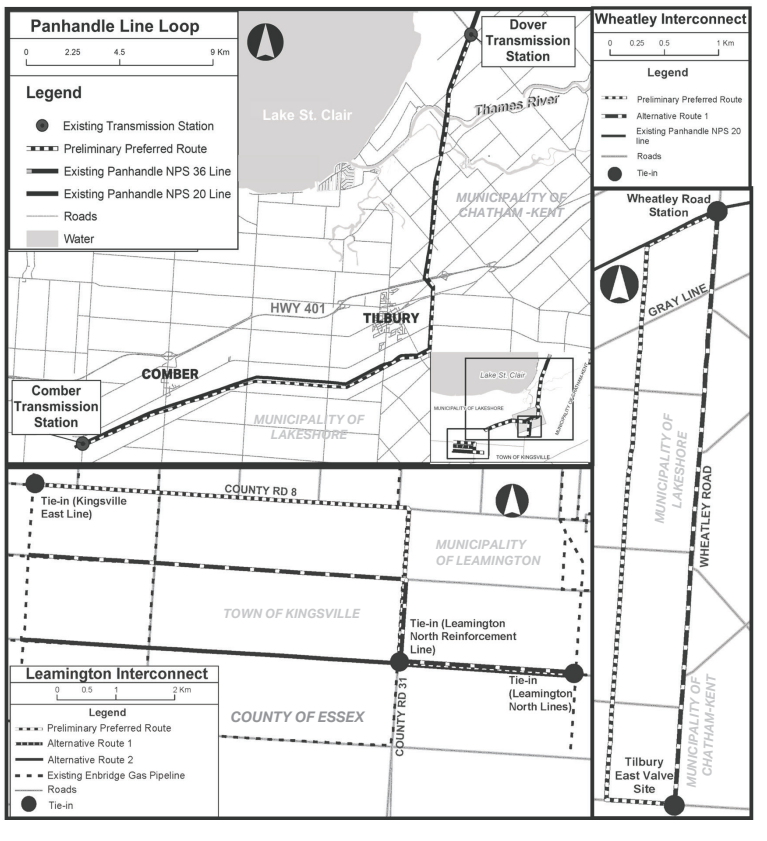
AECOM

Project Overview: To increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. The Panhandle Regional Expansion Project includes the construction of the following:

- Approximately 23 kilometres (km) of new pipeline, looping the existing 20-inch Panhandle Pipeline. The new pipeline will be up to 42 inches in diameter and located adjacent to an existing pipeline.
- Construction of a 12 km pipeline up to 16 inches in diameter adjacent to or within an existing road allowance on public or private property to connect the existing Leamington North Lines to both the Kingsville and Leamington Lines.
- Construction of a 6 km pipeline up to16 inches in diameter to connect the Tilbury East Valve Site to the Wheatley Road Station. The pipeline will be located adjacent to or within an existing road allowance on public or private property.

Environmental Report: AECOM is preparing an environmental report to assess the potential environmental and socio-economic effects that may result from the project and outline plans for avoiding / mitigating any effects, where possible. The environmental report will accompany a Leave-to-Construct application that will be submitted to the Ontario Energy Board in the spring of 2022.

Virtual Information Session	
Date:	Materials will be available at 5 p.m. on November 17 until December 3, 2021.
Website:	www.virtualengagement.ca/panhandle
Email:	panhandle@virtualengagement.ca



Get Involved:
We want to hear from you. Join our virtual information session so you can learn about the project and provide feedback on the proposed routes. It will also give an overview of the planning process and studies completed. Your feedback will be considered and integrated into the environmental report. Please feel free to provide your comments either through the project website or by email.

For questions or if you need assistance to participate, please contact:

Mark van der Woerd
Environmental Planning Lead
mark.vanderwoerd@aecom.com
289-439-9803

On Behalf of
ENBRIDGE

World Cup ’22 may have Leamington connection

By Mark Ribble

LEAMINGTON — Two former Leamington brothers have made a big splash on a big stage in the world of soccer.

Mauro and Stephen Eustaquio, former students at St. Louis Catholic Elementary, left Leamington several years ago, but still have fond memories of their former hometown.

Jessica Antunes of Leamington spoke to the Sun last week about how the brothers miss the area. Her husband Raul is their uncle.

“Stephen hasn’t been back since he left at seven years of age,” she said. “All he wants to do is drive by the Plumbrook apartments where they used to live.”

She said Stephen has good memories of playing in the neighbourhood and playing minor soccer in Leamington.

Stephen is currently a main player in the resurgence of Canada’s national soccer team.

The midfielder just missed a couple of games of the World Cup qualifiers due to being diagnosed with COVID, but has returned to the lineup and helped them to a big victory over the USA on Sunday, January 30.

Canada, on an unprecedented run during the qualifiers, is poised to take the World Cup by storm next fall in Qatar.



This local contingent was there to root on Stephen Eustaquio in Toronto last fall as he took to the field for Team Canada. From left are Jessica Antunes, Cristiano Antunes, Alessia West, Valessa Antunes, Soraya Antunes and Katherine Boncardo.

Photos courtesy of Jessica Antunes



MAURO EUSTAQUIO



STEPHEN EUSTAQUIO

They’ve won the last five qualifier games and have no losses so far during the tournament. If they continue to play as well as they have, they will qualify for November’s 2022 World Cup.

Stephen Eustaquio is considered one of Canada’s top players. The midfielder played minor soccer here before the family moved back to Portugal when he was seven.

His older brother, Mauro, was 11 or 12 when the family moved away, so he remembers Leamington a little more vividly.

“I’ve been back a couple of times to visit family and have fond memories,” said Mauro in an interview with the Sun.

Mauro has recently signed on to be the assistant coach with York United in the Canadian Premier League. That follows a stint as the academy manager at Foothills Soccer Club in Calgary.

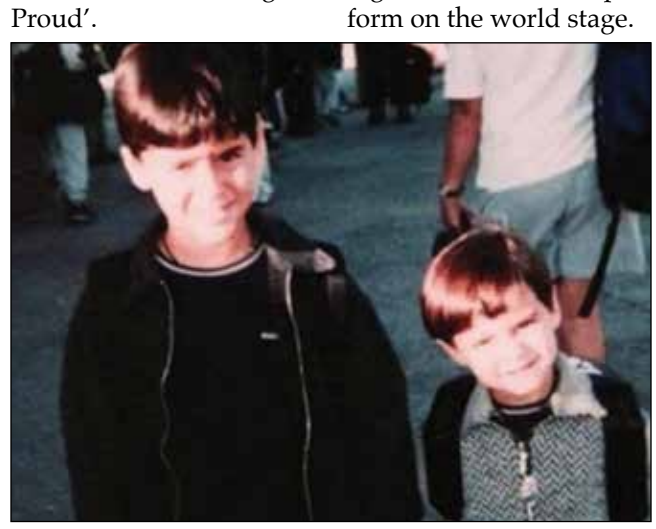
“I’m happy to return to Ontario,” he said. York United is based in Toronto.

Mauro was an accomplished player in his own right, having played for Canada’s national under-23 and under-20 teams, as well as professionally here and abroad.

Stephen recently signed with FC Porto in Portugal’s top professional league and his presence on Canada’s national team is a boost to his teammates.

For their relatives in Leamington — the Antunes family — following the boys’ soccer careers has been exciting and this past September, the family made a trek to Toronto to watch Stephen play for Canada — sporting a sign that said ‘Leamington Proud’.

Next November, when the World Cup takes place, they hope to be glued to their TV sets, along with millions of other Canadians, watching one of their own perform on the world stage.



Mauro and Stephen Eustaquio when they attended St. Louis School in Leamington. The pair has gone on to play world-class soccer all over the globe.

Sharks return to action

After a month and a half layoff and little time to practice, the Wheatley Omstead Sharks returned to league play Sunday in Amherstburg dropping a hard fought 3-2 decision.

After a scoreless first, they fell behind 2-0 after two. Third period saw the gap narrowed 2-1, then 3-1 before scoring in the last minute.

Goal scorers were Matt Carvalho and Dallas Anderson. Ethan Handley stopped 22 shots.

The Sharks face a busy schedule to prepare for the playoffs. They are home to Essex February 9 and have a rare Sunday afternoon match on the 13th at 1 pm.

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Panhandle Regional Expansion Project: Notice of Virtual Information Session #2

AECOM

Project Overview

To increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. The Panhandle Regional Expansion Project includes the construction of the following:

- Panhandle Loop: Approximately 19 kilometres (km) of new pipeline which loops – or parallels – the existing 20-inch Panhandle Pipeline. The new pipeline will be 36 inches in diameter and located adjacent to an existing pipeline corridor between Richardson Side Road in the Municipality of Lakeshore, and Enbridge Gas’ existing Dover Transmission Station in the Municipality of Chatham-Kent.
- Leamington Interconnect: Approximately 12 km of new pipeline, 16 inches in diameter, adjacent to or within an existing road allowance on public or private property to connect the existing Leamington North Lines to both the Kingsville East Line and Leamington North Reinforcement Line, located in the Municipality of Lakeshore, Town of Kingsville and the Municipality of Leamington.
- Several distribution pipelines varying in diameter and length to connect new large-volume customers to the Panhandle Transmission System.

A preliminary preferred route was presented for the Panhandle Loop and a preliminary preferred route and alternative routes were presented for the Leamington Interconnect during the first virtual information session, held between November 17 and December 3, 2021. Upon consideration of the feedback received during the session, the proposed routes were evaluated further, which has resulted in the selection of preferred routes. Information about these routes will be available at a second virtual information session.

Since the first virtual information session, preliminary preferred routes for the proposed distribution pipelines have also been selected and will be presented in the second virtual information session as well. The Wheatley Interconnect, which was previously presented during the first virtual information session, is now represented with the other distribution lines and this segment of pipeline has been selected as the preferred route.

Environmental Report

AECOM has been retained by Enbridge Gas to prepare an environmental report to assess the potential environmental and socio-economic effects that may result from the project and outline plans for avoiding / mitigating any effects, where possible. The environmental report will accompany a Leave-to-Construct application that will be submitted to the Ontario Energy Board in the spring of 2022.

Get Involved

We want to hear from you. A second virtual information session is planned to provide interested parties an opportunity to learn about and comment on the latest developments of the project. It will also provide an overview of the planning process and studies completed. The feedback obtained will be integrated into the environmental report and planning process of the project.

Virtual Information Session #2	
Date:	Materials will be available from 5 p.m. on February 14, 2022 until February 28, 2022.
Website:	www.virtualengagement.ca/panhandle
Email:	panhandle@virtualengagement.ca

For questions or if you need assistance to participate, please contact:
Mark van der Woerd
Environmental Planning Lead
mark.vanderwoerd@aecom.com
289-439-9803

On Behalf of
ENBRIDGE

Appendix B3

Notification Letters

Virtual Information Session #1

AECOM
201 – 45 Goderich Road
Hamilton, ON, Canada L8E 4W8
www.aecom.com

905-578-3040 tel
905-578-4129 fax

DATE, YEAR

«First_Name» «Last_Name»
«Title»
«Stakeholder_Agency»
«Street_Address»
«City», «Prov» «Postal_Code»

Dear «Salutation» «Last_Name»:

Regarding: Project Commencement and Virtual Information Session for Panhandle Regional Expansion Project

To increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System. The Panhandle Transmission System serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. The Panhandle Regional Expansion Project includes the construction of the following:

- Approximately 23 kilometres (km) of new pipeline looping the existing 20-inch Panhandle Pipeline. The new pipeline will be up to 42 inches in diameter and located adjacent to an existing pipeline corridor between Enbridge Gas' Comber Transmission Station, located in the Municipality of Lakeshore, and its Dover Transmission Station, located in the Municipality of Chatham-Kent.
- Construction of a new pipeline up to 16 inches in diameter adjacent to or within existing road rights-of-way on public or private property to connect the Leamington North Lines to both the Kingsville East Line and Leamington North Reinforcement Line. The pipeline is approximately 12 km in length and would be located in both the Town of Kingsville and the Municipality of Leamington.
- Construction of a new pipeline up to 16 inches in diameter to connect the Tilbury East Valve Site to the Wheatley Road Station. The pipeline is approximately 6 km and will be located adjacent to or within existing road rights-of-way on public or private property either within the Municipality of Chatham-Kent or the Municipality of Lakeshore.

The location of the project and preliminary preferred routes for each segment are shown on the attached figures.

AECOM has been retained by Enbridge to prepare an Environmental Report (ER) to assess the potential environmental and socio-economic effects that may result from the project. The report will outline potential pipeline route evaluations and plans for avoiding and/or mitigating any effects, where possible. The ER will be prepared in accordance with the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of*

Hydrocarbon Pipelines and Facilities in Ontario (2016). The ER will accompany a Leave-to-Construct application that will be submitted to the OEB in the spring of 2022. OEB review and approval is required before this project can proceed. Construction of the project is planned to begin as early as spring of 2023.

A key part of the planning process involves consultation with Indigenous Communities, local landowners, government agencies and other interested parties that could be impacted by the project. A virtual information session is planned to provide interested parties an opportunity to learn about and comment on the proposed routes. It will also provide an overview of the planning process and studies completed.

The purpose of this letter is to invite you to attend the virtual information session and provide feedback in a format that is convenient for you:

Virtual Information Session	
Date:	Materials will be available at 5 p.m. on November 17, and available until December 3, 2021.
Website:	www.virtualengagement.ca/panhandle

If you have any questions about the project or the environmental study process, please do not hesitate to contact me using the information provided below.

Sincerely,

Mark Van der Woerd
Senior Environmental Planner
AECOM
Phone: 289-439-9803
Email: mark.vanderwoerd@aecom.com

CC: Evan Tomek - Enbridge Inc.
Kristan Washburn - AECOM

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

October 15, 2021

Fallon Burch
Consultation Coordinator
Chippewas of the Thames First Nation
320 Chippewa Road
Muncey, ON N0L 1Y0

Dear Fallon Burch:

Regarding: Project Commencement and Virtual Information Session for Panhandle Regional Expansion Project

To increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. The Panhandle Regional Expansion Project includes the construction of the following:

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Website:	www.virtualengagement.ca/panhandle

If you have any questions about the project or the environmental study process, please do not hesitate to contact me using the information provided below.

Sincerely,



Kevin Berube
Sr. Advisor, Community & Indigenous Engagement
Enbridge Gas Inc.
Kevin.Berube@enbridge.com
Phone: (416) 666-6759

CC: Evan Tomek - Enbridge Inc.
Mark Van der Woerd – AECOM
Kristan Washburn – AECOM
Consultation General Inbox (consultation@cottfn.ca) – Chippewas of the Thames First Nation

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

October 15, 2021

Brandon Doxtator
Enviromental Committee
Oneida Nation of the Thames

Dear Brandon Doxtator:

Regarding: Project Commencement and Virtual Information Session for Panhandle Regional Expansion Project

To increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. The Panhandle Regional Expansion Project includes the construction of the following:

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Sincerely,



Kevin Berube
Sr. Advisor, Community & Indigenous Engagement
Enbridge Gas Inc.
Kevin.Berube@enbridge.com
Phone: (416) 666-6759

CC: Evan Tomek - Enbridge Inc.
Mark Van der Woerd – AECOM
Kristan Washburn – AECOM

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

October 15, 2021

Sharilyn Johnston
Environment Coordinator
Aamjiwnaang First Nation
978 Tashmoo Avenue
Sarnia, ON N7T 7H5

Dear Sharilyn Johnston:

Regarding: Project Commencement and Virtual Information Session for Panhandle Regional Expansion Project

To increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. The Panhandle Regional Expansion Project includes the construction of the following:

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Sincerely,



Lauren Whitwham
Sr. Advisor, Community & Indigenous Engagement
Enbridge Gas Inc.
Lauren.Whitwham@enbridge.com
Phone: (416) 666-6759

CC: Evan Tomek - Enbridge Inc.
Mark Van der Woerd – AECOM
Kristan Washburn – AECOM
Environmental Committee (environment@aamjiwnaang.ca) – Aamjiwnaang First Nation

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

October 15, 2021

Janet Macbeth
Project Review Coordinator
Bkejwanong (Walpole Island First Nation)
2185 River Rd N.
Wallaceburg, ON N8A 4K9

Dear Janet Macbeth:

Regarding: Project Commencement and Virtual Information Session for Panhandle Regional Expansion Project

To increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. The Panhandle Regional Expansion Project includes the construction of the following:

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Lauren Whitwham
Sr. Advisor, Community & Indigenous Engagement
Enbridge Gas Inc.
Lauren.Whitwham@enbridge.com
Phone: (416) 666-6759

CC: Evan Tomek - Enbridge Inc.
Mark Van der Woerd – AECOM
Kristan Washburn – AECOM

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

October 15, 2021

Dean Jacobs
Consultation Coordinator
Bkejwanong (Walpole Island First Nation)
2185 River Rd N.
Wallaceburg, ON N8A 4K9

Dear Dean Jacobs:

Regarding: Project Commencement and Virtual Information Session for Panhandle Regional Expansion Project

To increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. The Panhandle Regional Expansion Project includes the construction of the following:

- Approximately 23 kilometres (km) of new pipeline looping the existing 20-inch Panhandle Pipeline. The new pipeline will be up to 42 inches in diameter and located adjacent to an existing pipeline corridor between Enbridge Gas' Comber Transmission Station, located in the Municipality of Lakeshore, and its Dover Transmission Station, located in the Municipality of Chatham-Kent.
- Construction of a new pipeline up to 16 inches in diameter adjacent to or within existing road rights-of-way on public or private property to connect the Leamington North Lines to both the Kingsville East Line and Leamington North Reinforcement Line. The pipeline is approximately 12 km in length and would be located in both the Town of Kingsville and the Municipality of Leamington.
- Construction of a new pipeline up to 16 inches in diameter to connect the Tilbury East Valve Site to the Wheatley Road Station. The pipeline is approximately 6 km and will be located adjacent to or within existing road rights-of-way on public or private property either within the Municipality of Chatham-Kent or the Municipality of Lakeshore.

The location of the project and preliminary preferred routes for each segment are shown on the attached figures.

AECOM has been retained by Enbridge to prepare an Environmental Report (ER) to assess the potential environmental and socio-economic effects that may result from the project. The report will outline potential pipeline route evaluations and plans for avoiding and/or mitigating any effects, where possible. The ER will be prepared in accordance with the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (2016)*. The ER will accompany a Leave-to-Construct application that will

be submitted to the OEB in the spring of 2022. OEB review and approval is required before this project can proceed. Construction of the project is planned to begin as early as spring of 2023.

A key part of the planning process involves consultation with Indigenous Communities, local landowners, government agencies and other interested parties that could be impacted by the project. A virtual information session is planned to provide interested parties an opportunity to learn and comment on the proposed routes. It will also provide an overview of the planning process and studies completed.

The purpose of this letter is to invite you to attend the virtual information session and provide feedback in a format that is convenient for you:

Virtual Information Session	
Date:	Materials will be available at 5 p.m. on November 17, and available until December 3.
Website:	www.virtualengagement.ca/panhandle

If you have any questions about the project or the environmental study process, please do not hesitate to contact me using the information provided below.

Sincerely,



Lauren Whitwham
Sr. Advisor, Community & Indigenous Engagement
Enbridge Gas Inc.
Lauren.Whitwham@enbridge.com
Phone: (416) 666-6759

CC: Evan Tomek - Enbridge Inc.
Mark Van der Woerd – AECOM
Kristan Washburn – AECOM

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

October 15, 2021

Brianna Sands
Environment and Consultation Coordinator
Caldwell First Nation
14 Orange Street
Leamington, ON N8H 1P5

Dear Brianna Sands:

Regarding: Project Commencement and Virtual Information Session for Panhandle Regional Expansion Project

To increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. The Panhandle Regional Expansion Project includes the construction of the following:

- Approximately 23 kilometres (km) of new pipeline looping the existing 20-inch Panhandle Pipeline. The new pipeline will be up to 42 inches in diameter and located adjacent to an existing pipeline corridor between Enbridge Gas' Comber Transmission Station, located in the Municipality of Lakeshore, and its Dover Transmission Station, located in the Municipality of Chatham-Kent.
- Construction of a new pipeline up to 16 inches in diameter adjacent to or within existing road rights-of-way on public or private property to connect the Leamington North Lines to both the Kingsville East Line and Leamington North Reinforcement Line. The pipeline is approximately 12 km in length and would be located in both the Town of Kingsville and the Municipality of Leamington.
- Construction of a new pipeline up to 16 inches in diameter to connect the Tilbury East Valve Site to the Wheatley Road Station. The pipeline is approximately 6 km and will be located adjacent to or within existing road rights-of-way on public or private property either within the Municipality of Chatham-Kent or the Municipality of Lakeshore.

The location of the project and preliminary preferred routes for each segment are shown on the attached figures.

AECOM has been retained by Enbridge to prepare an Environmental Report (ER) to assess the potential environmental and socio-economic effects that may result from the project. The report will outline potential pipeline route evaluations and plans for avoiding and/or mitigating any effects, where possible. The ER will be prepared in accordance with the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (2016)*. The ER will accompany a Leave-to-Construct application that will

be submitted to the OEB in the spring of 2022. OEB review and approval is required before this project can proceed. Construction of the project is planned to begin as early as spring of 2023.

A key part of the planning process involves consultation with Indigenous Communities, local landowners, government agencies and other interested parties that could be impacted by the project. A virtual information session is planned to provide interested parties an opportunity to learn and comment on the proposed routes. It will also provide an overview of the planning process and studies completed.

The purpose of this letter is to invite you to attend the virtual information session and provide feedback in a format that is convenient for you:

Virtual Information Session	
Date:	Materials will be available at 5 p.m. on November 17, and available until December 3.
Website:	www.virtualengagement.ca/panhandle

If you have any questions about the project or the environmental study process, please do not hesitate to contact me using the information provided below.

Sincerely,



Lauren Whitwham
Sr. Advisor, Community & Indigenous Engagement
Enbridge Gas Inc.
Lauren.Whitwham@enbridge.com
Phone: (416) 666-6759

CC: Evan Tomek - Enbridge Inc.
Mark Van der Woerd – AECOM
Kristan Washburn – AECOM
Environment and Consultation Assistant (consultation.assistant@caldwellfirstnation.ca) – Caldwell First Nation

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

October 15, 2021

Valerie George
Consultation Coordinator
Chippewas of Kettle and Stony Point First Nation
6247 Indian Lane
Lambton Shores, ON N0N 1J1

Dear Valerie George:

Regarding: Project Commencement and Virtual Information Session for Panhandle Regional Expansion Project

To increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. The Panhandle Regional Expansion Project includes the construction of the following:

- Approximately 23 kilometres (km) of new pipeline looping the existing 20-inch Panhandle Pipeline. The new pipeline will be up to 42 inches in diameter and located adjacent to an existing pipeline corridor between Enbridge Gas' Comber Transmission Station, located in the Municipality of Lakeshore, and its Dover Transmission Station, located in the Municipality of Chatham-Kent.
- Construction of a new pipeline up to 16 inches in diameter adjacent to or within existing road rights-of-way on public or private property to connect the Leamington North Lines to both the Kingsville East Line and Leamington North Reinforcement Line. The pipeline is approximately 12 km in length and would be located in both the Town of Kingsville and the Municipality of Leamington.
- Construction of a new pipeline up to 16 inches in diameter to connect the Tilbury East Valve Site to the Wheatley Road Station. The pipeline is approximately 6 km and will be located adjacent to or within existing road rights-of-way on public or private property either within the Municipality of Chatham-Kent or the Municipality of Lakeshore.

The location of the project and preliminary preferred routes for each segment are shown on the attached figures.

AECOM has been retained by Enbridge to prepare an Environmental Report (ER) to assess the potential environmental and socio-economic effects that may result from the project. The report will outline potential pipeline route evaluations and plans for avoiding and/or mitigating any effects, where possible. The ER will be prepared in accordance with the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (2016)*. The ER will accompany a Leave-to-Construct application that will

be submitted to the OEB in the spring of 2022. OEB review and approval is required before this project can proceed. Construction of the project is planned to begin as early as spring of 2023.

A key part of the planning process involves consultation with Indigenous Communities, local landowners, government agencies and other interested parties that could be impacted by the project. A virtual information session is planned to provide interested parties an opportunity to learn and comment on the proposed routes. It will also provide an overview of the planning process and studies completed.

The purpose of this letter is to invite you to attend the virtual information session and provide feedback in a format that is convenient for you:

Virtual Information Session	
Date:	Materials will be available at 5 p.m. on November 17, and available until December 3.
Website:	www.virtualengagement.ca/panhandle

If you have any questions about the project or the environmental study process, please do not hesitate to contact me using the information provided below.

Sincerely,



Lauren Whitwham
Sr. Advisor, Community & Indigenous Engagement
Enbridge Gas Inc.
Lauren.Whitwham@enbridge.com
Phone: (416) 666-6759

CC: Evan Tomek - Enbridge Inc.
Mark Van der Woerd – AECOM
Kristan Washburn – AECOM

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

October 15, 2021

Denise Stonefish
Chief
Eelūnaapèewii Lahkèewiit (Delaware Nation or Moravian of the Thames)
14760 School House Line
Thamesville, ON N0P 2K0

Dear Chief Denise Stonefish:

Regarding: Project Commencement and Virtual Information Session for Panhandle Regional Expansion Project

To increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. The Panhandle Regional Expansion Project includes the construction of the following:

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- Construction of a new pipeline up to 16 inches in diameter adjacent to or within existing road rights-of-way on public or private property to connect the Leamington North Lines to both the Kingsville East Line and Leamington North Reinforcement Line. The pipeline is approximately 12 km in length and would be located in both the Town of Kingsville and the Municipality of Leamington.
- Construction of a new pipeline up to 16 inches in diameter to connect the Tilbury East Valve Site to the Wheatley Road Station. The pipeline is approximately 6 km and will be located adjacent to or within existing road rights-of-way on public or private property either within the Municipality of Chatham-Kent or the Municipality of Lakeshore.

The location of the project and preliminary preferred routes for each segment are shown on the attached figures.

AECOM has been retained by Enbridge to prepare an Environmental Report (ER) to assess the potential environmental and socio-economic effects that may result from the project. The report will outline potential pipeline route evaluations and plans for avoiding and/or mitigating any effects, where possible. The ER will be prepared in accordance with the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (2016)*. The ER will accompany a Leave-to-Construct application that will

be submitted to the OEB in the spring of 2022. OEB review and approval is required before this project can proceed. Construction of the project is planned to begin as early as spring of 2023.

A key part of the planning process involves consultation with Indigenous Communities, local landowners, government agencies and other interested parties that could be impacted by the project. A virtual information session is planned to provide interested parties an opportunity to learn and comment on the proposed routes. It will also provide an overview of the planning process and studies completed.

The purpose of this letter is to invite you to attend the virtual information session and provide feedback in a format that is convenient for you:

Virtual Information Session	
Date:	Materials will be available at 5 p.m. on November 17, and available until December 3.
Website:	www.virtualengagement.ca/panhandle

If you have any questions about the project or the environmental study process, please do not hesitate to contact me using the information provided below.

Sincerely,



Lauren Whitwham
Sr. Advisor, Community & Indigenous Engagement
Enbridge Gas Inc.
Lauren.Whitwham@enbridge.com
Phone: (416) 666-6759

CC: Evan Tomek - Enbridge Inc.
Mark Van der Woerd – AECOM
Kristan Washburn – AECOM

Enbridge Gas Inc.
3501 Tecumseh Rd., Mooretown
ON N0N 1M0
Canada

DATE, YEAR

Dear Resident and/or Landowner:

Regarding: Project Commencement and Virtual Information Session for Panhandle Regional Expansion Project

To increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. The Panhandle Regional Expansion Project includes the construction of the following:

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The location of the project and preliminary preferred routes for each segment are shown on the attached figures.

AECOM has been retained by Enbridge to prepare an Environmental Report (ER) to assess the potential environmental and socio-economic effects that may result from the project. The report will outline potential pipeline route evaluations and plans for avoiding and/or mitigating any effects, where possible. The ER will be prepared in accordance with the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (2016)*. The ER will accompany a Leave-to-Construct application that will be submitted to the OEB in the spring of 2022. OEB review and approval is required before this project can proceed. Construction of the project is planned to begin as early as spring of 2023.

A key part of the planning process involves consultation with Indigenous Communities, local landowners, government agencies and other interested parties that could be impacted by the project. A virtual information session is planned to provide interested parties an opportunity to

learn and comment on the proposed routes. It will also provide an overview of the planning process and studies completed.

As a landowner in the project study area, the purpose of this letter is to invite you to attend the virtual information session and provide feedback in a format that is convenient for you:

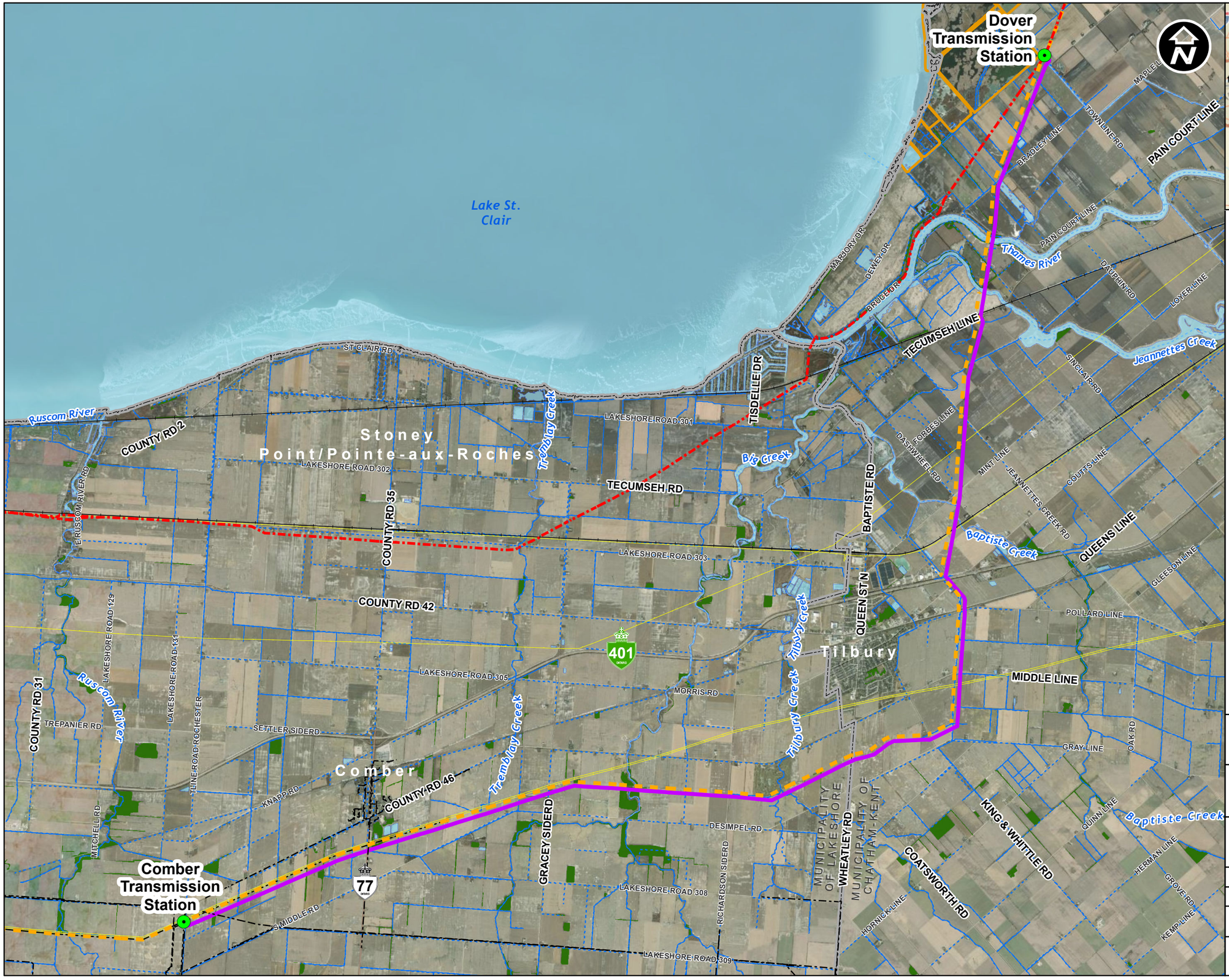
Virtual Information Session	
Date:	Materials will be available at 5 p.m. on November 17, and available until December 3, 2021.
Website:	www.virtualengagement.ca/panhandle

If you have any questions about the project or the environmental study process, please do not hesitate to contact me using the information provided below.

Sincerely,

Paul Connor
Senior Project Manager, Surface Land, Eastern Canada
Land Solutions
Phone: 905-482-4935
Email: pconnor@landsolutions.ca

CC: Evan Tomek - Enbridge Inc.
Mark Van der Woerd - AECOM
Kristan Washburn - AECOM



Legend

- Transmission Station
- Preliminary Preferred Route
- Existing Enbridge Gas Pipeline
- Existing 16 Inch Panhandle Pipeline
- Existing 20 Inch Panhandle Pipeline
- Hydro Line
- Railway
- Constructed Drain
- Permanent Stream
- Waterbody
- ANSI, Life Science
- Wooded Area
- Municipal Boundary

Panhandle Regional Expansion Project

Panhandle Line Loop

0 2 4

Kilometers
DATUM: NAD 1983 UTM Zone 17N

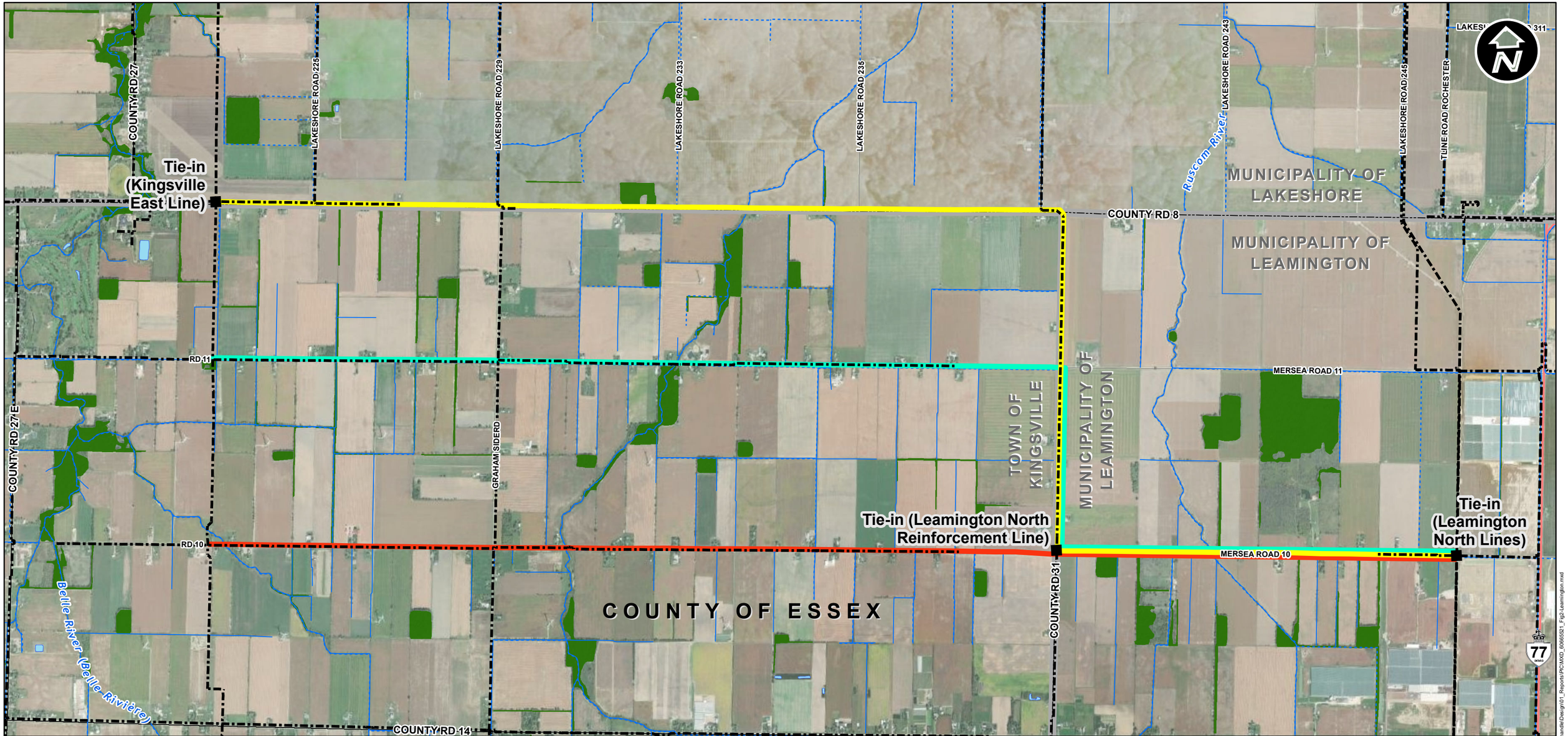
October 2021	1:75,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
P#:60665521	V#:	

AECOM

Figure 1

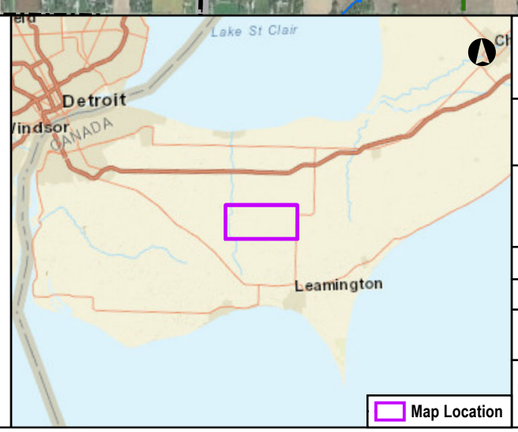
This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM's express written consent.

Map location: \\na.aecomnet.com\fs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\01_Reports\Virtual Info Session\MXD_PanhandleLoop\VIS.mxd
Date Saved: 10/13/2021 4:06:24 PM User Name: clarkb



Legend

- Tie-in
- Preliminary Preferred Route
- Alternative Route 1
- Alternative Route 2
- Existing Enbridge Gas Pipeline
- Constructed Drain
- Permanent Stream
- Intermittent Stream
- Waterbody
- Wooded Area
- Municipal Boundaries



Panhandle Regional Expansion Project

Leamington Interconnect

0 150 300 600 900 1,200 1,500 1,800 2,100
Meters
DATUM: NAD 1983 UTM Zone 17N

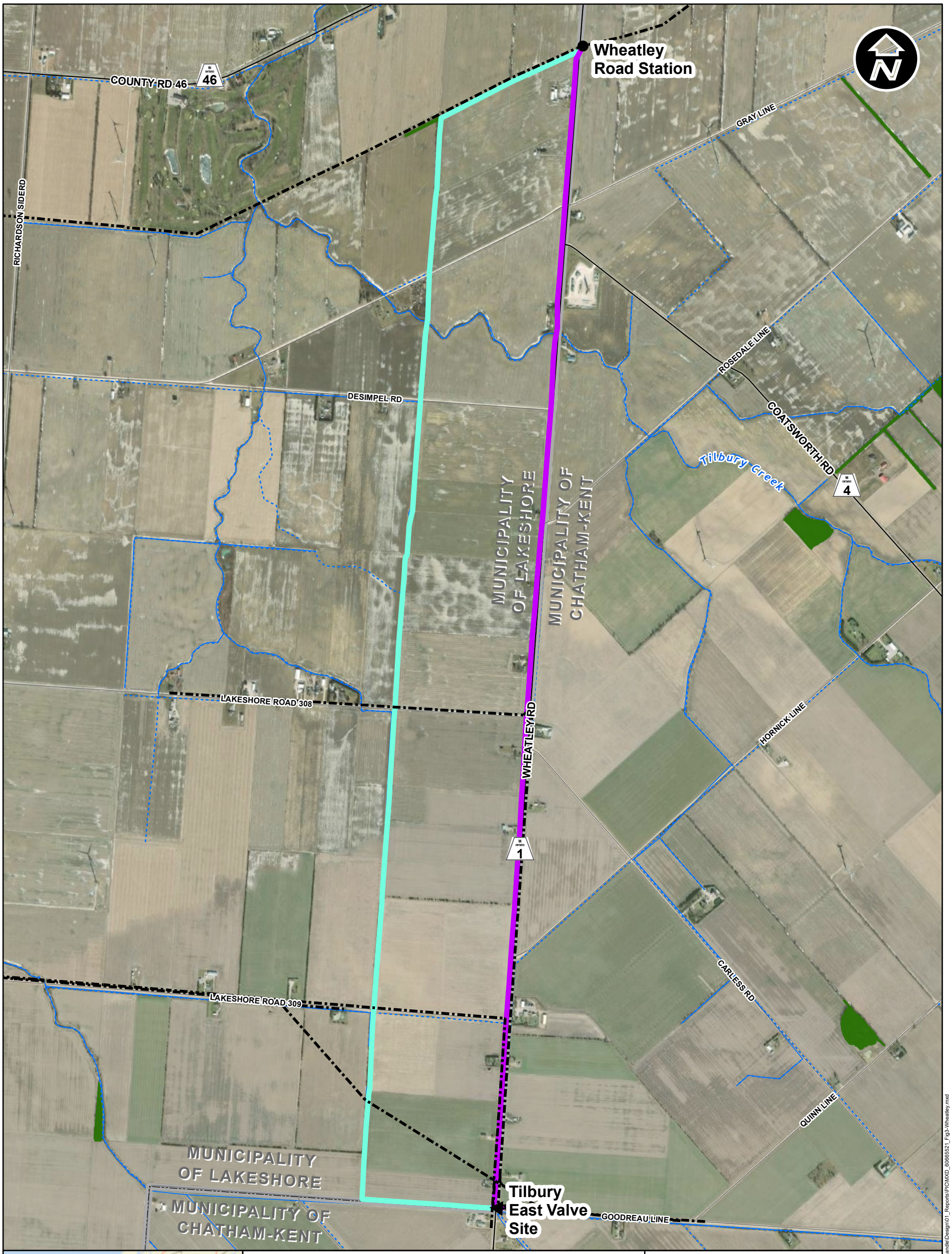
October 2021	1:28,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
P#:60665521	V#:	

AECOM

Figure 2

This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM's express written consent.

Map location: \\na.aecomnet.com\fls\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\01_Reports\PRC\MXD_60665521_Fig2-Leamington.mxd
Date Saved: 10/13/2021 1:40:11 PM User Name: clarkb


Wheatley
Road Station
COUNTY RD 46
46
RICHARDSON SIDERD
GRAY LINE
ROSEDALE LINE
DESIMPEL RD
COATSWORTH RD
Tilbury Creek
4
MUNICIPALITY OF LAKESHORE
MUNICIPALITY OF CHATHAM-KENT
LAKESHORE ROAD 308
WHEATLEY RD
1
HORNICK LINE
CARLESS RD
LAKESHORE ROAD 309
QUINN LINE
MUNICIPALITY OF LAKESHORE
MUNICIPALITY OF CHATHAM-KENT
Tilbury
East Valve
Site
GOODREAU LINE
Map Location
Legend
Distribution Station
Value Site
Preliminary Preferred Route
Alternative Route 1
Existing Enbridge Gas Pipeline
Constructed Drain
Permanent Stream
Wooded Area
Municipal Boundary
Panhandle Regional Expansion Project
Wheatley Interconnect
October 2021
1:17,000
* when printed 11"x17"
Source: MNRF 2020
Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, USGS, Intermap,
P#:60665521
V#:
AECOM
Figure 3
0 100 200 400 600 800 1,000
Meters
DATUM: NAD 1983 UTM Zone 17N
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Map location: \\na.aecomnet.com\ifs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\01_Reports\PIC\MXD_60665521_Fig3-Wheatley.mxd
Date Saved: 10/13/2021 11:03:06 AM

Virtual Information Session #2

AECOM
201 – 45 Goderich Road
Hamilton, ON, Canada L8E 4W8
www.aecom.com

905-578-3040 tel
905-578-4129 fax

DATE, YEAR

«First_Name» «Last_Name»
«Title»
«Stakeholder_Agency»
«Street_Address»
«City», «Prov» «Postal_Code»

Dear «Salutation» «Last_Name»:

Regarding: Notice of Second Virtual Information Session for Panhandle Regional Expansion Project

To increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. As part of the proposed Panhandle Regional Expansion Project, Enbridge Gas has conducted a route analysis and selection process to determine the preferred routes, which include constructing the following:

- Panhandle Loop: Approximately 19 kilometres (km) of new pipeline which loops – or parallels – the existing 20-inch Panhandle Pipeline. The new pipeline will be 36 inches in diameter and located adjacent to an existing pipeline corridor between Richardson Side Road in the Municipality of Lakeshore, and Enbridge Gas' existing Dover Transmission Station in the Municipality of Chatham-Kent.
- Leamington Interconnect: Approximately 12 km of new pipeline, 16 inches in diameter, adjacent to or within an existing road allowance on public or private property to connect the existing Leamington North Lines to both the Kingsville East Line and Leamington North Reinforcement Line, located in the Municipality of Lakeshore, Town of Kingsville and the Municipality of Leamington.
- Several distribution pipelines varying in diameter and length to connect new large-volume customers to the Panhandle Transmission System. Please see below for further details on these pipelines.

A preliminary preferred route was presented for the Panhandle Loop and a preliminary preferred route and alternative routes were presented for the Leamington Interconnect during the first virtual information session, held between November 17 and December 3, 2021. Upon consideration of the feedback received during the session, the proposed routes were evaluated further, which has resulted in the selection of preferred routes found in **Figures 1 and 2** attached to this letter. In addition, since the first virtual information session, preliminary preferred routes for the proposed distribution pipelines have also been selected and will be presented in a second virtual information session along with the preferred routes for the

Panhandle Loop and Leamington Interconnect (see below for further details). The Wheatley Interconnect, which was previously presented during the first virtual information session, is now represented with the other distribution lines and this segment of pipeline has been selected as the preferred route. The distribution lines include:

- Talbot Road Reinforcement: Construction of a new distribution pipeline up to 8 inches in diameter travelling adjacent to or within an existing road allowance on public or private property along Talbot Road East in the Municipality of Leamington (**Figure 3**). The pipeline will be approximately 3.2 km in length.
- Oak Street and Essex Road 33 Reinforcement: Construction of a new distribution pipeline up to 6 inches in diameter travelling adjacent to or within existing road allowances on public or private property along Oak Street East and County Road 33 in the Municipality of Leamington (**Figure 3**). The pipeline will be approximately 1.9 km in length.
- Wheatley Lateral Reinforcement (formerly Wheatley Interconnect): Construction of a new distribution pipeline up to 8 inches in diameter starting from Enbridge Gas' Wheatley Road station and travelling west then south in an easement on private property to Goodreau Line. The pipeline will then travel east to a new proposed station at the intersection of Wheatley Road and Goodreau Line (preferred route). From this location, the new distribution line would travel east along Goodreau Line before turning southeast on Coatsworth Road to Talbot Trail (preliminary preferred route) **(Figure 4)**. The pipeline will be approximately 16.1 km in length and all new pipelines on Goodreau Line and Coatsworth Road would either travel adjacent to or within existing road allowances on public or private property.

AECOM has been retained by Enbridge Gas to prepare an Environmental Report (ER) to assess the potential environmental and socio-economic effects that may result from the project. The ER will be prepared in accordance with the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (2016)*. The ER will accompany a Leave-to-Construct application that will be submitted to the OEB in the spring of 2022 and will include both the transmission and distribution components of this project. OEB review and approval is required before this project can proceed. Construction is planned to begin as early as spring of 2023.

A key part of the planning process involves consultation with Indigenous and Métis Communities, local landowners, government agencies and other interested parties that could be impacted by the project. A second virtual information session is planned to provide interested parties with an update on the project, along with an opportunity to learn about and comment on the proposed preferred routes for the Panhandle Loop, Leamington Interconnect, Wheatley Lateral Reinforcement (former Wheatley Interconnect segment) and preliminary preferred routes for the distribution pipelines. It will also provide an overview of the planning process and studies completed. Input received will help to confirm the selection of the preferred routes and to develop site-specific environmental protection or mitigation measures.

The purpose of this letter is to provide an update on the latest developments of the project, as well as to invite you to attend the second virtual information session and provide feedback in a format that is convenient for you:

Virtual Information Session #2	
Date:	Materials will be available from 5 p.m. on February 14, 2022 until February 28, 2022.
Website:	www.virtualengagement.ca/panhandle

If you have any questions about the project or the environmental study process, please do not hesitate to contact me using the information provided below.

Sincerely,

Mark Van der Woerd
Senior Environmental Planner
AECOM
Phone: 289-439-9803
Email: mark.vanderwoerd@aecom.com

CC: Evan Tomek – Enbridge Gas Inc.
Kristan Washburn – AECOM

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

January 26, 2022

Fallon Burch
Consultation Coordinator
Chippewas of the Thames First Nation
320 Chippewa Road
Muncey, ON N0L 1Y0

Dear Fallon Burch:

Regarding: Notice of Second Virtual Information Session for Panhandle Regional Expansion Project

To increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. As part of the proposed Panhandle Regional Expansion Project, Enbridge Gas has conducted a route analysis and selection process to determine the preferred routes, which include constructing the following:

- Panhandle Loop: Approximately 19 kilometres (km) of new pipeline which loops – or parallels – the existing 20-inch Panhandle Pipeline. The new pipeline will be 36 inches in diameter and located adjacent to an existing pipeline corridor between Richardson Side Road in the Municipality of Lakeshore, and Enbridge Gas' existing Dover Transmission Station in the Municipality of Chatham-Kent.
- Leamington Interconnect: Approximately 12 km of new pipeline, 16 inches in diameter, adjacent to or within an existing road allowance on public or private property to connect the existing Leamington North Lines to both the Kingsville East Line and Leamington North Reinforcement Line, located in the Municipality of Lakeshore, Town of Kingsville and the Municipality of Leamington.
- Several distribution pipelines varying in diameter and length to connect new large-volume customers to the Panhandle Transmission System. Please see below for further details on these pipelines.

A preliminary preferred route was presented for the Panhandle Loop and a preliminary preferred route and alternative routes were presented for the Leamington Interconnect during the first virtual information session, held between November 17 and December 3, 2021. Upon consideration of the feedback received during the session, the proposed routes were evaluated further, which has resulted in the selection of preferred routes found in **Figures 1 and 2** attached to this letter. In addition, since the first virtual information session, preliminary preferred routes for the proposed distribution pipelines have also been selected and will be presented in a second virtual information

session along with the preferred routes for the Panhandle Loop and Leamington Interconnect (see below for further details). The Wheatley Interconnect, which was previously presented during the first virtual information session, is now represented with the other distribution lines and this segment of pipeline has been selected as the preferred route. The distribution lines include:

- Talbot Road Reinforcement: Construction of a new distribution pipeline up to 8 inches in diameter travelling adjacent to or within an existing road allowance on public or private property along Talbot Road East in the Municipality of Leamington (**Figure 3**). The pipeline will be approximately 3.2 km in length.
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Sincerely,



Kevin Berube
Sr. Advisor, Community & Indigenous Engagement
Enbridge Gas Inc.
Kevin.Berube@enbridge.com
Phone: (416) 666-6759

CC: Evan Tomek – Enbridge Gas Inc.
Mark Van der Woerd – AECOM
Kristan Washburn – AECOM
Consultation General Inbox (consultation@cottfn.ca) – Chippewas of the Thames First Nation

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

January 26, 2022

Brandon Doxtator
Enviromental Committee
Oneida Nation of the Thames

Dear Brandon Doxtator:

Regarding: Notice of Second Virtual Information Session for Panhandle Regional Expansion Project

To increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. As part of the proposed Panhandle Regional Expansion Project, Enbridge Gas has conducted a route analysis and selection process to determine the preferred routes, which include constructing the following:

- Panhandle Loop: Approximately 19 kilometres (km) of new pipeline which loops – or parallels – the existing 20-inch Panhandle Pipeline. The new pipeline will be 36 inches in diameter and located adjacent to an existing pipeline corridor between Richardson Side Road in the Municipality of Lakeshore, and Enbridge Gas' existing Dover Transmission Station in the Municipality of Chatham-Kent.
- Leamington Interconnect: Approximately 12 km of new pipeline, 16 inches in diameter, adjacent to or within an existing road allowance on public or private property to connect the existing Leamington North Lines to both the Kingsville East Line and Leamington North Reinforcement Line, located in the Municipality of Lakeshore, Town of Kingsville and the Municipality of Leamington.
- Several distribution pipelines varying in diameter and length to connect new large-volume customers to the Panhandle Transmission System. Please see below for further details on these pipelines.

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Phone: (416) 666-6759

CC: Evan Tomek – Enbridge Gas Inc.
Mark Van der Woerd – AECOM
Kristan Washburn – AECOM

Enbridge Gas Inc.
109 Commissioners Road W.
London, ON N6A4P1

January 26, 2022

Sharilyn Johnston
Environment Coordinator
Aamjiwnaang First Nation
978 Tashmoo Avenue
Sarnia, ON N7T 7H5

Dear Sharilyn Johnston:

Regarding: Notice of Second Virtual Information Session for Panhandle Regional Expansion Project

To increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. As part of the proposed Panhandle Regional Expansion Project, Enbridge Gas has conducted a route analysis and selection process to determine the preferred routes, which include constructing the following:

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Enbridge Gas Inc.
Lauren.Whitwham@enbridge.com
Phone: 519-852-3474

CC: Evan Tomek – Enbridge Gas Inc.
Mark Van der Woerd – AECOM
Kristan Washburn – AECOM
Environmental Committee (environment@aamjiwnaang.ca) – Aamjiwnaang First Nation

Enbridge Gas Inc.
109 Commissioners Road W.
London, ON N6A4P1

January 26, 2022

Janet Macbeth
Project Review Coordinator
Bkejwanong (Walpole Island First Nation)
2185 River Rd N.
Wallaceburg, ON N8A 4K9

Dear Janet Macbeth:

Regarding: Notice of Second Virtual Information Session for Panhandle Regional Expansion Project

To increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. As part of the proposed Panhandle Regional Expansion Project, Enbridge Gas has conducted a route analysis and selection process to determine the preferred routes, which include constructing the following:

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Lauren.Whitwham@enbridge.com
Phone: 519-852-3474

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Mark Van der Woerd – AECOM
Kristan Washburn – AECOM

Enbridge Gas Inc.
109 Commissioners Road W.
London, ON N6A4P1

January 26, 2022

Dean Jacobs
Consultation Coordinator
Bkejwanong (Walpole Island First Nation)
2185 River Rd N.
Wallaceburg, ON N8A 4K9

Dear Dean Jacobs:

Regarding: Notice of Second Virtual Information Session for Panhandle Regional Expansion Project

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Mark Van der Woerd – AECOM
Kristan Washburn – AECOM

Enbridge Gas Inc.
109 Commissioners Road W.
London, ON N6A4P1

January 26, 2022

Brianna Sands
Environment and Consultation Coordinator
Caldwell First Nation
14 Orange Street
Leamington, ON N8H 1P5

Dear Brianna Sands:

Regarding: Notice of Second Virtual Information Session for Panhandle Regional Expansion Project

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Environment and Consultation Assistant (consultation.assistant@caldwellfirstnation.ca) – Caldwell First Nation

Enbridge Gas Inc.
109 Commissioners Road W.
London, ON N6A4P1

January 26, 2022

Valerie George
Consultation Coordinator
Chippewas of Kettle and Stony Point First Nation
6247 Indian Lane
Lambton Shores, ON N0N 1J1

Dear Valerie George:

Regarding: Notice of Second Virtual Information Session for Panhandle Regional Expansion Project

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- Panhandle Loop: Approximately 19 kilometres (km) of new pipeline which loops – or parallels – the existing 20-inch Panhandle Pipeline. The new pipeline will be 36 inches in diameter and located adjacent to an existing pipeline corridor between Richardson Side Road in the Municipality of Lakeshore, and Enbridge Gas' existing Dover Transmission Station in the Municipality of Chatham-Kent.
- Leamington Interconnect: Approximately 12 km of new pipeline, 16 inches in diameter, adjacent to or within an existing road allowance on public or private property to connect the existing Leamington North Lines to both the Kingsville East Line and Leamington North Reinforcement Line, located in the Municipality of Lakeshore, Town of Kingsville and the Municipality of Leamington.
- Several distribution pipelines varying in diameter and length to connect new large-volume customers to the Panhandle Transmission System. Please see below for further details on these pipelines.

A preliminary preferred route was presented for the Panhandle Loop and a preliminary preferred route and alternative routes were presented for the Leamington Interconnect during the first virtual information session, held between November 17 and December 3, 2021. Upon consideration of the feedback received during the session, the proposed routes were evaluated further, which has resulted in the selection of preferred routes found in **Figures 1 and 2** attached to this letter. In addition, since the first virtual information session, preliminary preferred routes for the proposed distribution pipelines have also been selected and will be presented in a second virtual information

session along with the preferred routes for the Panhandle Loop and Leamington Interconnect (see below for further details). The Wheatley Interconnect, which was previously presented during the first virtual information session, is now represented with the other distribution lines and this segment of pipeline has been selected as the preferred route. The distribution lines include:

- Talbot Road Reinforcement: Construction of a new distribution pipeline up to 8 inches in diameter travelling adjacent to or within an existing road allowance on public or private property along Talbot Road East in the Municipality of Leamington (**Figure 3**). The pipeline will be approximately 3.2 km in length.
- Oak Street and Essex Road 33 Reinforcement: Construction of a new distribution pipeline up to 6 inches in diameter travelling adjacent to or within existing road allowances on public or private property along Oak Street East and County Road 33 in the Municipality of Leamington (**Figure 3**). The pipeline will be approximately 1.9 km in length.
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AECOM has been retained by Enbridge Gas to prepare an Environmental Report (ER) to assess the potential environmental and socio-economic effects that may result from the project. The ER will be prepared in accordance with the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (2016)*. The ER will accompany a Leave-to-Construct application that will be submitted to the OEB in the spring of 2022 and will include both the transmission and distribution components of this project. OEB review and approval is required before this project can proceed. Construction is planned to begin as early as spring of 2023.

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Virtual Information Session #2	
Date:	Materials will be available from 5 p.m. on February 14, 2022 until February 28, 2022.
Website:	www.virtualengagement.ca/panhandle

If you have any questions about the project or the environmental study process, please do not hesitate to contact me using the information provided below.

Sincerely,



Lauren Whitwham
Sr. Advisor, Community & Indigenous Engagement
Enbridge Gas Inc.
Lauren.Whitwham@enbridge.com
Phone: 519-852-3474

CC: Evan Tomek – Enbridge Gas Inc.
Mark Van der Woerd – AECOM
Kristan Washburn – AECOM

Enbridge Gas Inc.
109 Commissioners Road W.
London, ON N6A4P1

January 26, 2022

Denise Stonefish
Chief
Eelūnaapèewii Lahkèewiit (Delaware Nation or Moravian of the Thames)
14760 School House Line
Thamesville, ON N0P 2K0

Dear Chief Denise Stonefish:

Regarding: Notice of Second Virtual Information Session for Panhandle Regional Expansion Project

To increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. As part of the proposed Panhandle Regional Expansion Project, Enbridge Gas has conducted a route analysis and selection process to determine the preferred routes, which include constructing the following:

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Lauren.Whitwham@enbridge.com
Phone: 519-852-3474

CC: Evan Tomek – Enbridge Gas Inc.
Mark Van der Woerd – AECOM
Kristan Washburn – AECOM

AECOM
201 – 45 Goderich Road
Hamilton, ON, Canada L8E 4W8
www.aecom.com

905-578-3040 tel
905-578-4129 fax

DATE, YEAR

Dear Resident and/or Landowner:

Regarding: Notice of Second Virtual Information Session for Panhandle Regional Expansion Project

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Mark Van der Woerd
Senior Environmental Planner
AECOM
Phone: 289-439-9803
Email: mark.vanderwoerd@aecom.com

CC: Evan Tomek – Enbridge Gas Inc.
Chantelle Rodger – Enbridge Gas Inc.
Kristan Washburn – AECOM

Enbridge Gas Inc.
3501 Tecumseh Rd., Mooretown
ON N0N 1M0
Canada

DATE, YEAR

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Sincerely,

Canarce

CC: Evan Tomek – Enbridge Gas Inc.
Mark Van der Woerd - AECOM
Kristan Washburn - AECOM

Dover Transmission Station

Proposed Station and Tie-in

Lake St. Clair

Tilbury

Thames River

Jeannettes Creek

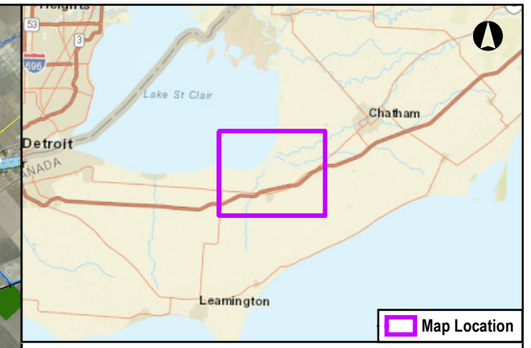
Tremblay Creek

Big Creek

Tilbury Creek

Baptiste Creek

MAPLE LINE
TOWN LINE RD
BRADLEY LINE
PAIN COURT LINE
JACOB RD
GRANDE RIVER LINE
RIVER VIEW LINE
DRAKE RD
MARJORY DR
DEWEY DR
BRUGE DR
TECUMSEH LINE
DAUPHIN RD
PUMP RD
LOYER LINE
3RD LINE
MERLIN RD
ST CLAIR RD
TISDELLE DR
FORBES LINE
SINCLAIR RD
McDOUGALL LINE
LAKESHORE ROAD 301
LAKESHORE ROAD 302
LAKESHORE ROAD 303
LAKESHORE ROAD 305
TECUMSEH RD
MUNICIPALITY OF LAKESHORE
MUNICIPALITY OF CHATHAM-KENT
BAPTISTE RD
DASHWHEEL RD
MINT LINE
JEANNETTES CREEK RD
COUTTS LINE
QUEENS LINE
GLEESON LINE
MORRIS LINE
COOPER RD
FINN LINE
SLOAN RD
POLLARD LINE
MIDDLE LINE
OAK RD
PORT RD
COUNTY RD 35
COUNTY RD 42
COUNTY RD 46
GRACEY SIDERD
RICHARDSON SIDERD
MORRIS RD
QUEEN ST N
WHEATLEY RD
KING & WHITTLE RD
HORNICK LINE
GRAY LINE
QUINN LINE
HERMAN LINE
KEMP LINE
S MIDDLE RD
DESIMPEL RD
401
77



Legend

- Station
- Preferred Route
- Existing 16 Inch Panhandle Pipeline
- Existing 20 Inch Panhandle Pipeline
- Hydro Line
- Railway
- Constructed Drain
- Permanent Stream
- Waterbody
- ANSI, Life Science
- Wooded Area
- Municipal Boundary

Panhandle Regional Expansion Project

Panhandle Line Loop

0 2 4
Kilometers
DATUM: NAD 1983 UTM Zone 17N

January 2022	1:65,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
P#:60665521	V#:	

AECOM

Figure 1

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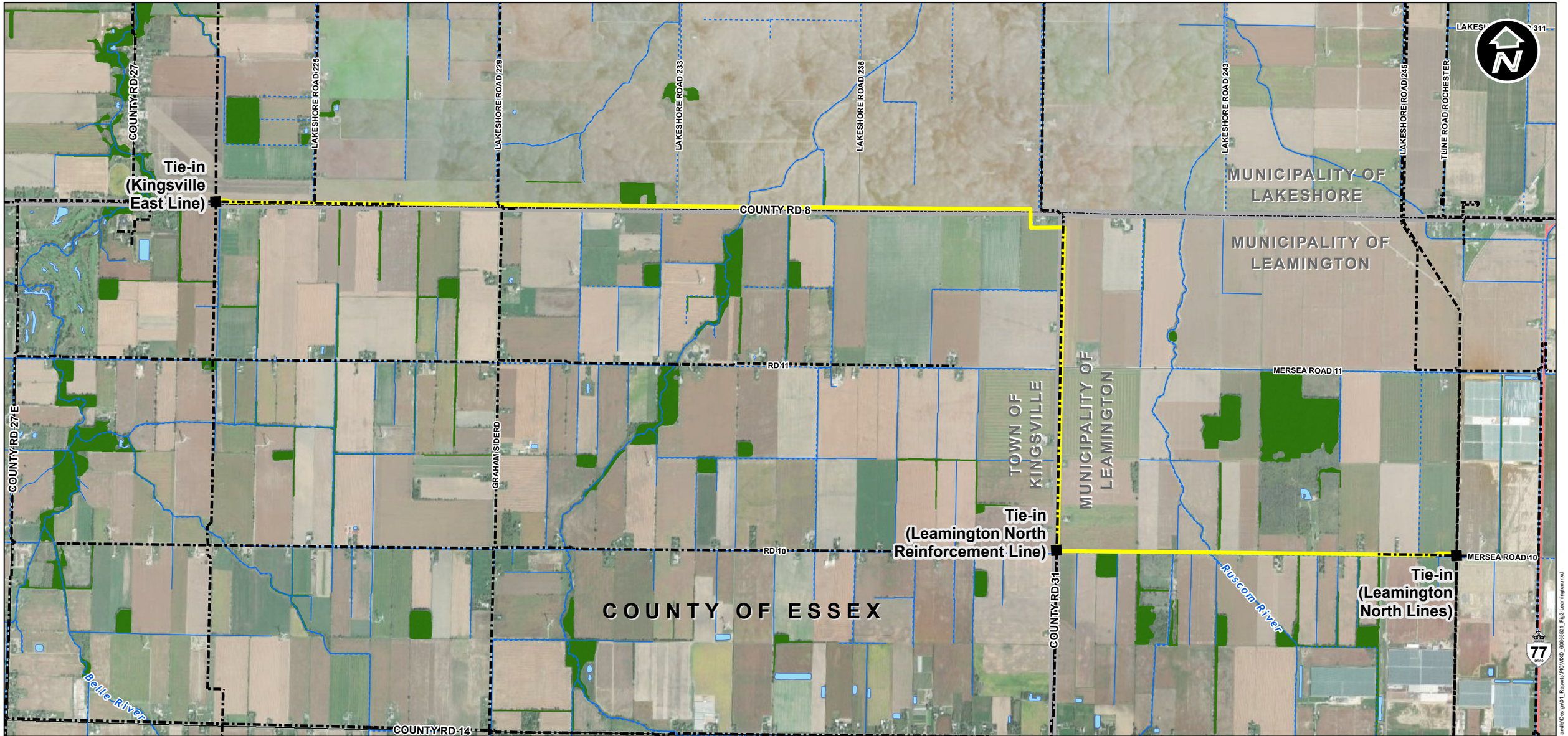
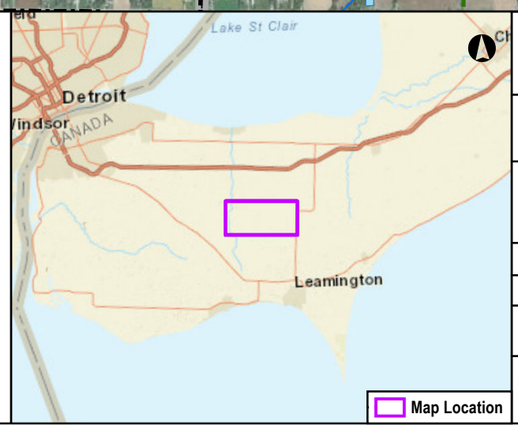
Map location: \\na.aecomnet.com\ifs\AMER\Kitchener-CA\KCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\01_Reports\PC\MXD_60665521_Fig1-PanhandleLoop.mxd
Date Saved: 1/20/2022 12:23:47 PM User Name: clarkb



Legend

- Tie-in
- Preferred Route
- Existing Enbridge Gas Pipeline
- Constructed Drain
- Permanent Stream
- Intermittent Stream
- Waterbody
- Wooded Area
- Municipal Boundaries



Panhandle Regional Expansion Project

Leamington Interconnect

0 150 300 600 900 1,200 1,500 1,800 2,100
Meters
DATUM: NAD 1983 UTM Zone 17N

January 2022	1:28,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
P#:60665521	V#:	

AECOM

Figure 2

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Map location: \\ca.aecomnet.com\fs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60666521_Enbridge_Panhandle\Design\01_Reports\PIC\MXD_60665521_Fig2-Leamington.mxd
Date Saved: 1/7/2022 2:20:25 PM User Name: clarkb

Hillman Creek

Tie-in to existing NPS 6 distribution line

33

34

COUNTY RD 33

TALBOT RD E

MERSEA 12 RD

Tie-in to existing NPS 8 distribution line

Tie-in to existing NPS 6 distribution line

TALBOT ST E

Sturgeon Creek

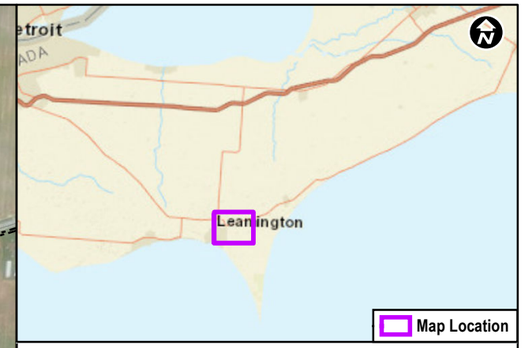
LUTSCH AVE

MARLBOROUGH ST E

Tie-in to existing NPS 8 distribution line

OAK ST E

MERSEA ROAD 2



Legend

- Tie-in
- Talbot Road Reinforcement Preliminary Preferred Route
- Oak Street and Essex Road 33 Reinforcement Preliminary Preferred Route
- Existing Enbridge Gas Pipeline
- Constructed Drain
- Permanent Stream
- Intermittent Stream
- Waterbody
- Wooded Area
- Municipal Boundary

Panhandle Regional Expansion Project

Talbot Road Reinforcement and Oak Street and Essex Road Reinforcement

0 0.45 0.9

Kilometers
DATUM: NAD 1983 UTM Zone 17N

January 2022	1:12,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
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AECOM

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Map location: \\na.aecomnet.com\fs\AMER\Kitchener-CA\CN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\01_Reports\Distribution Lines\MXD_60665521_Fig3-4-DistributionLines.mxd
Date Saved: 1/24/2022 5:12:13 PM User Name: clarkb

Wheatley Road Station

Tie-in to Windsor Line

Tilbury East Valve Site

Tie-in to existing NPS 6 distribution line

COUNTY RD 46

DESIMPEL RD

LAKESHORE ROAD 308

LAKESHORE ROAD 309

LAKESHORE ROAD 310

LAKESHORE ROAD 311

COUNTY RD 8

MERSEA ROAD 11

MIDDLE LINE

GRAY LINE

QUINN LINE

HERMAN LINE

KEMP LINE

VANEDIE RD

HORNICK LINE

CARLESS RD

GROVE RD

COX LINE

BOWERS LINE

KING & WHITTLE RD

COATSWORTH RD

GOODREAU LINE

WHEATLEY RD

TILBURY WEST-ROMNEY RD

R16HARDSON SIDERD

STEVENSON RD

4TH CONCESSION LINE

3RD CONCESSION LINE

2ND CONCESSION LINE

6TH CONCESSION LINE

5TH CONCESSION LINE

CAMPBELL RD

TALBOT TRAIL

MUNICIPALITY OF LAKESHORE

MUNICIPALITY OF CHATHAM-KENT

MUNICIPALITY OF LEAMINGTON

Big Creek

Tilbury Creek

Baptiste Creek

Lake Erie (lac Érié)

Leamington

Map Location

Legend

- Distribution Station
- Tie-in
- Value Site
- Preliminary Preferred Route
- Preferred Route
- Existing Enbridge Gas Pipeline
- Existing 20 Inch Panhandle Pipeline
- Hydro Line
- Constructed Drain
- Permanent Stream
- Waterbody
- Wooded Area
- Municipal Boundary

Panhandle Regional Expansion Project

Wheatley Lateral Reinforcement

0 1 2

Kilometers

DATUM: NAD 1983 UTM Zone 17N

January 2022	1:45,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
P#:60665521	V#:	

AECOM

Figure 4

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Map location: \\na.aecomnet.com\fs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\01_Reports\Distribution Lines\MXD_60665521_Fig3-4-DistributionLines.mxd
Date Saved: 1/24/2022 5:12:13 PM User Name: clarkb

Witt, Jordan

From: Van der Woerd, Mark
Sent: February 4, 2022 2:36 PM
To: Witt, Jordan; Washburn, Kristan
Subject: FW: Panhandle Regional Expansion Project Update
Attachments: Panhandle Regional Expansion Project Newspaper Notice Feb 4, 2022.pdf

Mark van der Woerd
AECOM
mark.vanderwoerd@aecom.com
(289) 439-9803

From: Nicole Gruythuyzen <nicole.gruythuyzen@enbridge.com>
Sent: February-04-22 2:27 PM
To: Chris.Lewis@parl.gc.ca
Cc: Van der Woerd, Mark <Mark.VanderWoerd@aecom.com>
Subject: [EXTERNAL] Panhandle Regional Expansion Project Update

Dear MP Chris Lewis,

Enbridge Gas is proposing to increase capacity to accommodate additional demand for affordable and reliable natural gas. We are proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. The expansion project includes the construction of the Panhandle Loop that is approximately 19km of new pipeline which loops the existing 20-inch Panhandle Pipeline. The Leamington Interconnect includes approximately 12km of new pipeline adjacent to or within an existing road allowance on public or private property to connect the existing Leamington North Lines to both the Kingsville East Line and Leamington North Reinforcement Line. As well as several distribution pipelines.

A preliminary preferred route was presented for the Panhandle Loop and a preliminary preferred route and alternative routes were presented for the Leamington Interconnect during our first virtual information session, held between November 17 and December 3, 2021. Feedback received during the session has resulted in the selection of preferred routes. Information about these routes will be available at a second virtual information session beginning on February 14, 2022.

There will be a virtual open house from February 14 to February 28 in which comments can be submitted or questions will be answered. More information can be found in the attached notice going in the Southpoint Sun newspaper on February 9. Enbridge Gas has retained AECOM to prepare an environmental report which will accompany a Leave-to-Construct application that will be submitted to the Ontario Energy Board in the spring of 2022.

Please do not hesitate to reach out with any questions you may have. We would be pleased to offer you a briefing at your convenience to answer any questions you may have in regards to this project. I can be reached by email at nicole.gruythuyzen@enbridge.com or my cell phone at 416-807-1894.

Kind Regards,
Nicole

Nicole Gruythuyzen
Government Affairs Senior Advisor
Public Affairs, Communications & Sustainability
—
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500 Consumers Rd., North York, ON M2J1P8
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Panhandle Regional Expansion Project: Notice of Virtual Information Session #2

Project Overview

To increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. The Panhandle Regional Expansion Project includes the construction of the following:

- Panhandle Loop: Approximately 19 kilometres (km) of new pipeline which loops – or parallels – the existing 20-inch Panhandle Pipeline. The new pipeline will be 36 inches in diameter and located adjacent to an existing pipeline corridor between Richardson Side Road in the Municipality of Lakeshore, and Enbridge Gas' existing Dover Transmission Station in the Municipality of Chatham-Kent.
- Leamington Interconnect: Approximately 12 km of new pipeline, 16 inches in diameter, adjacent to or within an existing road allowance on public or private property to connect the existing Leamington North Lines to both the Kingsville East Line and Leamington North Reinforcement Line, located in the Municipality of Lakeshore, Town of Kingsville and the Municipality of Leamington.
- Several distribution pipelines varying in diameter and length to connect new large-volume customers to the Panhandle Transmission System.

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Since the first virtual information session, preliminary preferred routes for the proposed distribution pipelines have also been selected and will be presented in the second virtual information session as well. The Wheatley Interconnect, which was previously presented during the first virtual information session, is now represented with the other distribution lines and this segment of pipeline has been selected as the preferred route.

Environmental Report

AECOM has been retained by Enbridge Gas to prepare an environmental report to assess the potential environmental and socio-economic effects that may result from the project and outline plans for avoiding / mitigating any effects, where possible. The environmental report will accompany a Leave-to-Construct application that will be submitted to the Ontario Energy Board in the spring of 2022.

Get Involved

We want to hear from you. A second virtual information session is planned to provide interested parties an opportunity to learn about and comment on the latest developments of the project. It will also provide an overview of the planning process and studies completed. The feedback obtained will be integrated into the environmental report and planning process of the project.

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Email:	panhandle@virtualengagement.ca

For questions or if you need assistance to participate, please contact:

Mark van der Woerd
Environmental Planning Lead
mark.vanderwoerd@aecom.com
289-439-9803

On Behalf of

Witt, Jordan

From: Van der Woerd, Mark
Sent: February 4, 2022 2:35 PM
To: Witt, Jordan; Washburn, Kristan
Subject: FW: Panhandle Regional Expansion Project Update
Attachments: Panhandle Regional Expansion Project Newspaper Notice Feb 4, 2022.pdf

Mark van der Woerd
AECOM
mark.vanderwoerd@aecom.com
(289) 439-9803

From: Nicole Gruythuyzen <nicole.gruythuyzen@enbridge.com>
Sent: February-04-22 2:27 PM
To: DAVE.EPP@PARL.GC.CA
Cc: Van der Woerd, Mark <Mark.VanderWoerd@aecom.com>
Subject: [EXTERNAL] Panhandle Regional Expansion Project Update

Dear MP Dave Epp,

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Kind Regards,
Nicole

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Mark van der Woerd
Environmental Planning Lead
mark.vanderwoerd@aecom.com
289-439-9803

On Behalf of

Witt, Jordan

From: Van der Woerd, Mark
Sent: February 4, 2022 2:36 PM
To: Witt, Jordan; Washburn, Kristan
Subject: FW: Panhandle Regional Expansion Project Update
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mark.vanderwoerd@aecom.com
(289) 439-9803

From: Nicole Gruythuyzen <nicole.gruythuyzen@enbridge.com>
Sent: February-04-22 2:28 PM
To: RNicholls-CO@ola.org
Cc: Van der Woerd, Mark <Mark.VanderWoerd@aecom.com>
Subject: [EXTERNAL] Panhandle Regional Expansion Project Update

Dear MPP Rick Nicholls,

Enbridge Gas is proposing to increase capacity to accommodate additional demand for affordable and reliable natural gas. We are proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. The expansion project includes the construction of the Panhandle Loop that is approximately 19km of new pipeline which loops the existing 20-inch Panhandle Pipeline. The Leamington Interconnect includes approximately 12km of new pipeline adjacent to or within an existing road allowance on public or private property to connect the existing Leamington North Lines to both the Kingsville East Line and Leamington North Reinforcement Line. As well as several distribution pipelines.

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Kind Regards,
Nicole

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mark.vanderwoerd@aecom.com
(289) 439-9803

From: Nicole Gruythuyzen <nicole.gruythuyzen@enbridge.com>
Sent: February-04-22 2:27 PM
To: tnatyshak-qp@ndp.on.ca
Cc: Van der Woerd, Mark <Mark.VanderWoerd@aecom.com>
Subject: [EXTERNAL] Panhandle Regional Expansion Project Update

Dear MPP Taras Natyshak,

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Environmental Planning Lead
mark.vanderwoerd@aecom.com
289-439-9803

On Behalf of

Project Update Notification

AECOM
201 – 45 Goderich Road
Hamilton, ON, Canada L8E 4W8
www.aecom.com

905-578-3040 tel
905-578-4129 fax

DATE, YEAR

«First_Name» «Last_Name»
«Title»
«Stakeholder_Agency»
«Street_Address»
«City», «Prov» «Postal_Code»

Dear «Salutation» «Last_Name»:

Regarding: Project Update for Panhandle Regional Expansion Project

To increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. The project includes the construction of the following:

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The preferred routes are found in **Figures 1 and 2** attached to this letter.

The purpose of this letter is to provide an update on the latest developments of the project.

Earlier in the project planning stages, the original scope of the project also included the Wheatley Lateral Reinforcement (formerly the Wheatley Interconnect). After the three pipeline segments were presented in the first virtual information session from November 17 – December 3, 2021, the Panhandle Loop and Leamington Interconnect were selected to continue in the planning process, while the Wheatley Lateral Reinforcement was downsized and aggregated with several additional customer-driven distribution pipelines proposed at the second virtual information session.

The Panhandle Loop, Leamington Interconnect, and the distribution lines (including the Wheatley Lateral Reinforcement, the Talbot Road Reinforcement, and the Oak Street and Essex Road 33 Reinforcement) were presented to the public and interested stakeholders in a second virtual information session from February 14 – 28, 2022. The following distribution

lines presented at the second virtual information session will no longer be considered as part of Enbridge Gas' Panhandle Regional Expansion Project:

- Wheatley Lateral Reinforcement: After reassessment, the scope and timing of the proposed facility will be revisited at a later date.
- Talbot Road Reinforcement: After reassessment, the required timing for this distribution facility has changed and therefore it will not be included within the Panhandle Regional Expansion Project.
- Oak Street and Essex Road 33 Reinforcement: After reassessment, the required timing for this distribution facility has changed and therefore it will not be included within the Panhandle Regional Expansion Project.

As part of the proposed Panhandle Regional Expansion Project, AECOM has been retained by Enbridge Gas to prepare an Environmental Report (ER) to assess the potential environmental and socio-economic effects that may result from the project. The ER will be prepared in accordance with the Ontario Energy Board's (OEB) *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (2016)* and will:

- Outline the environmental planning process and regulatory framework;
- Develop a consultation program to receive input from interested and potentially affected parties;
- Identify and evaluate potential alternatives from undertaking the project;
- Select preferred routes that minimize potential environmental effects;
- Complete a detailed review of environmental features along the preferred routes and assess the potential environmental effects of the project on these features;
- Establish mitigation measures that may be used to minimize or eliminate potential environmental effects of the project; and
- Identify any necessary supplemental studies, monitoring, and contingency plans.

The ER will accompany a Leave-to-Construct application that will be submitted to the OEB in the spring of 2022. OEB review and approval is required before this project can proceed.

A key part of the planning process involved consultation with Indigenous communities, local landowners, government agencies and other interested parties that could be impacted by the project. Input received has helped confirm the selection of the preferred routes and to develop site-specific environmental protection and mitigation measures, which will be outlined in the ER.

Proposed construction for the Panhandle Loop is in 2023. The proposed timing of construction for the Leamington Interconnect presented at the first and second virtual information sessions has been tentatively changed to 2024.

If you have any questions about the project or the environmental study process, please do not hesitate to contact me using the information provided below.

Sincerely,

Mark Van der Woerd
Senior Environmental Planner
AECOM
Phone: 289-439-9803
Email: mark.vanderwoerd@aecom.com

CC: Evan Tomek – Enbridge Gas Inc.
Kristan Washburn – AECOM

AECOM
201 – 45 Goderich Road
Hamilton, ON, Canada L8E 4W8
www.aecom.com

905-578-3040 tel
905-578-4129 fax

DATE, YEAR

«First_Name» «Last_Name»
«Street_Address»
«City», «Prov» «Postal_Code»

Dear «Salutation» «Last_Name»:

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Proposed construction for the Panhandle Loop is in 2023. The proposed timing of construction for the Leamington Interconnect presented at the first and second virtual information sessions has been tentatively changed to 2024.

If you have any questions about the project or the environmental study process, please do not hesitate to contact me using the information provided below.

Sincerely,



Mark Van der Woerd
Senior Environmental Planner
AECOM
Phone: 289-439-9803
Email: mark.vanderwoerd@aecom.com

CC: Evan Tomek – Enbridge Gas Inc.
Chantelle Rodger – Enbridge Gas Inc.
Kristan Washburn – AECOM

Enbridge Gas Inc.
3501 Tecumseh Rd., Mooretown
ON N0N 1M0
Canada

DATE, YEAR

Dear Resident and/or Landowner

Regarding: Project Update for Panhandle Regional Expansion Project

To increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. The project includes the construction of the following:

- Panhandle Loop: Approximately 19 kilometres (km) of new pipeline which loops – or parallels – the existing 20-inch Panhandle Pipeline. The new pipeline will be 36 inches in diameter and located adjacent to an existing pipeline corridor between Richardson Side Road in the Municipality of Lakeshore, and Enbridge Gas' existing Dover Transmission Station in the Municipality of Chatham-Kent.
- Leamington Interconnect: Approximately 12 km of new pipeline, 16 inches in diameter, adjacent to or within an existing road allowance on public or private property to connect the existing Leamington North Lines to both the Kingsville East Line and Leamington North Reinforcement Line, located in the Municipality of Lakeshore, Town of Kingsville, and the Municipality of Leamington.

The preferred routes are found in **Figures 1 and 2** attached to this letter.

As a landowner in the project study area, the purpose of this letter is to provide you with an update on the latest developments of the project.

Earlier in the project planning stages, the original scope of the project also included the Wheatley Lateral Reinforcement (formerly the Wheatley Interconnect). After the three pipeline segments were presented in the first virtual information session from November 17 – December 3, 2021, the Panhandle Loop and Leamington Interconnect were selected to continue in the planning process, while the Wheatley Lateral Reinforcement was downsized and aggregated with several additional customer-driven distribution pipelines proposed at the second virtual information session.

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If you have any questions about the project or the environmental study process, please do not hesitate to contact me using the information provided below.

Sincerely,

Andrea Franceschini
Project Manager
Canacre Ltd.
Phone: 519-900-3924
Email: afranceschini@canacre.com

CC: Evan Tomek – Enbridge Gas Inc.
Mark Van der Woerd - AECOM
Kristan Washburn - AECOM

Enbridge Gas Inc.
109 Commissioners Road W.
London, ON N6A4P1

April 8, 2022

Cathleen O'Brien
Environment Coordinator
Aamjiwnaang First Nation
978 Tashmoo Avenue
Sarnia, ON N7T 7H5

Dear Cathleen O'Brien:

Regarding: Project Update for Panhandle Regional Expansion Project

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Sincerely,



Lauren Whitwham
Sr. Advisor, Community & Indigenous Engagement
Enbridge Gas Inc.
Lauren.Whitwham@enbridge.com
Phone: 519-852-3474

CC: Evan Tomek – Enbridge Gas Inc.
Mark Van der Woerd – AECOM
Kristan Washburn – AECOM
General inbox (environment@aamjiwnaang.ca) – Aamjiwnaang First Nation

Enbridge Gas Inc.
109 Commissioners Road W.
London, ON N6A4P1

April 8, 2022

Lynn Rosales
Aamjiwnaang First Nation
978 Tashmoo Avenue
Sarnia, ON N7T 7H5

Dear Lynn Rosales:

Regarding: Project Update for Panhandle Regional Expansion Project

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Sr. Advisor, Community & Indigenous Engagement
Enbridge Gas Inc.
Lauren.Whitwham@enbridge.com
Phone: 519-852-3474

CC: Evan Tomek – Enbridge Gas Inc.
Mark Van der Woerd - AECOM
Kristan Washburn - AECOM

Enbridge Gas Inc.
109 Commissioners Road W.
London, ON N6A4P1

April 8, 2022

Janet Macbeth
Project Review Coordinator
Bkejwanong (Walpole Island First Nation)
2185 River Rd N.
Wallaceburg, ON N8A 4K9

Dear Janet Macbeth:

Regarding: Project Update for Panhandle Regional Expansion Project

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Enbridge Gas Inc.
Lauren.Whitwham@enbridge.com
Phone: 519-852-3474

CC: Evan Tomek – Enbridge Gas Inc.
Mark Van der Woerd - AECOM
Kristan Washburn - AECOM

Enbridge Gas Inc.
109 Commissioners Road W.
London, ON N6A4P1

April 8, 2022

Dean Jacobs
Consultation Coordinator
Bkejwanong (Walpole Island First Nation)
2185 River Rd N.
Wallaceburg, ON N8A 4K9

Dear Dean Jacobs:

Regarding: Project Update for Panhandle Regional Expansion Project

To increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. The project includes the construction of the following:

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CC: Evan Tomek – Enbridge Gas Inc.
Mark Van der Woerd - AECOM
Kristan Washburn - AECOM

Enbridge Gas Inc.
109 Commissioners Road W.
London, ON N6A4P1

April 8, 2022

Norma Altiman
Bkejwanong (Walpole Island First Nation)
2185 River Rd N.
Wallaceburg, ON N8A 4K9

Dear Norma Altiman:

Regarding: Project Update for Panhandle Regional Expansion Project

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Mark Van der Woerd - AECOM
Kristan Washburn - AECOM

Enbridge Gas Inc.
109 Commissioners Road W.
London, ON N6A4P1

April 8, 2022

Michelle McCormack
Caldwell First Nation
14 Orange Street
Leamington, ON N8H 1P5

Dear Michelle McCormack:

Regarding: Project Update for Panhandle Regional Expansion Project

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If you have any questions about the project or the environmental study process, please do not hesitate to contact me using the information provided below.

Sincerely,



Lauren Whitwham
Sr. Advisor, Community & Indigenous Engagement
Enbridge Gas Inc.
Lauren.Whitwham@enbridge.com
Phone: 519-852-3474

CC: Evan Tomek – Enbridge Gas Inc.
Mark Van der Woerd - AECOM
Kristan Washburn - AECOM

Enbridge Gas Inc.
109 Commissioners Road W.
London, ON N6A4P1

April 8, 2022

Zack Hamm
Caldwell First Nation
14 Orange Street
Leamington, ON N8H 1P5

Dear Zack Hamm:

Regarding: Project Update for Panhandle Regional Expansion Project

To increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent. The project includes the construction of the following:

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109 Commissioners Road W.
London, ON N6A4P1

April 8, 2022

Jenna Morrison
Caldwell First Nation
14 Orange Street
Leamington, ON N8H 1P5

Dear Jenna Morrison:

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109 Commissioners Road W.
London, ON N6A4P1

April 8, 2022

Claire Sault
Band Manager
Chippewas of Kettle and Stony Point First Nation
6247 Indian Lane
Lambton Shores, ON N0N 1J1

Dear Claire Sault:

Regarding: Project Update for Panhandle Regional Expansion Project

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109 Commissioners Road W.
London, ON N6A4P1

April 8, 2022

Denise Stonefish
Chief
Eelūnaapèewii Lahkèewiit (Delaware Nation or Moravian of the Thames)
14760 School House Line
Thamesville, ON N0P 2K0

Dear Chief Denise Stonefish:

Regarding: Project Update for Panhandle Regional Expansion Project

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Mark Van der Woerd - AECOM
Kristan Washburn - AECOM

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

April 8, 2022

Fallon Burch
Consultation Coordinator
Chippewas of the Thames First Nation
320 Chippewa Road
Muncey, ON N0L 1Y0

Dear Fallon Burch:

Regarding: Project Update for Panhandle Regional Expansion Project

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Kevin Berube
Sr. Advisor, Community & Indigenous Engagement
Enbridge Gas Inc.
Kevin.Berube@enbridge.com
Phone: (416) 666-6759

CC: Evan Tomek – Enbridge Gas Inc.
Mark Van der Woerd – AECOM
Kristan Washburn – AECOM
Consultation General Inbox (consultation@cottfn.ca) – Chippewas of the Thames First Nation

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

April 8, 2022

Brandon Doxtator
Enviromental Committee
Oneida Nation of the Thames

Dear Brandon Doxtator:

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Kristan Washburn - AECOM

Witt, Jordan

From: Nicole Gruythuyzen <nicole.gruythuyzen@enbridge.com>
Sent: April 12, 2022 10:27 AM
To: Nicholls
Cc: Van der Woerd, Mark
Subject: [EXTERNAL] Panhandle Regional Expansion Project Update
Attachments: Figure 1 Panhandle Loop Map April 11, 2022.pdf; Figure 2 Leamington Map April 11, 2022.pdf

Dear MPP Rick Nicholls,

This email is to serve as an update on the Panhandle project within your constituency. As you may be aware to increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent.

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Please don't hesitate to reach out if you have any questions.

Kind Regards,

Nicole Gruythuyzen
Government Affairs Senior Advisor
Public Affairs, Communications & Sustainability
—
ENBRIDGE INC.
TEL: 416-495-6174 | CEL: 416-807-1894
500 Consumers Rd., North York, ON M2J1P8
enbridge.com
Safety. Integrity. Respect.

Witt, Jordan

From: Nicole Gruythuyzen <nicole.gruythuyzen@enbridge.com>
Sent: April 12, 2022 10:27 AM
To: tnatyshak-qp@ndp.on.ca
Cc: Van der Woerd, Mark
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Attachments: Figure 1 Panhandle Loop Map April 11, 2022.pdf; Figure 2 Leamington Map April 11, 2022.pdf

Dear MPP Taras Natyshak,

This email is to serve as an update on the Panhandle project within your constituency. As you may be aware to increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent.

Earlier in the project planning stages, the original scope of the project also included the Wheatley Lateral Reinforcement (formerly the Wheatley Interconnect). After the three pipeline segments were presented in the first virtual information session from November 17 – December 3, 2021, the Panhandle Loop and Leamington Interconnect were selected to continue in the planning process, while the Wheatley Lateral Reinforcement was downsized and aggregated with several additional customer-driven distribution pipelines proposed at the second virtual information session. The preferred routes are found in Figures 1 and 2 attached.

The Panhandle Loop, Leamington Interconnect, and the distribution lines (including the Wheatley Lateral Reinforcement, the Talbot Road Reinforcement, and the Oak Street and Essex Road 33 Reinforcement) were presented to the public and interested stakeholders in a second virtual information session from February 14 – 28, 2022. The following distribution lines presented at the second virtual information session will no longer be considered as part of Enbridge Gas' Panhandle Regional Expansion Project:

- Wheatley Lateral Reinforcement: After reassessment, the scope and timing of the proposed facility will be revisited at a later date.

- Talbot Road Reinforcement: After reassessment, the required timing for this distribution facility has changed and therefore it will not be included within the Panhandle Regional Expansion Project.

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A environmental report will accompany a Leave-to-Construct application that will be submitted to the OEB in the spring of 2022. OEB review and approval is required before this project can proceed. A key part of the planning process involved consultation with Indigenous communities, local landowners, government agencies and other interested parties that could be impacted by the project. Input received has helped confirm the selection of the preferred routes and to develop site-specific environmental protection and mitigation measures, which will be outlined in the ER. Proposed construction for the Panhandle Loop is in 2023. The proposed timing of construction for the Leamington Interconnect presented at the first and second virtual information sessions has been tentatively changed to 2024.

Please don't hesitate to reach out if you have any questions.

Kind Regards,

Nicole Gruythuyzen
Government Affairs Senior Advisor
Public Affairs, Communications & Sustainability
—
ENBRIDGE INC.
TEL: 416-495-6174 | CEL: 416-807-1894
500 Consumers Rd., North York, ON M2J1P8
enbridge.com
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Witt, Jordan

From: Nicole Gruythuyzen <nicole.gruythuyzen@enbridge.com>
Sent: April 12, 2022 10:27 AM
To: Chris.Lewis@parl.gc.ca
Cc: Van der Woerd, Mark
Subject: [EXTERNAL] Panhandle Regional Expansion Project Update
Attachments: Figure 1 Panhandle Loop Map April 11, 2022.pdf; Figure 2 Leamington Map April 11, 2022.pdf

Dear MP Chris Lewis,

This email is to serve as an update on the Panhandle project within your constituency. As you may be aware to increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent.

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Kind Regards,

Nicole Gruythuyzen
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TEL: 416-495-6174 | CEL: 416-807-1894
500 Consumers Rd., North York, ON M2J1P8
enbridge.com
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Witt, Jordan

From: Nicole Gruythuyzen <nicole.gruythuyzen@enbridge.com>
Sent: April 12, 2022 10:27 AM
To: DAVE.EPP@PARL.GC.CA
Cc: Van der Woerd, Mark
Subject: [EXTERNAL] Panhandle Regional Expansion Project Update
Attachments: Figure 2 Leamington Map April 11, 2022.pdf; Figure 1 Panhandle Loop Map April 11, 2022.pdf

Dear MP Dave Epp,

This email is to serve as an update on the Panhandle project within your constituency. As you may be aware to increase capacity and accommodate additional demand for affordable and reliable natural gas, Enbridge Gas is proposing to increase the capacity of the Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Windsor, Essex County and Chatham-Kent.

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Kind Regards,

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Dover Transmission Station

Proposed Station and Tie-in

Lake St. Clair

Tilbury

Thames River

Jeannettes Creek

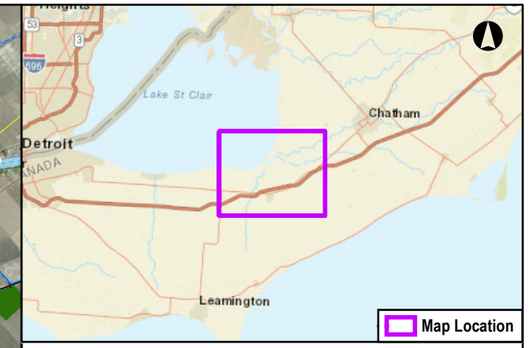
Tremblay Creek

Big Creek

Tilbury Creek

Baptiste Creek

MAPLE LINE
TOWN LINE RD
BRADLEY LINE
PAIN COURT LINE
JACOB RD
GRANDE RIVER LINE
RIVER VIEW LINE
DRAKE RD
MARJORY DR
DEWEY DR
BRUGE DR
TECUMSEH LINE
DAUPHIN RD
PUMP RD
LOYER LINE
3RD LINE
MERLIN RD
ST CLAIR RD
TISDELLE DR
FORBES LINE
SINCLAIR RD
McDOUGALL LINE
LAKESHORE ROAD 301
LAKESHORE ROAD 302
LAKESHORE ROAD 303
LAKESHORE ROAD 305
TECUMSEH RD
MUNICIPALITY OF LAKESHORE
MUNICIPALITY OF CHATHAM-KENT
BAPTISTE RD
DASHWHEEL RD
MINT LINE
JEANNETTES CREEK RD
COUTTS LINE
QUEENS LINE
GLEESON LINE
MORRIS LINE
COOPER RD
FINN LINE
SLOAN RD
POLLARD LINE
MIDDLE LINE
OAK RD
PORT RD
COUNTY RD 35
COUNTY RD 42
COUNTY RD 46
GRACEY SIDERD
RICHARDSON SIDERD
MORRIS RD
QUEEN ST N
WHEATLEY RD
KING & WHITTLE RD
HORNICK LINE
GRAY LINE
QUINN LINE
HERMAN LINE
KEMP LINE
S MIDDLE RD
DESIMPEL RD
401
77



Legend

- Station
- Preferred Route
- Existing 16 Inch Panhandle Pipeline
- Existing 20 Inch Panhandle Pipeline
- Hydro Line
- Railway
- Constructed Drain
- Permanent Stream
- Waterbody
- ANSI, Life Science
- Wooded Area
- Municipal Boundary

Panhandle Regional Expansion Project

Panhandle Line Loop

0 2 4
Kilometers
DATUM: NAD 1983 UTM Zone 17N

January 2022	1:65,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
P#:60665521	V#:	

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Figure 1

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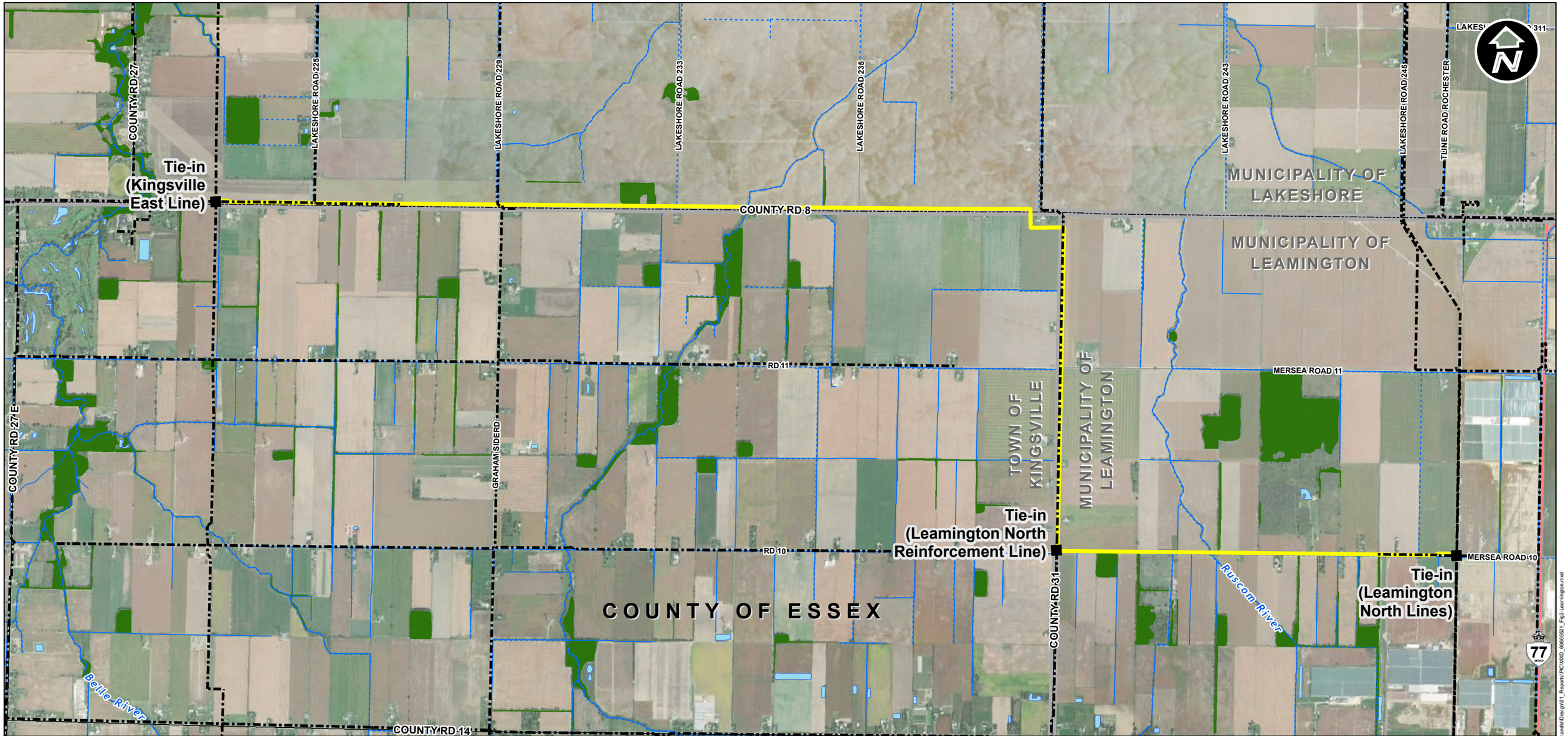
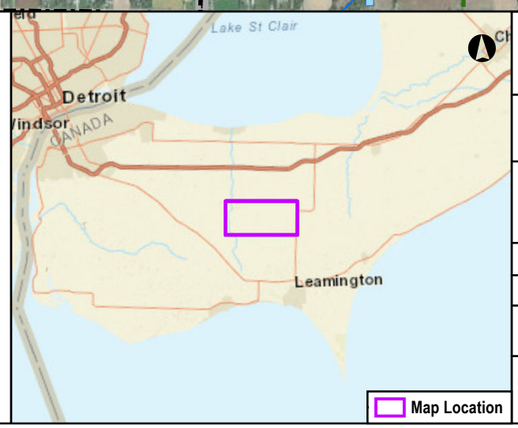
Map location: \\na.aecomnet.com\ifs\AMER\Kitchener-CA\KCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\01_Reports\PC\MXD_60665521_Fig1-PanhandleLoop.mxd
Date Saved: 1/20/2022 12:23:47 PM User Name: clarkb



Legend

- Tie-in
- Preferred Route
- Existing Enbridge Gas Pipeline
- Constructed Drain
- Permanent Stream
- Intermittent Stream
- Waterbody
- Wooded Area
- Municipal Boundaries



Panhandle Regional Expansion Project

Leamington Interconnect

0 150 300 600 900 1,200 1,500 1,800 2,100
Meters
DATUM: NAD 1983 UTM Zone 17N

January 2022	1:28,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
P#:60665521	V#:	

AECOM

Figure 2

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Map location: \\ca.aecomnet.com\fs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60666521_Enbridge_Panhandle\Design\01_Reports\PIC\MXD_60665521_Fig2-Leamington.mxd
Date Saved: 1/7/2022 2:20:25 PM User Name: clarkb

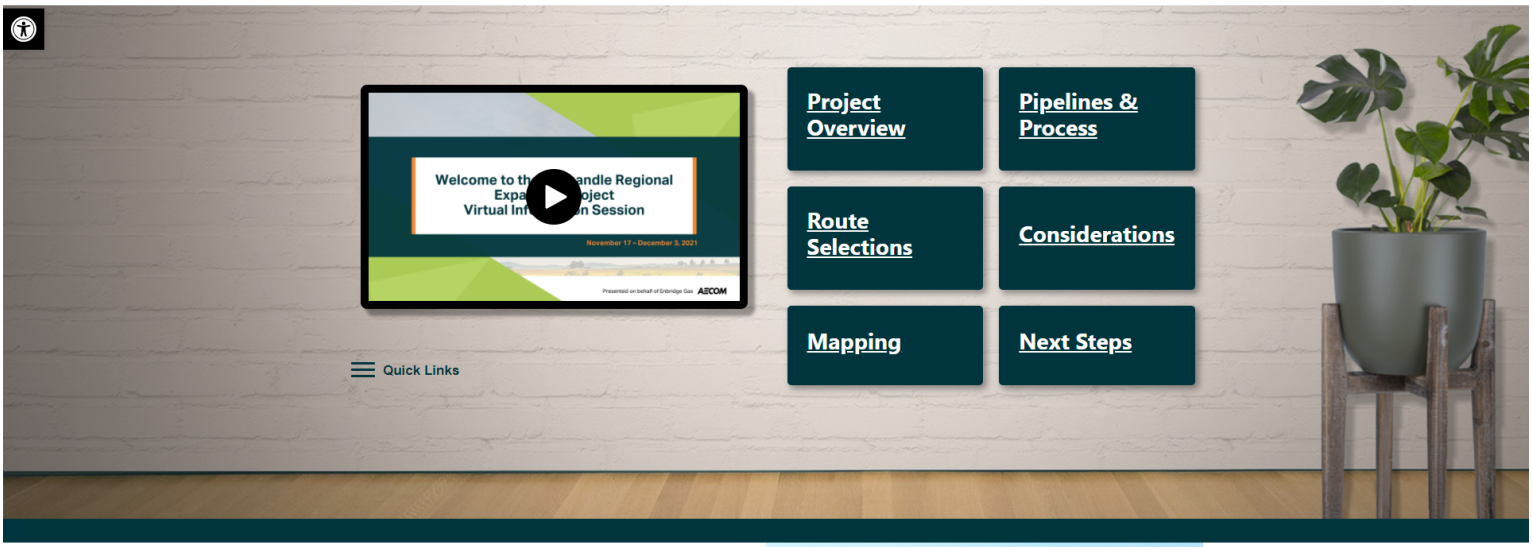
Appendix B4

Virtual Information Session Materials

Virtual Information Session #1

AECOM

Panhandle Regional Expansion Project
Virtual Information Session | Presented on behalf of Enbridge Gas



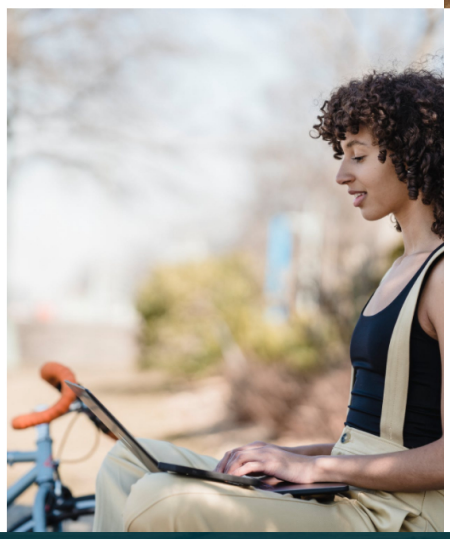
Welcome to the Panhandle Regional Expansion Project

Virtual Information Session

- This virtual information session is open from November 17 to December 3, 2021.
- Watch the short video above to learn about the Project and what's included in this virtual information session.
- Explore the website for more detailed information.
- Fill out the **comment form** by December 3, 2021, where you can also submit questions, comments and sign-up to receive future Project updates.
- Download the full presentation.
- Review the pipeline routes on the interactive mapping tool.

Learn More





Purpose of the Virtual Information Session

- Provide a safe alternative to an in-person meeting.
- Inform landowners, Indigenous communities, municipalities, stakeholders, and regulatory authorities about the Panhandle Regional Expansion Project and gather feedback on the preliminary preferred pipeline routes.
- Give everyone the chance to participate in the process to complete the Environmental Report, which will be included in the Ontario Energy Board application.
- Provide an opportunity to identify any unknown constraints and review draft plans to mitigate impacts to the local community and the environment.
- Create a space for you to ask questions and / or provide comments to Enbridge Gas or AECOM.

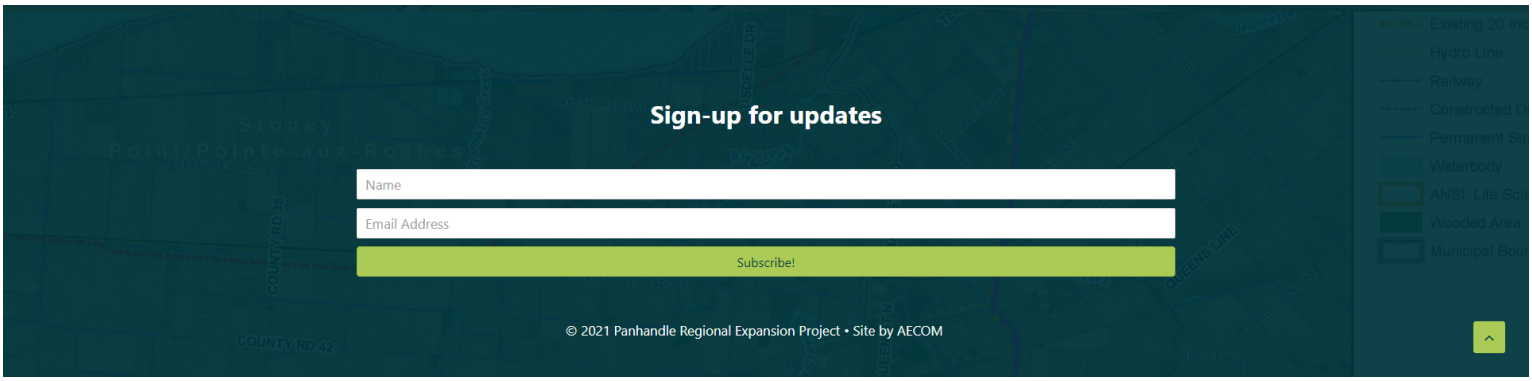
Learn More

Our Commitment

Enbridge Gas provides safe and reliable delivery of natural gas to more than 3.7 million residential, commercial, and industrial customers across Ontario.

Enbridge Gas will carefully consider all input. They are committed to involving community members and will provide up-to-date information in an open, honest and respectful manner.

Enbridge Gas is committed to environmental stewardship and conducts all of its operations in an environmentally responsible manner.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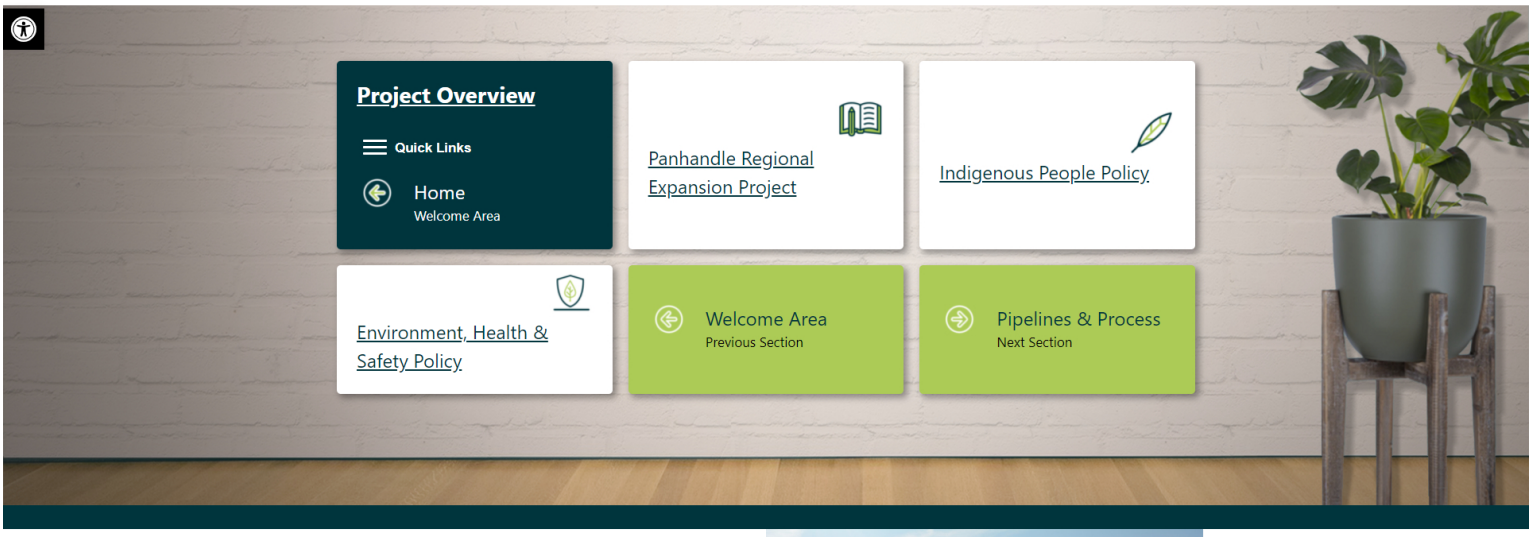
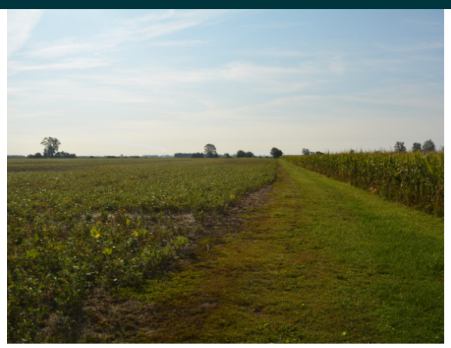


Panhandle Regional Expansion Project

The Panhandle Transmission System serves residential, commercial, industrial, greenhouse and power generation customers across Southwestern Ontario. In order to accommodate additional demand for affordable and reliable natural gas in Windsor, Essex County and Chatham-Kent, Enbridge Gas is proposing to increase the capacity of the system via the Panhandle Regional Expansion Project. This Project will address the current and future growth needs of the local area.



Back to Top | Next

Indigenous People Policy

Enbridge Gas recognizes the diversity of Indigenous Peoples who live where they work and operate. They understand from history the destructive impacts on the social and economic wellbeing of Indigenous Peoples. Enbridge Gas recognizes and realizes the importance of reconciliation between Indigenous communities and the broader society. Positive relationships with Indigenous Peoples, based on mutual respect and focused on achieving common goals, will create positive outcomes from Indigenous communities. Enbridge Gas commits to pursue sustainable relationships with Indigenous Nations and groups in proximity to where Enbridge Gas conducts business. To achieve this, Enbridge Gas will govern itself by the following principles:

Enbridge Gas recognizes the legal and constitutional rights of Indigenous Peoples, and the importance of the relationships between Indigenous Peoples and their traditional lands and resources. They commit to working with Indigenous communities in a manner that recognizes and respects those legal and constitutional rights and the traditional lands and resources to which they apply. Enbridge Gas commits to ensuring that Enbridge Gas projects and operations are carried out in an environmentally responsible manner.

Enbridge Gas understands the importance of the United Nations Declaration of the Rights of Indigenous Peoples in the context of existing Canadian law and the commitments that the government has made to protecting the rights of Indigenous Peoples.

Enbridge Gas engages in forthright and sincere consultation with Indigenous Peoples about their projects and operations through processes that seek to achieve early and meaningful engagement. Indigenous engagement helps define projects that may occur on lands traditionally occupied by Indigenous Peoples.

Enbridge Gas commits to working with Indigenous Peoples to achieve benefits for them resulting from Enbridge Gas' projects and operations, including opportunities in training and education, employment, procurement, business development, and community development.

Enbridge Gas fosters an understanding of the history and culture of Indigenous Peoples among their employees and contractors, in order to create better relationships between Enbridge Gas and Indigenous communities.

The commitment is a shared responsibility involving Enbridge Gas and its affiliates, employees and contractors. They will conduct business in a manner that reflects the above principles. Enbridge Gas will provide ongoing leadership and resources to effectively implement the above principles, including the development of implementation strategies and specific action plans. Enbridge Gas commits to periodically review this policy so that it remains relevant and respects Indigenous culture and varied

traditions.

Previous Next

Environment, Health and Safety Policy

Enbridge Gas' commitment

- Enbridge Gas is committed to protecting the health and safety of all individuals affected by their activities.
- Enbridge Gas will provide a safe and healthy working environment and will not compromise the health and safety of any individual.
- Enbridge Gas' goal is to have no incidents and mitigate impacts on the environment by working with stakeholders, peers, and others to promote responsible environmental practices and continuous improvement.
- Enbridge Gas is committed to environmental protection and stewardship and they recognize 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.

AECOM's commitment

- "Safety for Life" defines AECOM's commitment to achieving zero work-related injuries and / or illnesses; preventing damage to property and the environment; and maintaining an environmentally friendly and sustainable workplace.
- AECOM has adopted "Life Preserving Principles" to help demonstrate the commitment of AECOM's Safety for Life program.

Previous Pipelines & Process

Sign-up for updates

Name

Email Address

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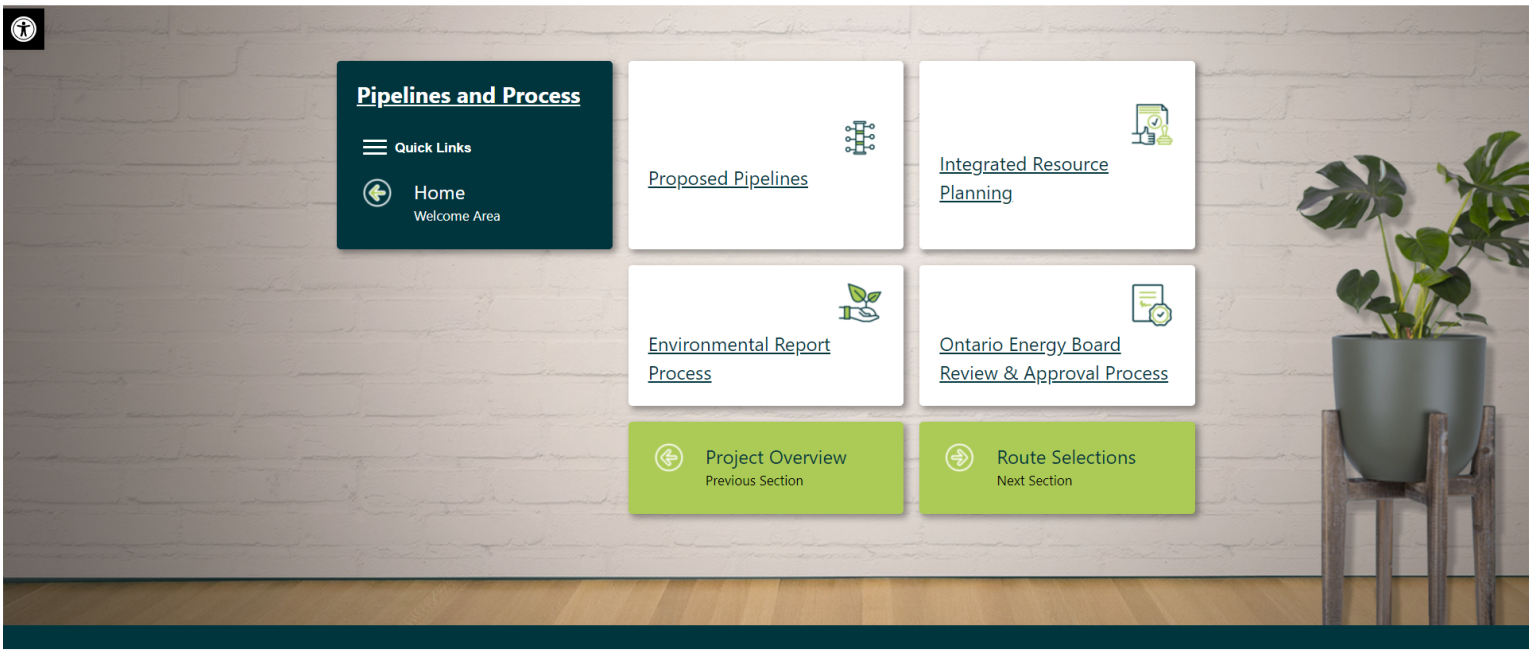
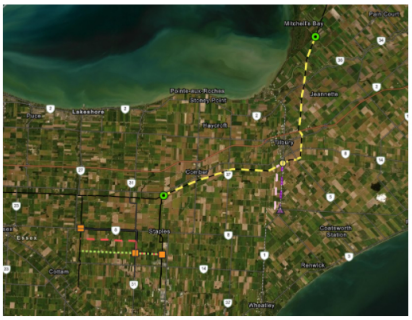


Proposed Pipelines

The Panhandle Transmission System serves residential, commercial, industrial, greenhouse and power generation customers across Southwestern Ontario. In order to accommodate additional demand for affordable and reliable natural gas in Windsor, Essex County and Chatham-Kent, Enbridge Gas is proposing to increase the capacity of the system via the Panhandle Regional Expansion Project.



View the interactive map

Panhandle Loop

23 km of new natural gas pipeline which loops – or parallels – the existing 20-inch Panhandle Pipeline located between Enbridge Gas' Comber Transmission Station, located in the Municipality of Lakeshore, and its Dover Transmission Station, located in the Municipality of Chatham-Kent. The new pipeline will be up to 42-inches in diameter and is proposed to be located adjacent to an existing pipeline.

Leamington Interconnect

Construction of a new pipeline up to 16 inches in diameter adjacent to or within an existing road allowance on public or private property to connect the existing Leamington North Lines to both the Kingsville East Line and the Leamington North Reinforcement Line. The pipeline will be 12 km in length and would be located in both the Municipality of Lakeshore and Municipality of Leamington.

Wheatley Interconnect

Construction of a new pipeline up to 16 inches in diameter to connect the Tilbury East Valve Site to the Wheatley Road Station on public and private property adjacent to or within an existing road allowance. The pipeline will be 6 km in length and would be located within the Municipality of Chatham-Kent and the Municipality of Lakeshore.

Distribution Pipelines

Enbridge Gas will construct several distribution pipelines connecting new large-volume customers to the Panhandle Transmission System. Design and location of these pipelines is subject to individual customer commitments. Enbridge Gas will share further details on these pipelines at a later date.

If approved by the Ontario Energy Board, construction of the proposed pipelines is planned to begin as early as Spring 2023 and is proposed to be in service by Fall 2023.

Integrated Resource Planning (IRP)

As the energy landscape continues to evolve, there is a growing interest in low-carbon alternatives to meet energy needs.

IRP is a framework through which Enbridge Gas reviews alternative approaches to meeting energy needs, before building new infrastructure such as:

Delivering more energy without adding new pipelines using liquefied or compressed natural gas.

Lowering energy use through effective energy efficiency programs.

Displacing conventional natural gas with carbon-neutral renewable natural gas and hydrogen.

As Enbridge Gas continues to lead the transition to a low-carbon future, they are dedicated to exploring IRP alternatives where they are in the best interest of communities, the environment and the company, while considering safety and reliability, cost-effectiveness, optimization, risk management and public policy.

Previous Next

Environmental Report Process

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



The study will:

Undertake consultation to understand the views of interested and potentially impacted parties.

Consult with Indigenous communities to understand interests and potential impacts.

Be conducted during the earliest phase of the Project.

Present pipeline routing options and outline the evaluation process to select preferred pipeline routes.

Identify potential impacts of the Project.

Develop environmental mitigation and protective measures to avoid or minimize potential impacts.

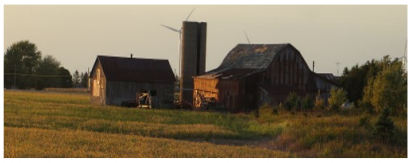
Develop an appropriate environmental inspection, monitoring and follow-up program.

Previous Next

Ontario Energy Board (OEB) Review and Approval Process

and Approval Process

An OEB Leave-to-Construct application and approval is required in order for the Project to proceed. The OEB is Ontario's independent regulator of the electricity and natural gas sectors who protect consumers and makes decisions that serve the public interest.



The application to the OEB will include information on the Project including:

- The need for the Project;
- Environmental Report and mitigation measures;
- Facility alternatives;
- Project costs and economics;
- Pipeline design and construction;
- Land requirements; and
- Consultation with Indigenous communities.

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

Additional information about the OEB process can be found at: www.oeb.ca

Previous Route Selections

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Name

Email Address

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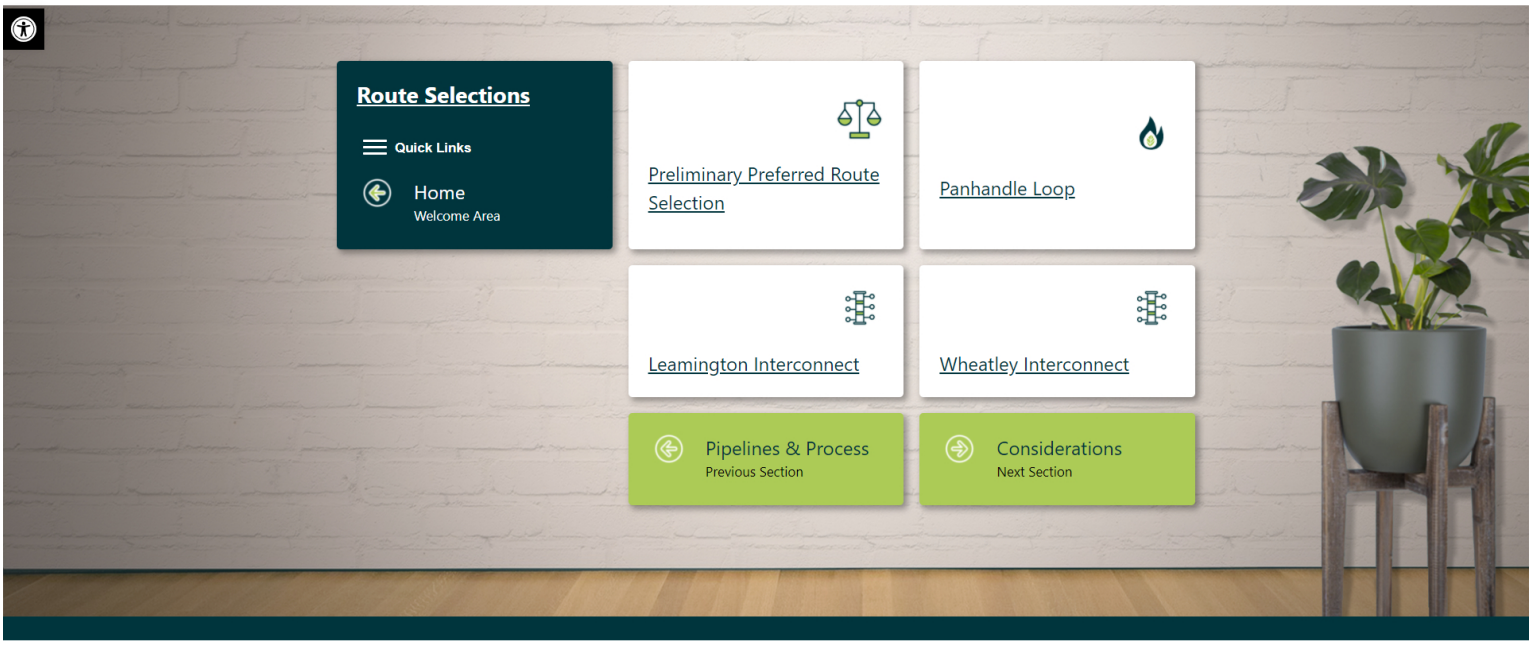


Preferred Route Selection Process

The preferred routes will be selected through a five-step process.

Step 1: Develop Routing Parameters

- Establish a study area.
- Establish routing objectives. For example:
  - Follow a reasonably direct path between start and end points.
  - Avoid sensitive environmental and socio-economic features, where possible.
  - Parallel (loop) existing linear infrastructure.
  - Follow existing lot and property lines.
- Create an inventory of environmental and socio-economic features.

Step 2: Identify Alternative Routes in the Study Area

- Identify reasonable and feasible routes within the study area in consideration of the routing objectives and environmental and socio-economic opportunities and constraints.

Step 3: Route Evaluation

- An evaluation of the Alternative Routes has been conducted to select the preliminary preferred routes. The evaluation was based on:
  - Field visits and route reviews with environmental, engineering and construction staff;
  - Review of publicly available information about natural heritage features, slope, topography, and socio-economic features and landscapes;
  - A GIS based quantitative evaluation of potential impacts to environmental and socio-economic features; and
  - Early input from municipalities.

Step 4: Seek Input on Preliminary Preferred Routes (WE ARE HERE)

- Gather feedback on the alternatives and preliminary preferred routes.
- Make updates / modifications, as needed.

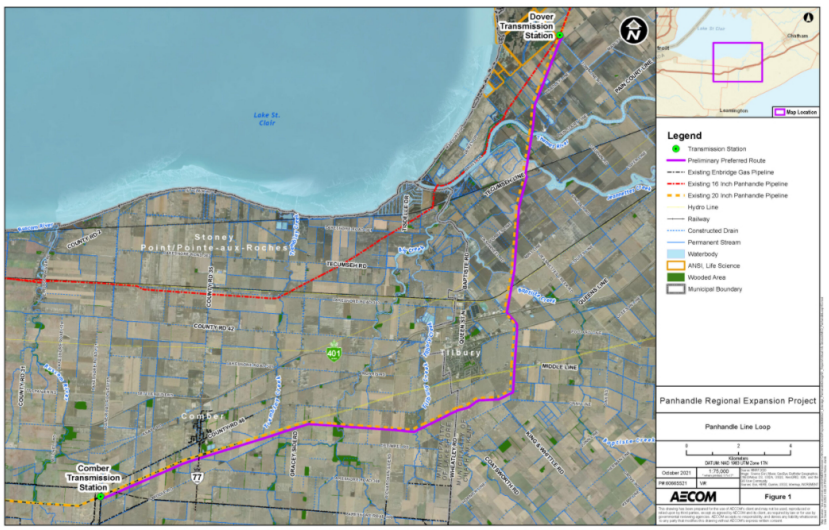
Step 5: Confirmation of Routes and Completion of Environmental Report

- The pipeline routes will be confirmed and analyzed in the Environmental Report. The location of the preferred pipeline routes may be refined as the Project moves forward based on pre-construction field investigations, landowner requests, and / or engineering and construction considerations.

Back to Top | Next

Panhandle Loop

- New natural gas pipeline up to 42 inches in diameter and 23 km in length located adjacent to an existing pipeline.
- Route will loop - or parallel - the existing 20-inch Panhandle Pipeline located between Enbridge Gas' Comber Transmission Station and Dover Transmission Station.
- Key considerations for selecting the preliminary preferred route:
  - The route parallels an existing pipeline right-of-way (RoW).
  - It leverages an existing RoW reducing disturbance to new properties and farms.
  - It is a shorter technically feasible route reducing schedule and cost.
  - Installation of the existing pipeline occurred with no long-term impacts to the environment.
  - The route avoids introduction of new environmental and social impacts to habitats and properties in the area.



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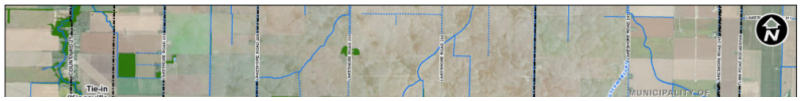
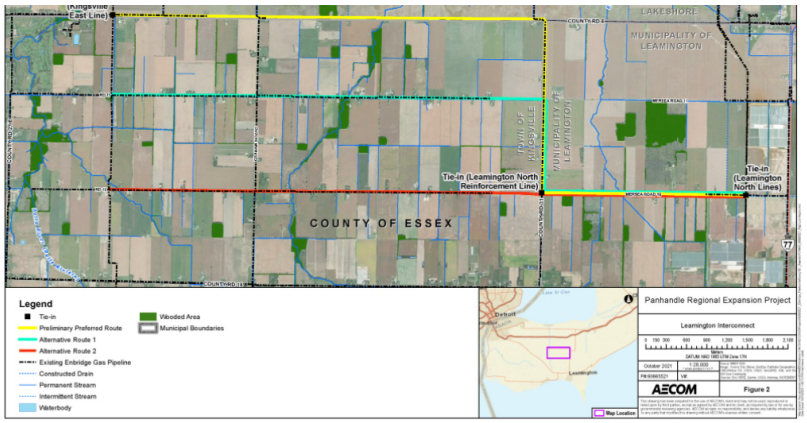
Leamington Interconnect

- New natural gas pipeline up to 16 inches in diameter and 12 km in length connecting the existing Leamington North Lines to both the Kingsville East Line and the Leamington North Reinforcement Line.
- Located adjacent to or within an existing road allowance on public or private property.
- Key considerations for selecting the preliminary preferred route:
  - The route parallels existing road allowances and utilities.
  - The route offers the most room for construction.
  - It has the least direct impacts to homes, utilities, and farm operations in the area.
  - The slope / topography is flat and there are no deep ditches impacting construction.
  - Route has minimal impacts to woodlots and environmental habitat within the area.

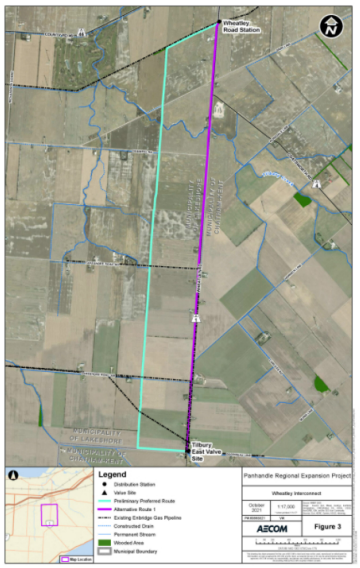




Previous Next

Wheatley Interconnect

- A new 16-inch natural gas pipeline located adjacent to or within an existing road allowance on public or private property connecting the Tilbury East Valve Site to the Wheatley Road Station.
- Key considerations for selecting the preliminary preferred route:
  - The route parallels existing property boundaries and drainage features, which limits the number of properties impacted during construction.
  - It is located at the back of agricultural fields to avoid impacts to woodlots and hedgerows.
  - The route limits impacts to residential and farm entrances.
  - It avoids the need for lane closures and traffic disruption on Wheatley Road.



Previous Considerations

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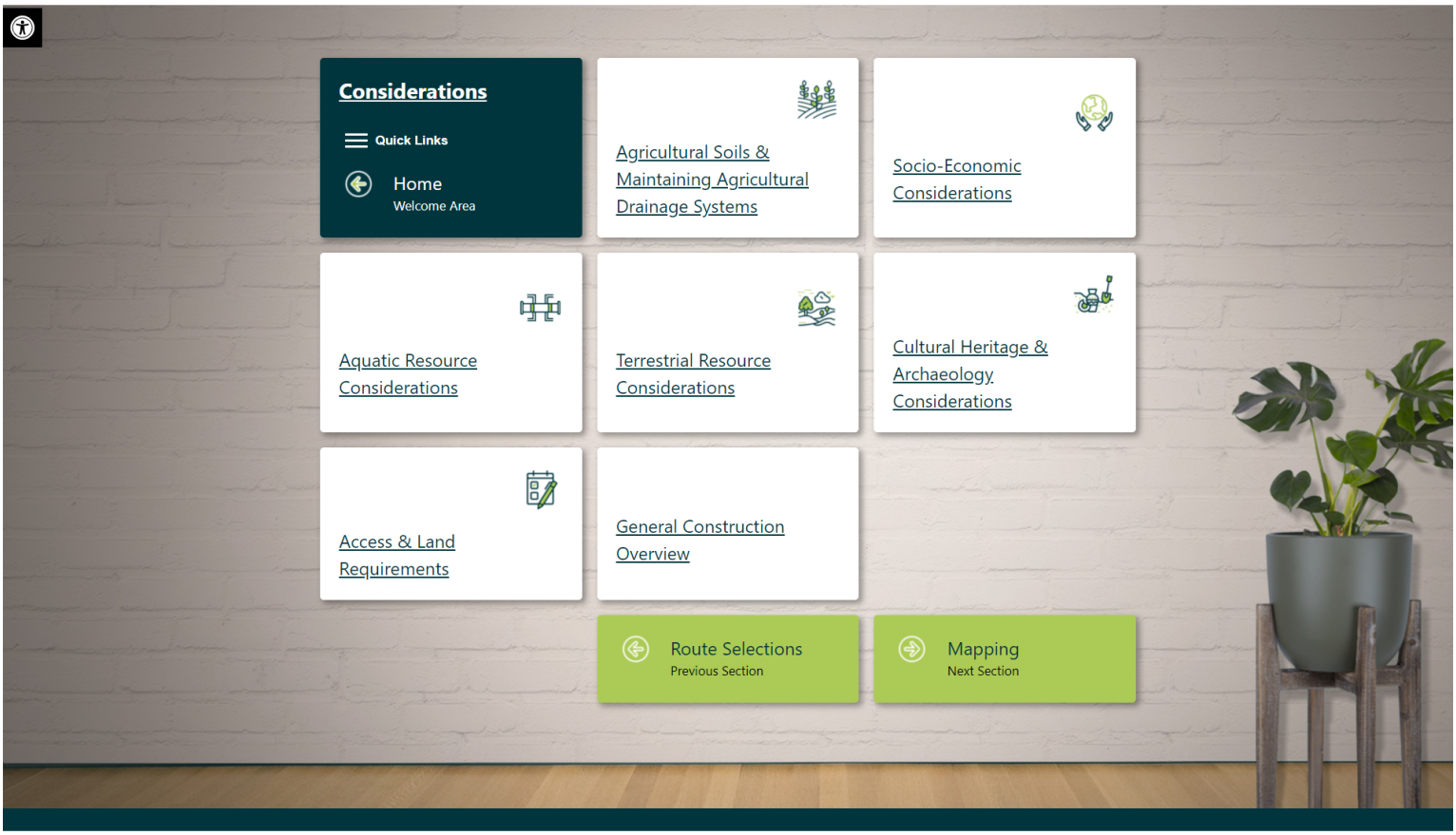

Agricultural Soils and Maintaining Agricultural Drainage Systems

The Project will be constructed, in part, on agricultural land within the Project study area.



Potential Effects

- Damaged and severed tile drains.
- Subsoil mixing, compaction, and rutting.
- Loss of organic matter / degraded soil structure.
- Decreased soil quality / agricultural capability.
- Erosion.
- Temporary drainage issues.
- Spread of soil pests / diseases.

Example Mitigation Measures

- 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.
- Landowners will be contacted prior to construction to confirm the location and type of existing drains. Any future drainage plans will also be discussed.
- Field tile will be temporarily re-routed during pre-construction activities where required to ensure proper drainage during construction.
- Construction activities will be temporarily halted on agricultural lands where excessively wet soil conditions are encountered.
- 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.
- A post-construction cover crop program will be available to landowners.

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Socio-Economic Considerations

The Project will be constructed parallel to existing road allowances on private property, agricultural land, land regulated by Hydro One, Lower Thames Valley Conservation Authority and Essex Region Conservation Authority.



Potential Effects

- Temporary increases in noise, dust and air emissions.
- Increased construction traffic volumes.
- Temporary impairment of use and enjoyment of property.
- Vegetation clearing along the pipeline easement.

Example Mitigation Measures

- Access to residences, businesses and farm fields will be maintained during construction.
- Construction will be restricted to daylight hours and adhere to applicable noise by-laws.
- A Traffic Control Plan will be developed if potential disruption to traffic could occur.
- Fencing will be placed at appropriate locations to limit access to the work area.
- A water well monitoring program will be developed.
- Measures will be implemented to control dust during construction.
- Areas cleared for construction will be re-vegetated.
- A designated Enbridge Gas representative will be available prior to and throughout construction.

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Aquatic Resource Considerations

Enbridge Gas understands the importance of protecting wildlife during construction and therefore will implement recognized mitigation measures to minimize possible environmental effects.



Potential Effects

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

Example Mitigation Measures

- Conduct surveys for waterbodies to assess potential impacts to aquatic species / habitat.
- Obtain all agency permits and approvals, including development of environmental mitigation measures for site specific habitat / species.
- Limit in-channel construction, where possible, and conform to fish timing window guidelines.
- If in-channel construction is required, protect aquatic species and manage sedimentation and turbidity.
- Restore and seed areas to establish habitat and reduce erosion.
- Replant vegetation along waterways as soon as possible following construction.

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Terrestrial Resource Considerations

During the course of construction, natural heritage features such as wildlife habitat and vegetated / wooded areas will need to be crossed.





Potential Effects

- Damage or removal of vegetation and wildlife habitat adjacent to 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. If present, develop species / habitat-specific environmental mitigation measures.
- Secure any necessary permits and follow any conditions of approval.
- Clearly mark the construction area to avoid accidental damage.
- Restore and seed areas to establish habitat and reduce erosion.

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Cultural Heritage and Archaeology Considerations

During the course of construction, cultural heritage and archaeology features such as archaeological finds, buildings, fences and landscapes may be encountered. Detailed field surveys will be conducted by independent, third-party archaeologists and cultural heritage professionals.



Potential Effects

- Damage or destruction of archaeological, paleontological or historical resources.

Example Mitigation Measures

- Complete archaeological assessments of the construction right-of-way, with review and comment from the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI).
- Complete cultural heritage assessments (for built heritage features and cultural heritage landscapes) of the construction right-of-way, with review and comment from MHSTCI.
- Report any previously unknown archaeological, paleontological or historical resources uncovered, or suspected of being uncovered, during excavation.

Previous Next

Access and Land Requirements

Once a preferred route is selected, an Enbridge Gas Land Agent will begin discussions with landowners for the

Enbridge Gas is committed to working with all directly affected landowners in anticipation of acquiring early access

These land rights will consist of permanent easements and / or temporary land rights. The temporary

appropriate land rights necessary for the construction of the pipeline.

agreements, where necessary, in order to gather essential information, including but not limited to, land survey data, environmental, archaeological and property site features, along with negotiating the necessary land rights.

land rights are only required during Project construction activities.

These land rights will consist of permanent easements and / or temporary land rights. The temporary land rights are only required during Project construction activities.

Enbridge Gas will have a Land Agent available to each landowner during all pipeline construction activities.

The Land Agent will keep all landowners informed of the progress of the Project and assist with any concerns that may arise as a result of the construction activities.

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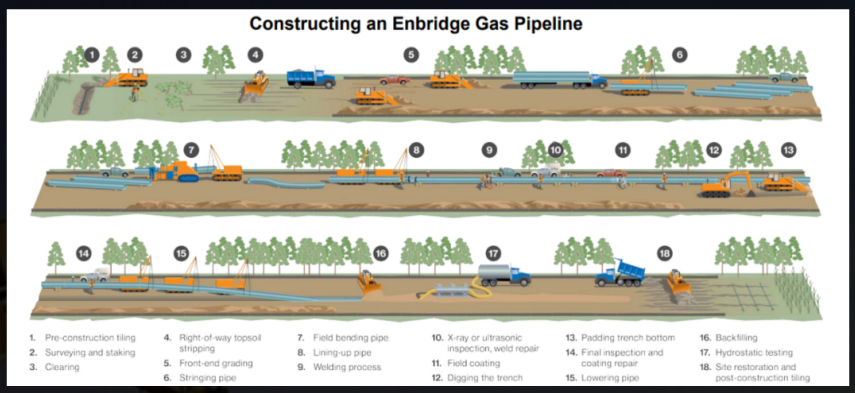
General Construction Overview



Site Preparation (1-5)

- Survey and staking crews will delineate project boundaries and install safety fencing, where required.
- The construction team will clear brush and other vegetation to permit construction.
- A grading crew prepares the construction area for access by construction equipment.

Installing the new pipeline (6-16)

- Once area has been prepped, a hydraulic hoe will excavate the trench, which will then be prepared for the installation of the new pipeline.
- The stringing crew lays pipe on wooden skids or boxes adjacent to trench area.
- The pipe is prepped, welded into continuous lengths and inspected before the pipeline is lowered into the trench. Crews also install pipes under obstacles such as roads or watercourses by directional drilling.

Finishing construction (17-18)

- The pipeline is tested hydrostatically with water from a suitable local source and is disposed of appropriately. Upon completion, the pipeline is dried, purged of air and prepared for delivery of the product.
- The construction crew backfills the originally excavated subsoil over the pipe in the trench. Any surplus backfill material will be removed from the construction area.
- A clean-up crew is responsible for the restoration of the land. In natural areas, restoration includes re-seeding and removing erosion and sediment controls. In developed areas the clean-up crew undertakes landscaping plans developed for site restoration.

Previous Mapping

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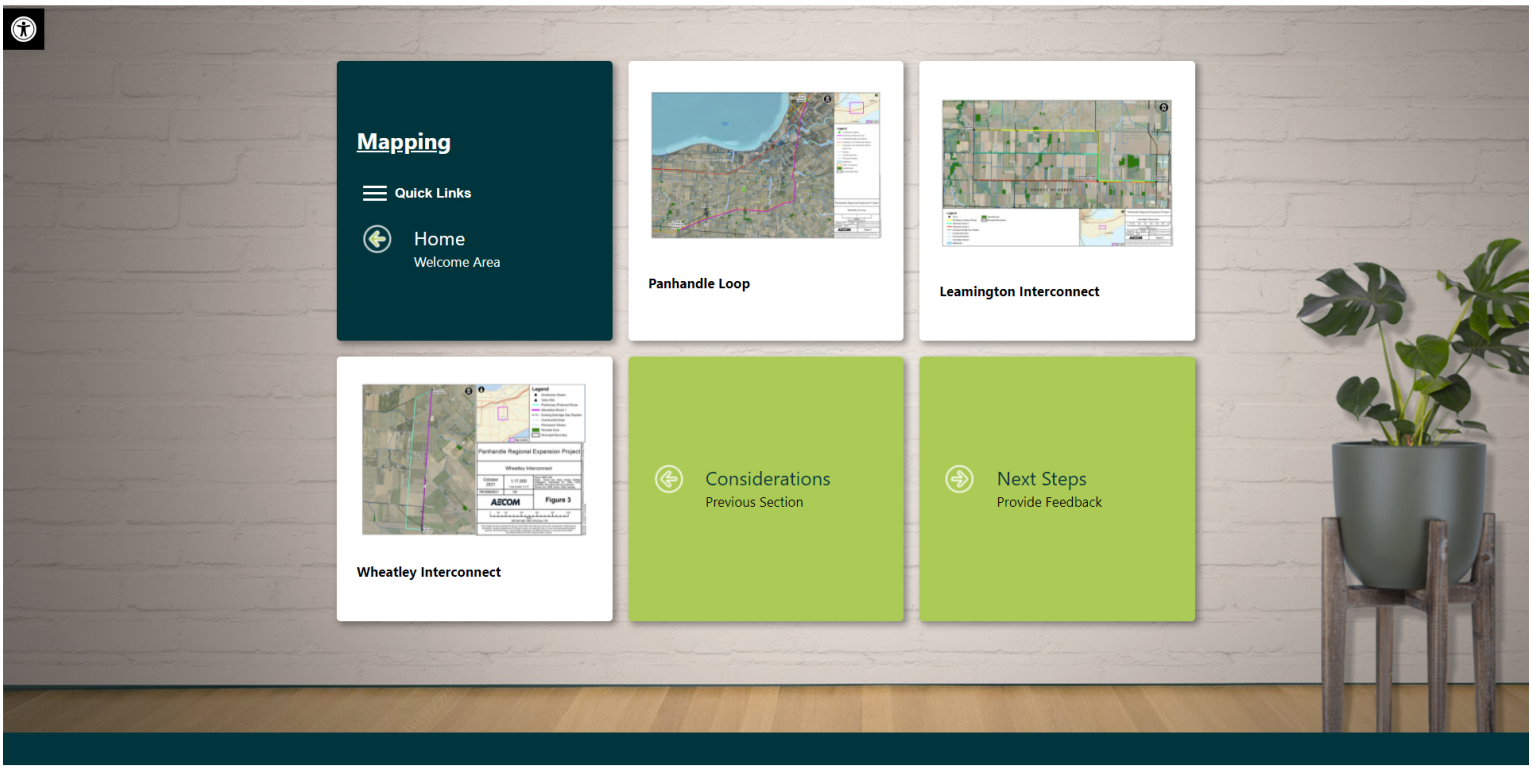
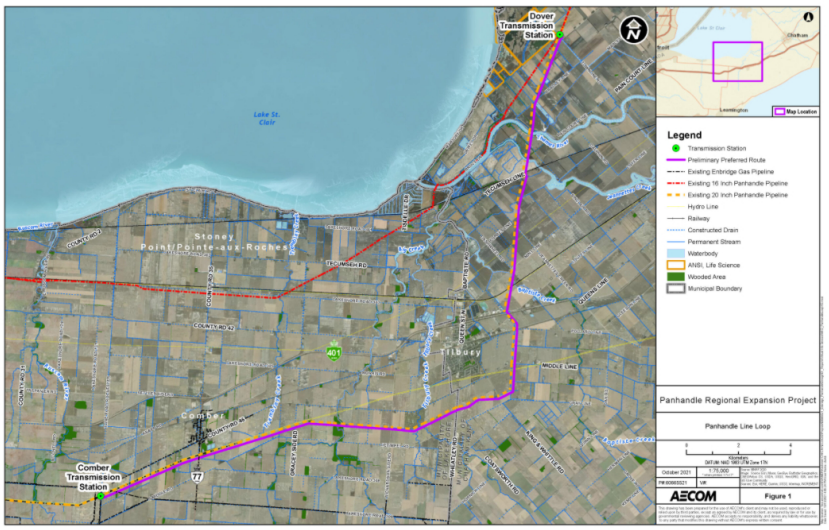


Panhandle Loop



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INTERACTIVE MAP

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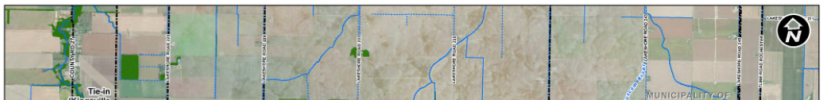
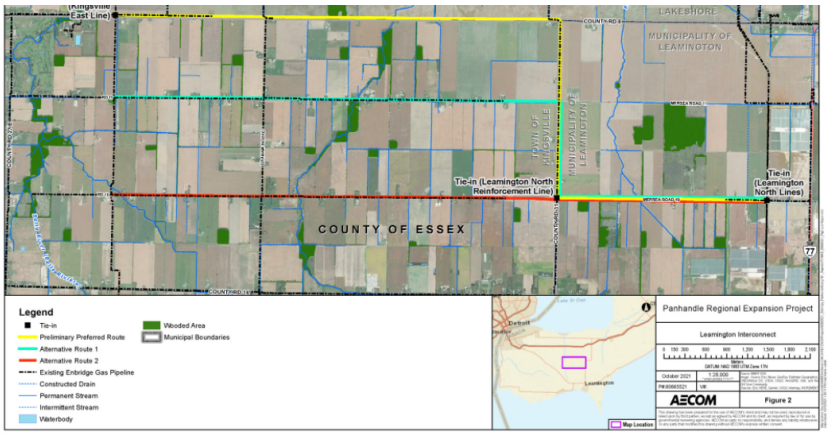
Leamington Interconnect





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INTERACTIVE MAP

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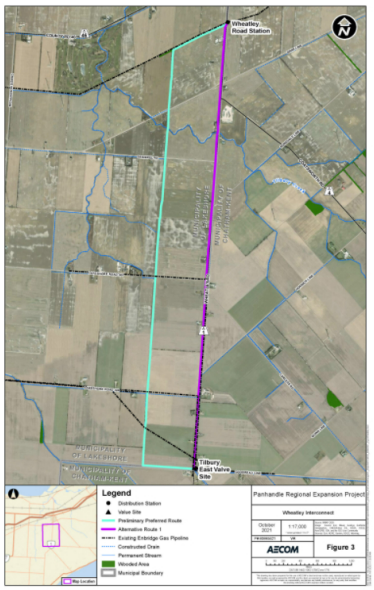
Wheatley Interconnect



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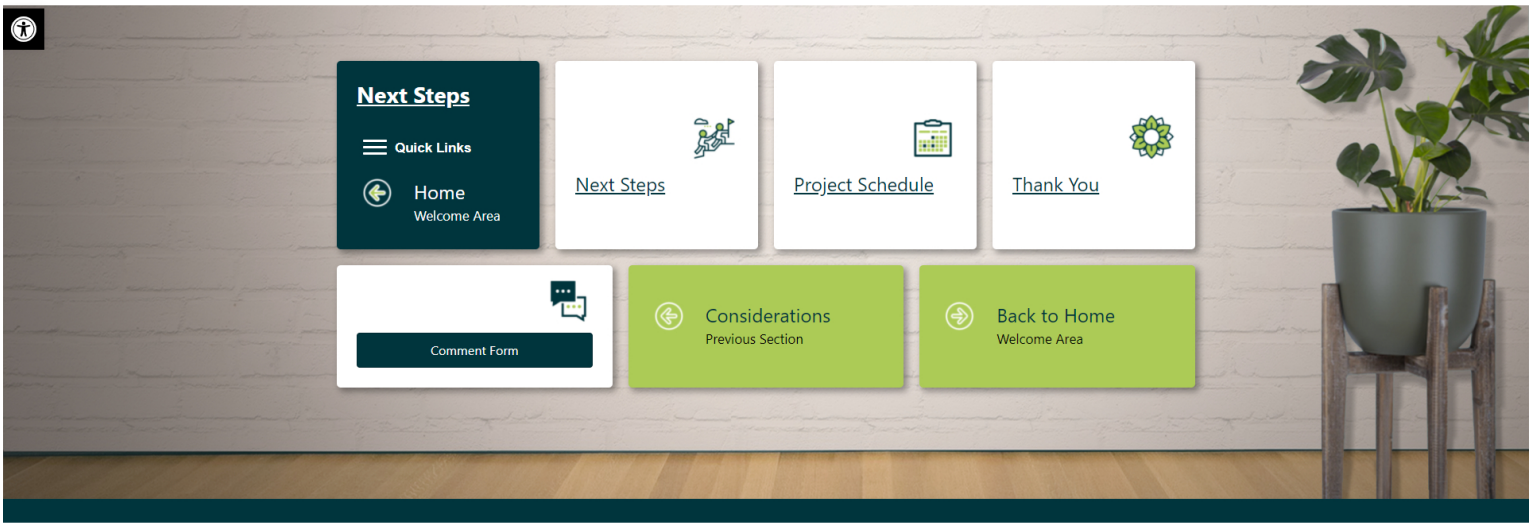

Next Steps

Enbridge Gas will evaluate the feedback received from the virtual information session, make updates as required and finalize the pipeline route evaluation. The final evaluation will be included in the Environmental Report (ER), which will be completed in early 2022. You will have the opportunity to review and provide feedback on the ER by signing up to receive future Project information.



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Project Schedule

2021 (WE ARE HERE)

- Start the environmental planning process.
- Evaluate potential pipeline routes.
- Virtual information session.

2022

- Complete Environmental Report.
- Complete Ontario Energy Board application and obtain approval.
- Finish permitting, pipeline design and construction planning.

2023

- Construction.
- Pipeline in service.
- Site cleanup and restoration and post-construction monitoring.

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Thank you!

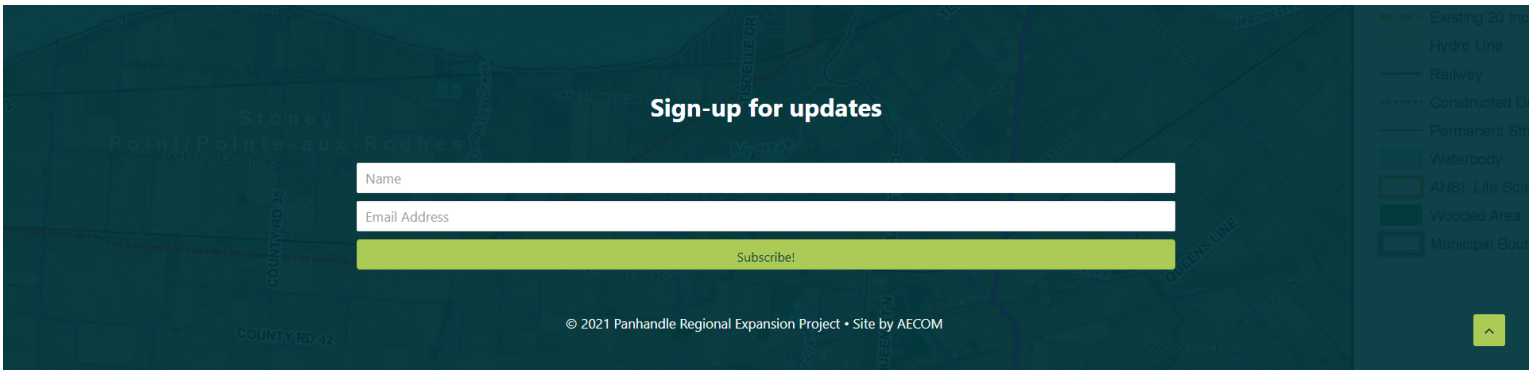
Thank you for participating in the virtual information session. If you have feedback or comments, please complete the comment form by December 3, 2021.

Mark Van der Word
Senior Environmental Planner
AECOM

45 Goderich Road, Suite 201
Hamilton, ON L8E 4W8

Tel: (289) 439-9803
email: panhandle@virtualengagement.ca

Fill out the comment form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Panhandle Regional Expansion Project

Virtual Information Session

Welcome

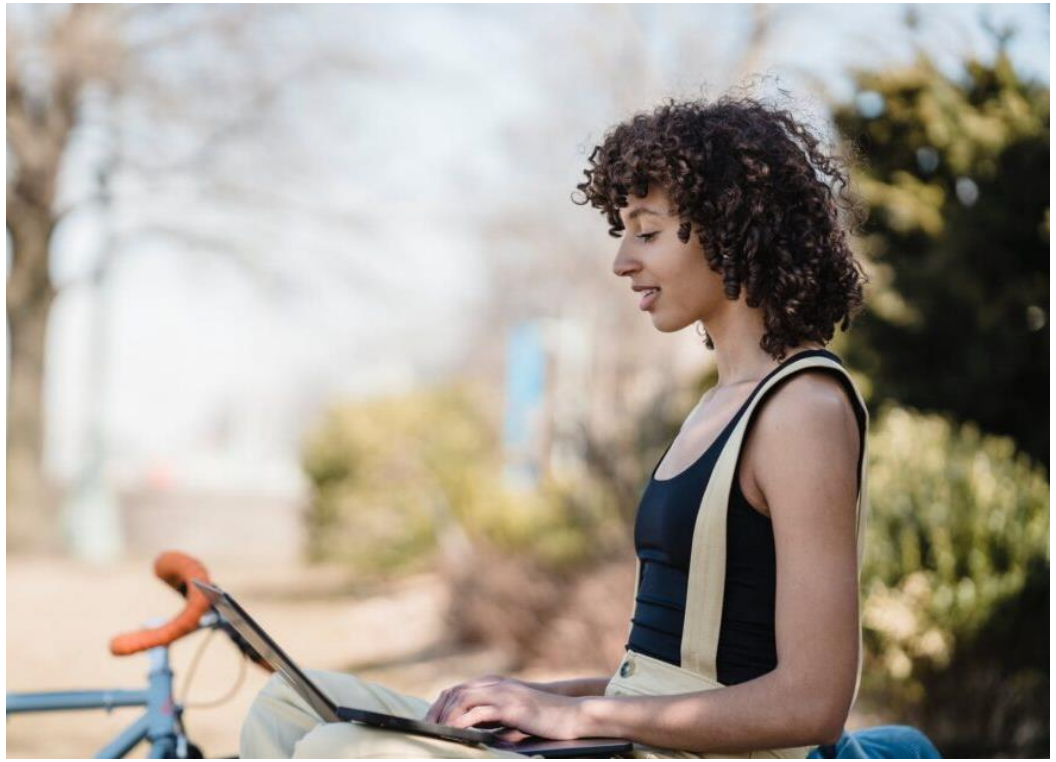
- This virtual information session is open from November 17 to December 3, 2021.
- Watch the short video above to learn about the Project and what's included in this virtual information session.
- Explore the website for more detailed information.
- Fill out the comment form by December 3, 2021, where you can also submit questions, comments and sign-up to receive future Project updates.
- Download the full presentation.
- Review the pipeline routes on the interactive mapping tool.

Our Commitment

- Enbridge Gas provides safe and reliable delivery of natural gas to more than 3.7 million residential, commercial, and industrial customers across Ontario.
- Enbridge Gas will carefully consider all input. They are committed to involving community members and will provide up-to-date information in an open, honest and respectful manner.
- Enbridge Gas is committed to environmental stewardship and conducts all of its operations in an environmentally responsible manner.

Purpose of the Virtual Information Session

- Provide a safe alternative to an in-person meeting.
- Inform landowners, Indigenous communities, municipalities, stakeholders, and regulatory authorities about the Panhandle Regional Expansion Project and gather feedback on the preliminary preferred pipeline routes.
- Give everyone the chance to participate in the process to complete the Environmental Report, which will be included in the Ontario Energy Board application.
- Provide an opportunity to identify any unknown constraints and review draft plans to mitigate impacts to the local community and the environment.
- Create a space for you to ask questions and / or provide comments to Enbridge Gas or AECOM.



Panhandle Regional Expansion Project

The Panhandle Transmission System serves residential, commercial, industrial, greenhouse and power generation customers across Southwestern Ontario. In order to accommodate additional demand for affordable and reliable natural gas in Windsor, Essex County and Chatham-Kent, Enbridge Gas is proposing to increase the capacity of the system via the Panhandle Regional Expansion Project. This Project will address the current and future growth needs of the local area.



Indigenous People Policy

- Enbridge Gas recognizes the diversity of Indigenous Peoples who live where we work and operate. They understand from history the destructive impacts on the social and economic wellbeing of Indigenous Peoples. Enbridge Gas recognizes and realizes the importance of reconciliation between Indigenous communities and the broader society. Positive relationships with Indigenous Peoples, based on mutual respect and focused on achieving common goals, will create positive outcomes from Indigenous communities. Enbridge Gas commits to pursue sustainable relationships with Indigenous Nations and groups in proximity to where Enbridge Gas conducts business. To achieve this, Enbridge Gas will govern itself by the following principles:
  - Enbridge Gas recognizes the legal and constitutional rights of Indigenous Peoples, and the importance of the relationships between Indigenous Peoples and their traditional lands and resources. They commit to working with Indigenous communities in a manner that recognizes and respects those legal and constitutional rights and the traditional lands and resources to which they apply. Enbridge Gas commits to ensuring that Enbridge Gas projects and operations are carried out in an environmentally responsible manner.
  - Enbridge Gas understands the importance of the United Nations Declaration of the Rights of Indigenous Peoples in the context of existing Canadian law and the commitments that the government has made to protecting the rights of Indigenous Peoples.

Indigenous People Policy

- Enbridge Gas engages in forthright and sincere consultation with Indigenous Peoples about their projects and operations through processes that seek to achieve early and meaningful engagement. Indigenous engagement helps define projects that may occur on lands traditionally occupied by Indigenous Peoples.
- Enbridge Gas commits to working with Indigenous Peoples to achieve benefits for them resulting from Enbridge Gas' projects and operations, including opportunities in training and education, employment, procurement, business development, and community development.
- Enbridge Gas fosters an understanding of the history and culture of Indigenous Peoples among their employees and contractors, in order to create better relationships between Enbridge Gas and Indigenous communities.
- The commitment is a shared responsibility involving Enbridge Gas and its affiliates, employees and contractors. They will conduct business in a manner that reflects the above principles. Enbridge Gas will provide ongoing leadership and resources to effectively implement the above principles, including the development of implementation strategies and specific action plans. Enbridge Gas commits to periodically review this policy so that it remains relevant and respects Indigenous culture and varied traditions.

Environment, Health and Safety Policy

Enbridge Gas' commitment

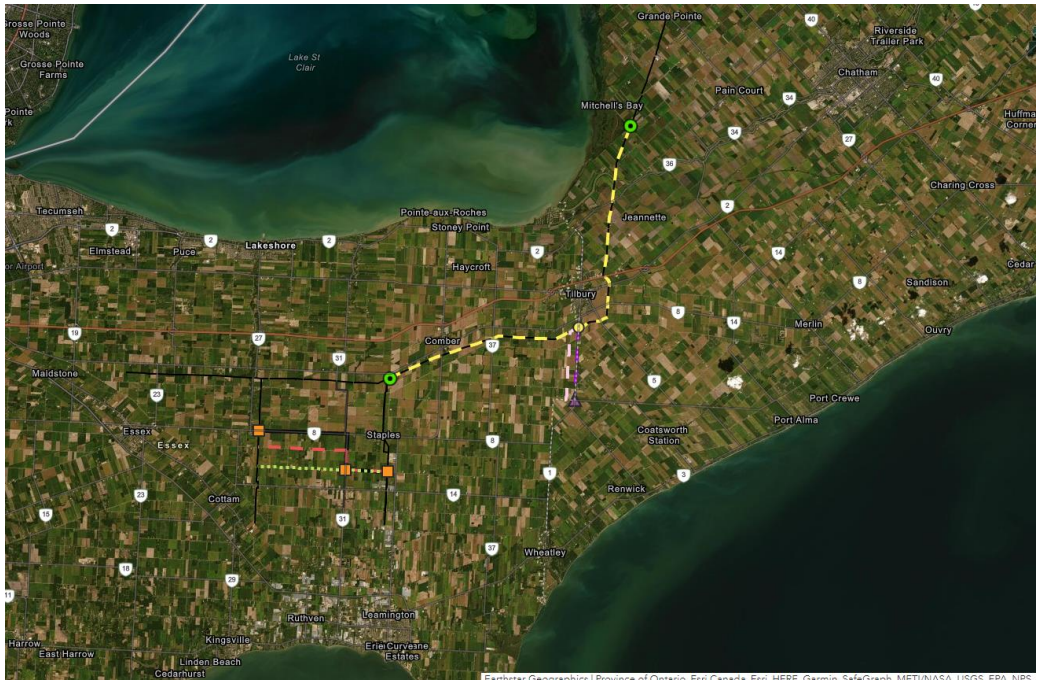
- Enbridge Gas is committed to protecting the health and safety of all individuals affected by our activities.
- Enbridge Gas will provide a safe and healthy working environment and will not compromise the health and safety of any individual.
- Enbridge Gas' goal is to have no incidents and mitigate impacts on the environment by working with stakeholders, peers, and others to promote responsible environmental practices and continuous improvement.
- Enbridge Gas is committed to environmental protection and stewardship and we recognize 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.

AECOM's commitment

- "Safety for Life" defines AECOM's commitment to achieving zero work-related injuries and / or illnesses; preventing damage to property and the environment; and maintaining an environmentally friendly and sustainable workplace.
- AECOM has adopted "Life Preserving Principles" to help demonstrate the commitment of AECOM's Safety for Life program.

Proposed Pipelines

- Panhandle Loop: 23 km of new natural gas pipeline which loops – or parallels – the existing 20-inch Panhandle Pipeline located between Enbridge Gas' Comber Transmission Station, located in the Municipality of Lakeshore, and its Dover Transmission Station, located in the Municipality of Chatham-Kent. The new pipeline will be up to 42-inches in diameter and is proposed to be located adjacent to an existing pipeline.
- Leamington Interconnect: Construction of a new pipeline up to 16 inches in diameter adjacent to or within an existing road allowance on public or private property to connect the existing Leamington North Lines to both the Kingsville East Line and the Leamington North Reinforcement Line. The pipeline will be 12 km in length and would be located in both the Municipality of Lakeshore and Municipality of Leamington.

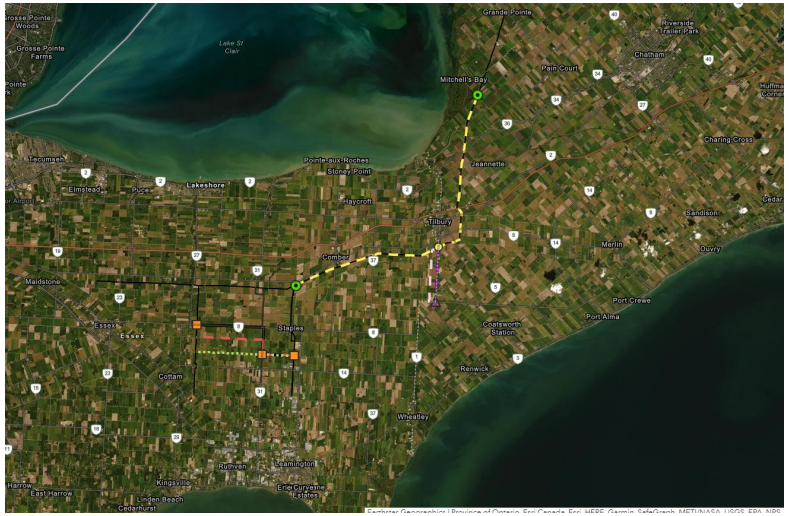


Click here to view the interactive mapping tool.

Proposed Pipelines

- Wheatley Interconnect: Construction of a new pipeline up to 16 inches in diameter to connect the Tilbury East Valve Site to the Wheatley Road Station on public and private property adjacent to or within an existing road allowance. The pipeline will be 6 km in length and would be located within the Municipality of Chatham-Kent and the Municipality of Lakeshore.
- Distribution Pipelines: Enbridge Gas will construct several distribution pipelines connecting new large-volume customers to the Panhandle Transmission System. Design and location of these pipelines is subject to individual customer commitments. Enbridge Gas will share further details on these pipelines at a later date.

If approved by the Ontario Energy Board, construction of the proposed pipelines is planned to begin as early as Spring 2023 and is proposed to be in service by Fall 2023.



Click here to view the interactive mapping tool.

Integrated Resource Planning (IRP)

- As the energy landscape continues to evolve, there is a growing interest in low-carbon alternatives to meet energy needs.
- IRP is a framework through which Enbridge Gas reviews alternative approaches to meeting energy needs, before building new infrastructure such as:
  - Delivering more energy without adding new pipelines using liquefied or compressed natural gas.
  - Lowering energy use through effective energy efficiency programs.
  - Displacing conventional natural gas with carbon-neutral renewable natural gas and hydrogen.
- As Enbridge Gas continues to lead the transition to a low-carbon future, they are dedicated to exploring IRP alternatives where they are in the best interest of communities, the environment and the company, while considering safety and reliability, cost-effectiveness, optimization, risk management and public policy.

Environmental Report Process

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

The study will:

- Undertake consultation to understand the views of interested and potentially impacted parties.
- Consult with Indigenous communities to understand interests and potential impacts.
- Be conducted during the earliest phase of the Project.
- Present pipeline routing options and outline the evaluation process to select preferred pipeline routes.
- Identify potential impacts of the Project.
- Develop environmental mitigation and protective measures to avoid or minimize potential impacts.
- Develop an appropriate environmental inspection, monitoring and follow-up program.



Ontario Energy Board (OEB) Review and Approval Process

- An OEB Leave-to-Construct application and approval is required in order for the Project to proceed. The OEB is Ontario's independent regulator of the electricity and natural gas sectors who protect consumers and makes decisions that serve the public interest.
- The application to the OEB will include information on the Project including:
  - The need for the Project;
  - Environmental Report and mitigation measures;
  - Facility alternatives;
  - Project costs and economics;
  - Pipeline design and construction;
  - Land requirements; and
  - Consultation with Indigenous communities.



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

Additional information about the OEB process can be found at: www.oeb.ca

Preferred Route Selection Process

The preferred routes will be selected through a five-step process.

Step 1:

Develop Routing Parameters

- Establish a study area.
- Establish routing objectives. For example:
  - Follow a reasonably direct path between start and end points.
  - Avoid sensitive environmental and socio-economic features, where possible.
  - Parallel (loop) existing linear infrastructure.
  - Follow existing lot and property lines.
- Create an inventory of environmental and socio-economic features.

Step 2:

Identify Alternative Routes in the Study Area

- Identify reasonable and feasible routes within the study area in consideration of the routing objectives and environmental and socio-economic opportunities and constraints.

Preferred Route Selection Process

The preferred routes will be selected through a five-step process.

Step 3: Route Evaluation

- An evaluation of the Alternative Routes has been conducted to select the preliminary preferred routes. The evaluation was based on:
  - Field visits and route reviews with environmental, engineering and construction staff;
  - Review of publicly available information about natural heritage features, slope, topography, and socio-economic features and landscapes;
  - A GIS based quantitative evaluation of potential impacts to environmental and socio-economic features; and
  - Early input from municipalities.

Step 4: Seek Input on Preliminary Preferred Routes

- Gather feedback on the alternatives and preliminary preferred routes.
- Make updates / modifications, as needed.

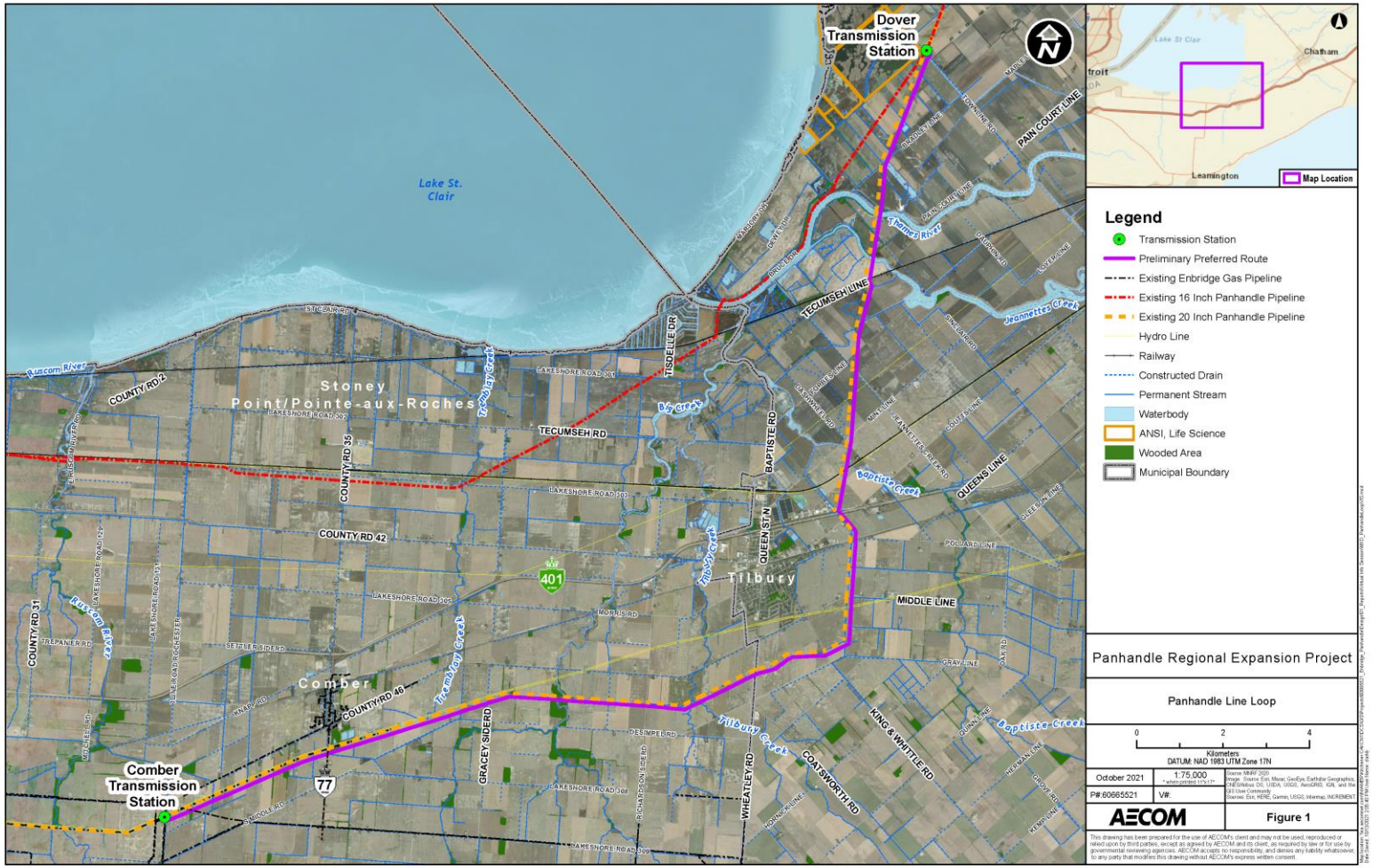
We are here

Step 5: Confirmation of Routes and Completion of Environmental Report

- The pipeline routes will be confirmed and analyzed in the Environmental Report. The location of the preferred pipeline routes may be refined as the Project moves forward based on pre-construction field investigations, landowner requests, and / or engineering and construction considerations.

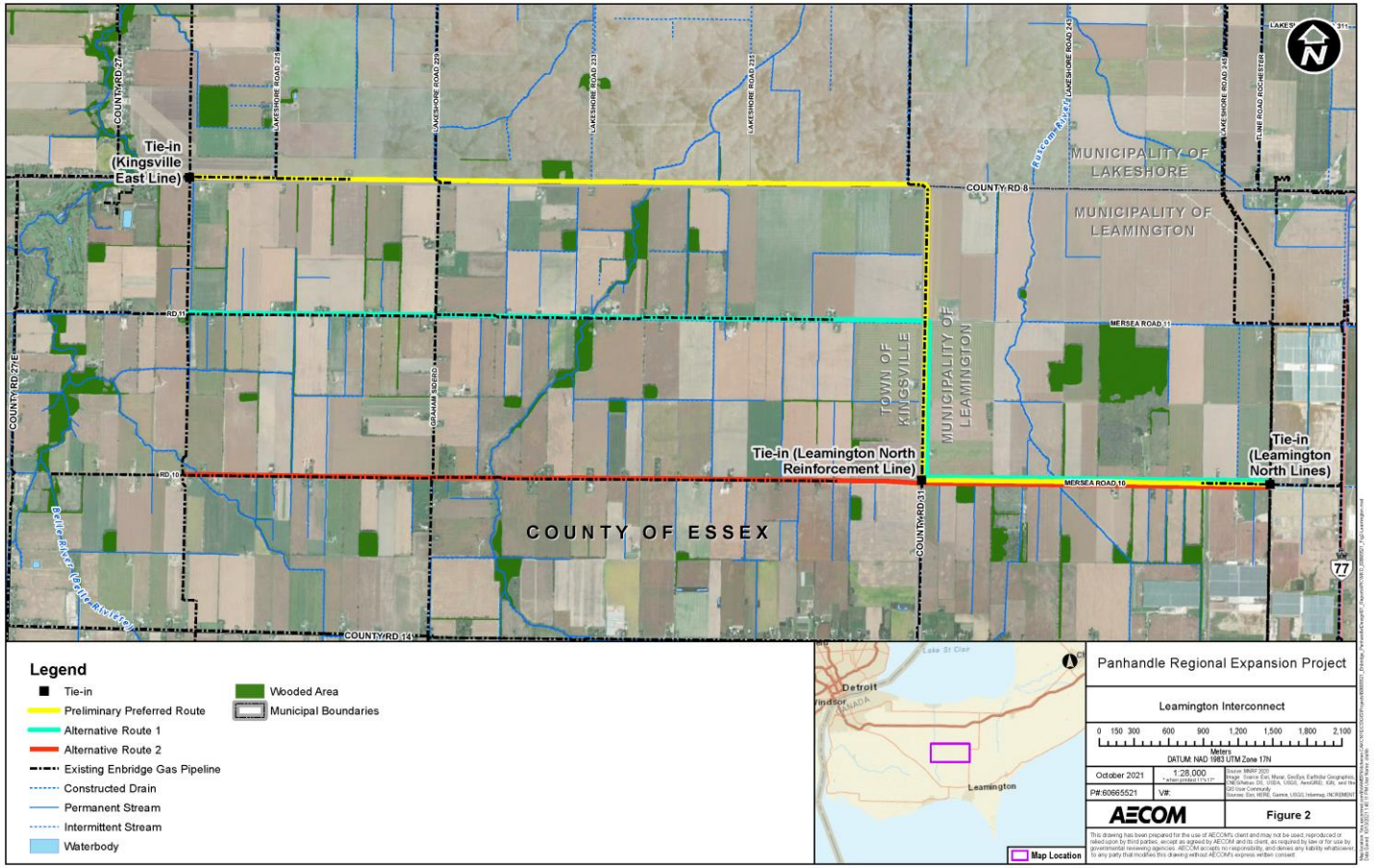
Panhandle Loop

- New natural gas pipeline up to 42 inches in diameter and 23 km in length located adjacent to an existing pipeline.
- Route will loop – or parallel – the existing 20-inch Panhandle Pipeline located between Enbridge Gas' Comber Transmission Station and Dover Transmission Station.
- Key considerations for selecting the preliminary preferred route:
  - The route parallels an existing pipeline right-of-way (RoW).
  - It leverages an existing RoW reducing disturbance to new properties and farms.
  - It is a shorter technically feasible route reducing schedule and cost.
  - Installation of the existing pipeline occurred with no long-term impacts to the environment.
  - The route avoids introduction of new environmental and social impacts to habitats and properties in the area.



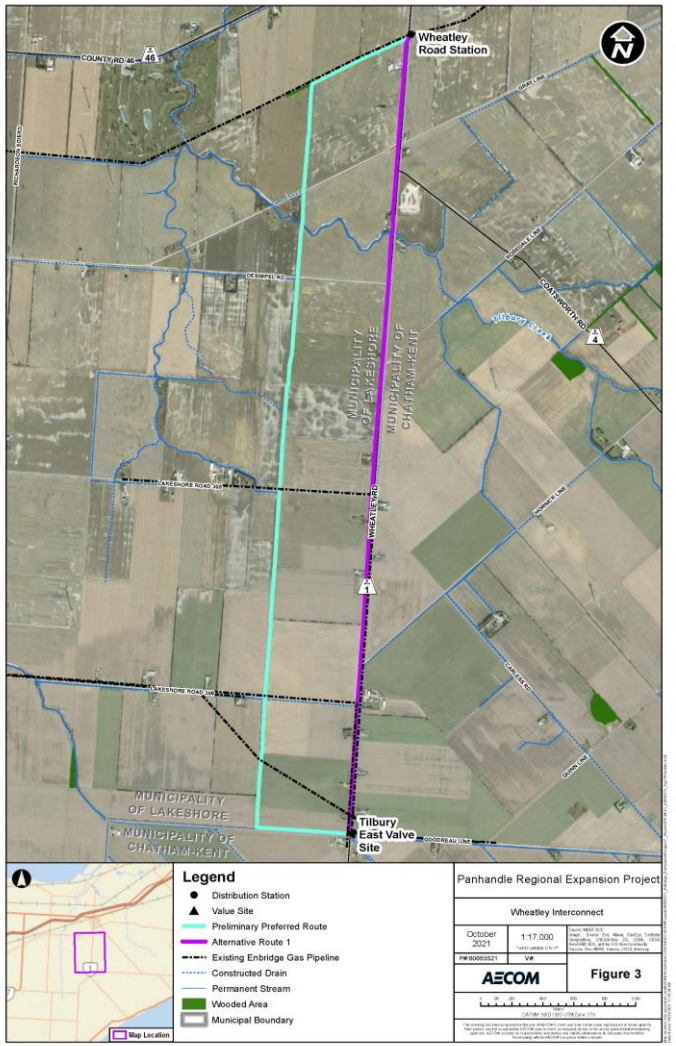
Leamington Interconnect

- New natural gas pipeline up to 16 inches in diameter and 12 km in length connecting the existing Leamington North Lines to both the Kingsville East Line and the Leamington North Reinforcement Line.
- Located adjacent to or within an existing road allowance on public or private property.
- Key considerations for selecting the preliminary preferred route:
  - The route parallels existing road allowances and utilities.
  - The route offers the most room for construction.
  - It has the least direct impacts to homes, utilities, and farm operations in the area.
  - The slope / topography is flat and there are no deep ditches impacting construction.
  - Route has minimal impacts to woodlots and environmental habitat within the area.



Wheatley Interconnect

- A new 16-inch natural gas pipeline located adjacent to or within an existing road allowance on public or private property connecting the Tilbury East Valve Site to the Wheatley Road Station.
- Key considerations for selecting the preliminary preferred route:
  - The route parallels existing property boundaries and drainage features, which limits the number of properties impacted during construction.
  - It is located at the back of agricultural fields to avoid impacts to woodlots and hedgerows.
  - The route limits impacts to residential and farm entrances.
  - It avoids the need for lane closures and traffic disruption on Wheatley Road.



Agricultural Soils and Maintaining Agricultural Drainage Systems

- The Project will be constructed, in part, on agricultural land within the Project study area.

Potential Effects

- Damaged and severed tile drains.
- Subsoil mixing, compaction, and rutting.
- Loss of organic matter / degraded soil structure.
- Decreased soil quality / agricultural capability.
- Erosion.
- Temporary drainage issues.
- Spread of soil pests / diseases.



Example Mitigation Measures

- 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.
- Landowners will be contacted prior to construction to confirm the location and type of existing drains. Any future drainage plans will also be discussed.
- Field tile will be temporarily re-routed during pre-construction activities where required to ensure proper drainage during construction.
- Construction activities will be temporarily halted on agricultural lands where excessively wet soil conditions are encountered.
- 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.
- A post-construction cover crop program will be available to landowners.

Socio-Economic Considerations

- The Project will be constructed parallel to existing road allowances on private property, agricultural land, land regulated by Hydro One, Lower Thames Valley Conservation Authority and Essex Region Conservation Authority.

Potential Effects

- Temporary increases in noise, dust and air emissions.
- Increased construction traffic volumes.
- Temporary impairment of use and enjoyment of property.
- Vegetation clearing along the pipeline easement.



Example Mitigation Measures

- Access to residences, businesses and farm fields will be maintained during construction.
- Construction will be restricted to daylight hours and adhere to applicable noise by-laws.
- A Traffic Control Plan will be developed if potential disruption to traffic could occur.
- Fencing will be placed at appropriate locations to limit access to the work area.
- A water well monitoring program will be developed.
- Measures will be implemented to control dust during construction.
- Areas cleared for construction will be re-vegetated.
- A designated Enbridge Gas representative will be available prior to and throughout construction.

Aquatic Resource Considerations

- Enbridge Gas understands the importance of protecting wildlife during construction and therefore will implement recognized mitigation measures to minimize possible environmental effects.

Potential Effects

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

Example Mitigation Measures

- Conduct surveys for waterbodies to assess potential impacts to aquatic species / habitat.
- Obtain all agency permits and approvals, including development of environmental mitigation measures for site specific habitat / species.
- Limit in-channel construction, where possible, and conform to fish timing window guidelines.
- If in-channel construction is required, protect aquatic species and manage sedimentation and turbidity.
- Restore and seed areas to establish habitat and reduce erosion.
- Replant vegetation along waterways as soon as possible following construction.



Terrestrial Resource Considerations

- During the course of construction, natural heritage features such as wildlife habitat and vegetated / wooded areas will need to be crossed.

Potential Effects

- Damage or removal of vegetation and wildlife habitat adjacent to 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. If present, develop species / habitat specific environmental mitigation measures.
- Secure any necessary permits and follow any conditions of approval.
- Clearly mark the construction area to avoid accidental damage.
- Restore and seed areas to establish habitat and reduce erosion.

Cultural Heritage and Archaeology Considerations

- During the course of construction, cultural heritage and archaeology features such as archaeological finds, buildings, fences and landscapes may be encountered. Detailed field surveys will be conducted by independent, third-party archaeologists and cultural heritage professionals.

Potential Effects

- Damage or destruction of archaeological, paleontological or historical resources.



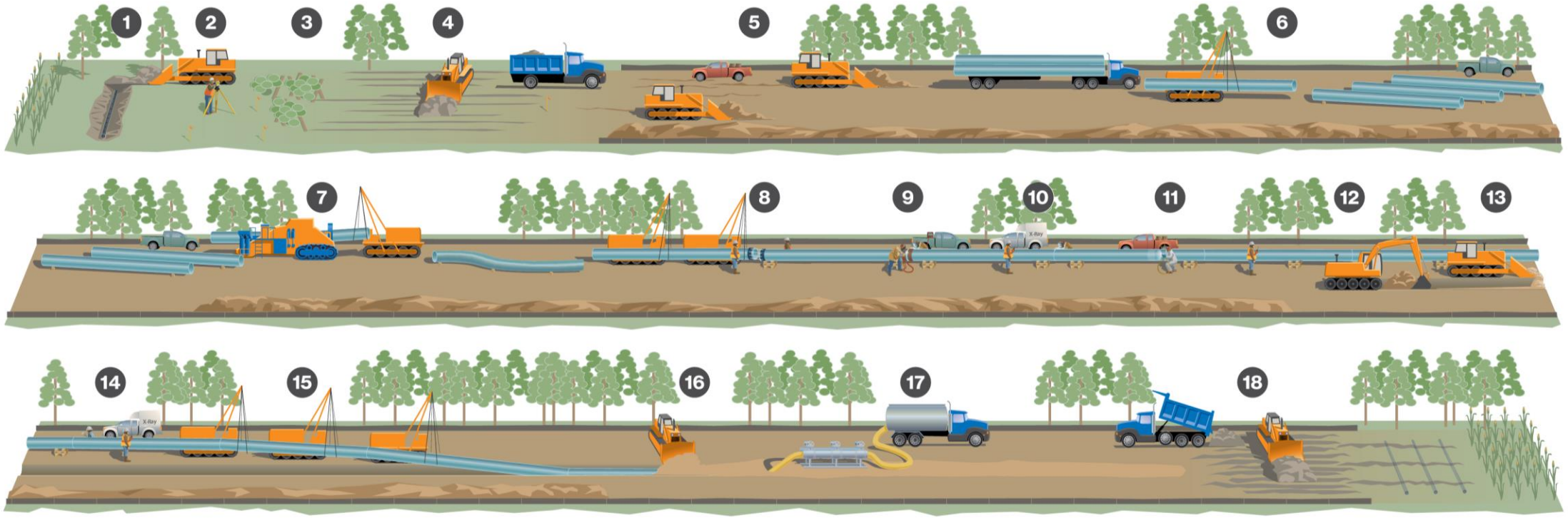
Example Mitigation Measures

- Complete archaeological assessments of the construction right-of-way, with review and comment from the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI).
- Complete cultural heritage assessments (for built heritage features and cultural heritage landscapes) of the construction right-of-way, with review and comment from MHSTCI.
- Report any previously unknown archaeological, paleontological or historical resources uncovered, or suspected of being uncovered, during excavation.

Access and Land Requirements

- Once a preferred route is selected, an Enbridge Gas Land Agent will begin discussions with landowners for the appropriate land rights necessary for the construction of the pipeline.
- Enbridge Gas is committed to working with all directly affected landowners in anticipation of acquiring early access agreements, where necessary, in order to gather essential information, including but not limited to, land survey data, environmental, archaeological and property site features, along with negotiating the necessary land rights.
- These land rights will consist of permanent easements and / or temporary land rights. The temporary land rights are only required during Project construction activities.
- Enbridge Gas will have a Land Agent available to each landowner during all pipeline construction activities.
- The Land Agent will keep all landowners informed of the progress of the Project and assist with any concerns that may arise as a result of the construction activities.

General Construction Overview



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

General Construction Overview

Site preparation (1-5)
- Survey and staking crews will delineate project boundaries and install safety fencing, where required.
- The construction team will clear brush and other vegetation to permit construction.
- A grading crew prepares the construction area for access by construction equipment.

Installing the new pipeline (6-16)
- Once area has been prepped, a hydraulic hoe will excavate the trench, which will then be prepared for the installation of the new pipeline.
- The stringing crew lays pipe on wooden skids or boxes adjacent to trench area.
- The pipe is prepped, welded into continuous lengths and inspected before the pipeline is lowered into the trench. Crews also install pipes under obstacles such as roads or watercourses by directional drilling.

Finishing construction (17-18):
- The pipeline is tested hydrostatically with water from a suitable local source and is disposed of appropriately. Upon completion, the pipeline is dried, purged of air and prepared for delivery of the product.
- The construction crew backfills the originally excavated subsoil over the pipe in the trench. Any surplus backfill material will be removed from the construction area.
- A clean-up crew is responsible for the restoration of the land. In natural areas, restoration includes re-seeding and removing erosion and sediment controls. In developed areas the clean-up crew undertakes landscaping plans developed for site restoration.

Next Steps

Enbridge Gas will evaluate the feedback received from the virtual information session, make updates as required and finalize the pipeline route evaluation. The final evaluation will be included in the Environmental Report (ER), which will be completed in early 2022. You will have the opportunity to review and provide feedback on the ER by signing up to receive future Project information.

Project Schedule

2021

- Start the environmental planning process.
- Evaluate potential pipeline routes.
- Virtual information session.

We are here

2022

- Complete ER.
- Complete Ontario Energy Board application and obtain approval.
- Finish permitting, pipeline design and construction planning.

2023

- Construction.
- Pipeline in service.
- Site cleanup and restoration and post-construction monitoring.

Thank you!

Thank you for participating in the virtual information session. If you have feedback or comments, please complete the comment form by December 3, 2021.

Mark Van der Word
Senior Environmental Planner
AECOM
45 Goderich Road, Suite 201
Hamilton, ON L8E 4W8
Tel: (289) 439-9803
email: panhandle@virtualengagement.ca



For more information about the proposed Project, please visit our Project website at:
www.virtualengagement.ca/panhandle

VIRTUAL INFORMATION SESSION COMMENT FORM

We want to hear from you! We encourage you to review the virtual information session material and download, fill out and submit this comment form by December 3, 2021 to provide comments, feedback, and questions about the Project. Your input is welcomed and appreciated. Please submit the filled-out form via email to panhandle@virtualengagement.ca.

Should you need to submit the comment form by a mode other than email, please contact the Project Team at the email above or 289-439-9803 and we will be happy to help you provide your input by another means.

CONTACT INFORMATION AND GENERAL QUESTIONS

If you would like to be added to the Project's mailing list and receive project updates, please provide your contact information.

1. Name: _____
2. Email: _____
3. Mailing Address:
   _____
   _____

4. How would you like to receive future updates about the Project (Please choose one answer)?

- ☐ By Email
- ☐ By regular mail (i.e., Canada Post)
- ☐ I don not want to receive future updates about the Project

5. When did you visit the virtual information session website? _____
   DD / MM / YYYY

6. How did you hear about the Panhandle Regional Expansion Project? (Select all that apply):

- ☐ Notice in the newspaper
- ☐ Received a notice in the mail
- ☐ From a friend or neighbour
- ☐ Other: _____

7. Do you own property, live, or work beside? (Please select all that apply):

- ☐ Panhandle Loop (preliminary preferred route)
- ☐ Leamington Preliminary Preferred Route
- ☐ Leamington Alternative Route 1
- ☐ Leamington Alternative Route 2

- ☐ Wheatley Preliminary Preferred Route
- ☐ Wheatley Alternative Route 1

8. Please explain your interest in the Project:

_____

_____

_____

_____

_____

_____

9. Which group represents you the most? (Please choose one answer):

- ☐ I am a member of an Indigenous community
- ☐ I am a landowner or resident in the study area
- ☐ I am a member of a community interest group
- ☐ I am a government official
- ☐ Other: _____

COMMENTS AND INPUT ABOUT THE PROJECT

10. Do you agree with the preliminary preferred routes for the Project?

- ☐ Yes
- ☐ No
- ☐ No opinion (go to question 12)

11. Why do you agree or disagree with the preliminary preferred routes?

_____

_____

_____

_____

12. Are there any environmental, socio-economic, or cultural heritage features along the route alternatives that you would like to identify? Please indicate which route alternative you are commenting on.

13. Are there any potential effects (e.g., to you, your property, business or otherwise) and any mitigation measures that Enbridge should consider and address prior to the construction of the Project? Please indicate which route alternative you are commenting on.

14. Please provide any additional comments, feedback, questions, or concerns that you may have about the Project. If applicable, please indicate which route alternative you are commenting on.

FEEDBACK ON THE VIRTUAL INFORMATION SESSION

15. Was sufficient information about the Project provided during the virtual information session?

- ☐ Yes (Go to question 17)
- ☐ No

16. What additional Project information would you have liked to have seen?

17. Please provide any comments you have on the virtual information session (for example: format, content, delivery).

18. Did you receive sufficient information about the Ontario Energy Board and the environmental study processes?

- ☐ Yes
- ☐ No
- ☐ Partly

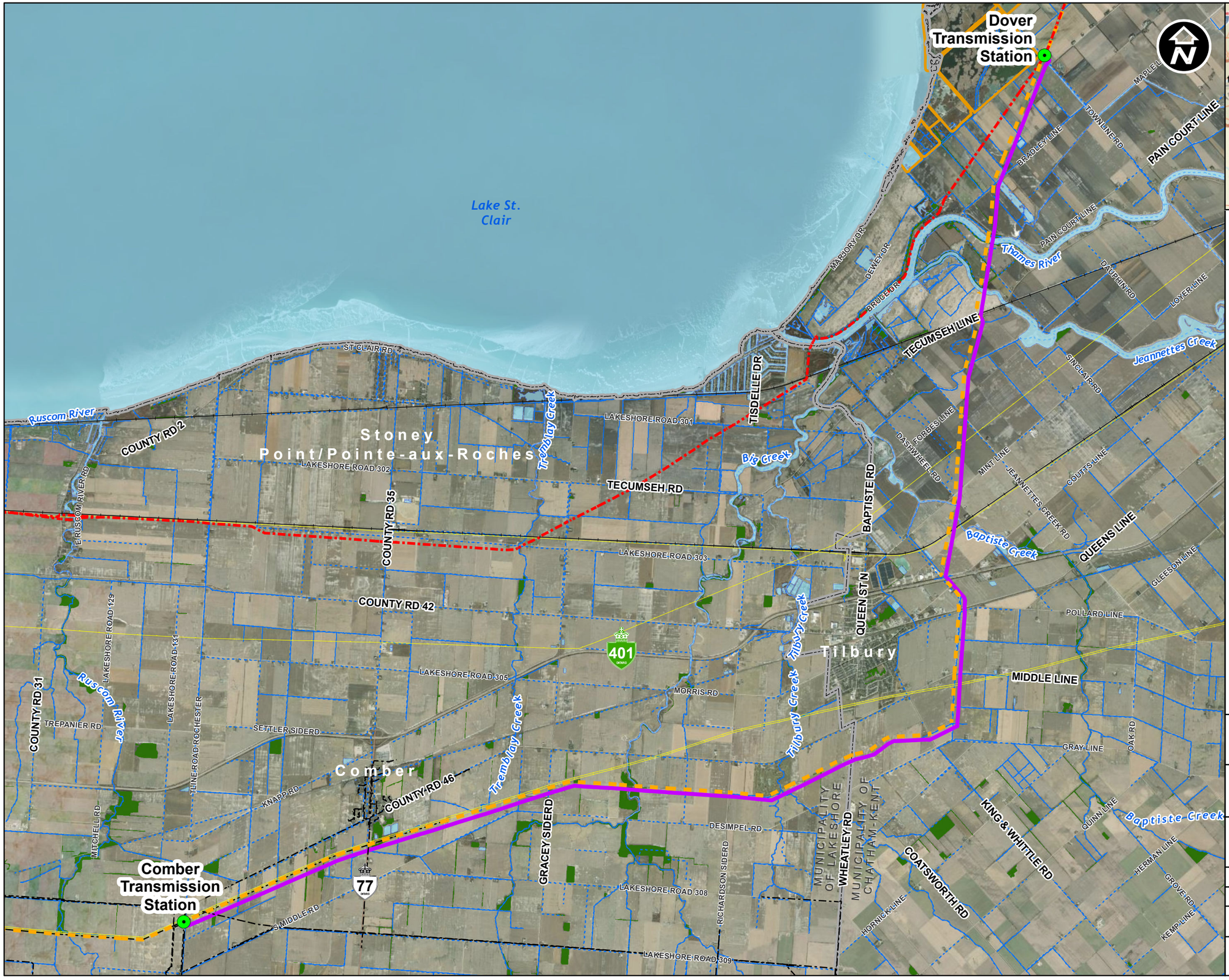
19. If you responded, “No” or “Partly”, please indicate what additional information you would like about the processes.

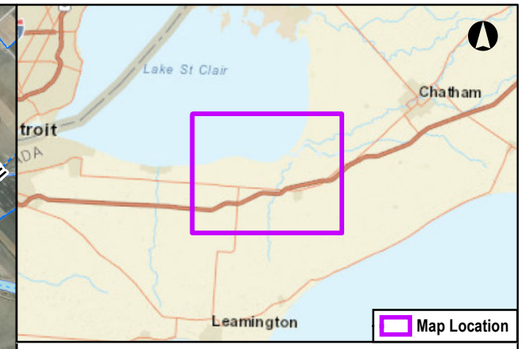
THANK YOU FOR PARTICIPATING IN THE VIRTUAL INFORMATION SESSION!

If you require further information about the Project, please contact us by email at panhandle@virtualengagement.ca or call our phone number (289-439-9803) and leave a detailed message.

Please visit the project website at: www.virtualengagement.ca/panhandle for more information about the Project.

All comments and questions submitted for this project will be collected and considered in the development of an Environmental Report that will be part of the public record and will be made available to individuals or organizations with an interest in this project. Under the Freedom of Information and Protection Privacy Act, personal information such as name and address will not be included in the Environmental Report but may be released, if requested in accordance with the Act, to any person as part of the review of the Environmental Report.





Legend

- Transmission Station
- Preliminary Preferred Route
- Existing Enbridge Gas Pipeline
- Existing 16 Inch Panhandle Pipeline
- Existing 20 Inch Panhandle Pipeline
- Hydro Line
- Railway
- Constructed Drain
- Permanent Stream
- Waterbody
- ANSI, Life Science
- Wooded Area
- Municipal Boundary

Panhandle Regional Expansion Project

Panhandle Line Loop

0 2 4
Kilometers
DATUM: NAD 1983 UTM Zone 17N

October 2021	1:75,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
P#:60665521	V#:	

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Figure 1

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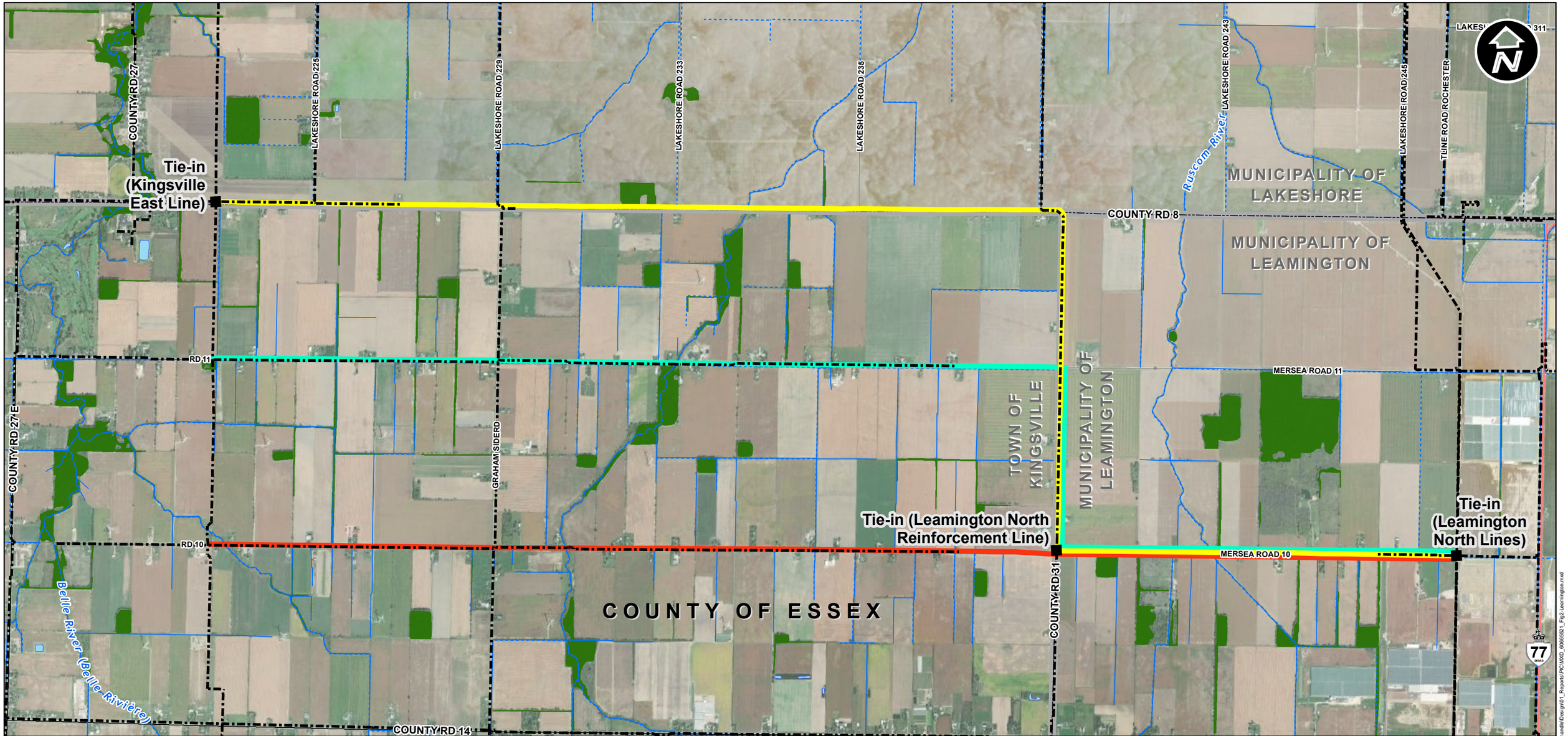
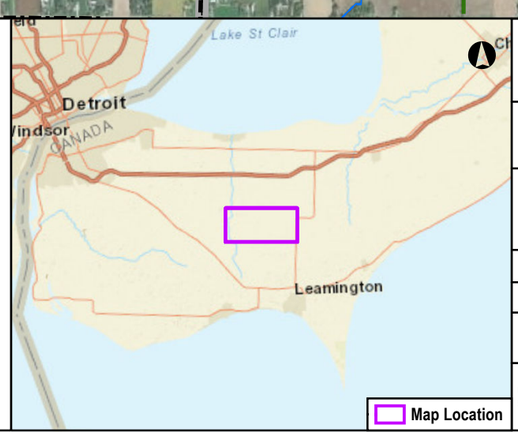


Legend

- Tie-in
- Preliminary Preferred Route
- Alternative Route 1
- Alternative Route 2
- Existing Enbridge Gas Pipeline
- Constructed Drain
- Permanent Stream
- Intermittent Stream
- Waterbody
- Wooded Area
- Municipal Boundaries



Panhandle Regional Expansion Project

Leamington Interconnect

0 150 300 600 900 1,200 1,500 1,800 2,100
Meters
DATUM: NAD 1983 UTM Zone 17N

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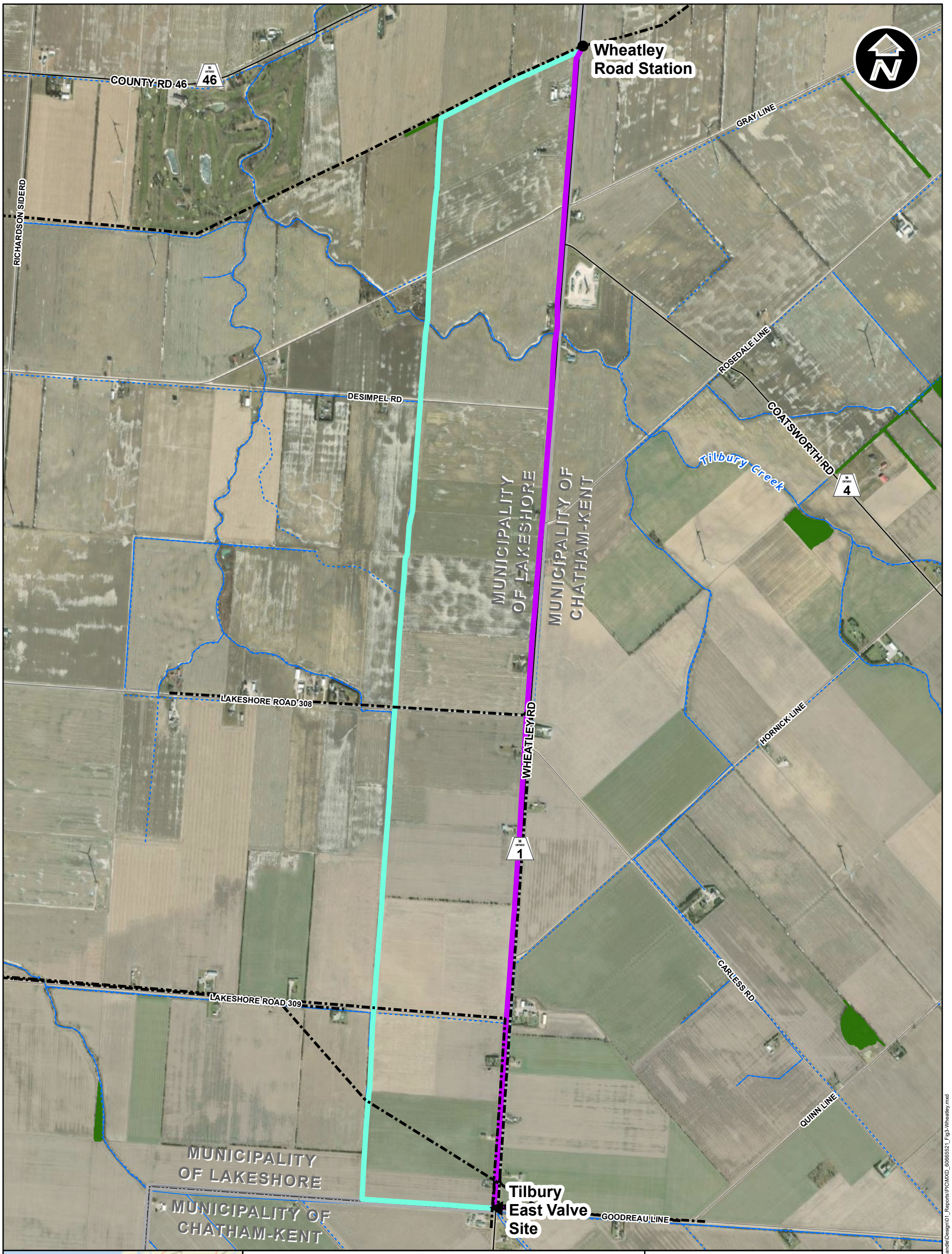
Wheatley
Road Station
COUNTY RD 46
46
RICHARDSON SIDERD
GRAY LINE
ROSEDALE LINE
DESIMPEL RD
COATSWORTH RD
Tilbury Creek
4
MUNICIPALITY OF LAKESHORE
MUNICIPALITY OF CHATHAM-KENT
LAKESHORE ROAD 308
WHEATLEY RD
1
HORNICK LINE
CARLESS RD
LAKESHORE ROAD 309
QUINN LINE
MUNICIPALITY OF LAKESHORE
MUNICIPALITY OF CHATHAM-KENT
Tilbury
East Valve
Site
GOODREAU LINE
Map Location
Legend
Distribution Station
Value Site
Preliminary Preferred Route
Alternative Route 1
Existing Enbridge Gas Pipeline
Constructed Drain
Permanent Stream
Wooded Area
Municipal Boundary
Panhandle Regional Expansion Project
Wheatley Interconnect
October 2021
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Source: MNRF 2020
Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, USGS, Intermap,
P#:60665521
V#:
AECOM
Figure 3
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Meters
DATUM: NAD 1983 UTM Zone 17N
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Map location: \\na.aecomnet.com\ifs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\01_Reports\PIC\MXD_60665521_Fig3-Wheatley.mxd
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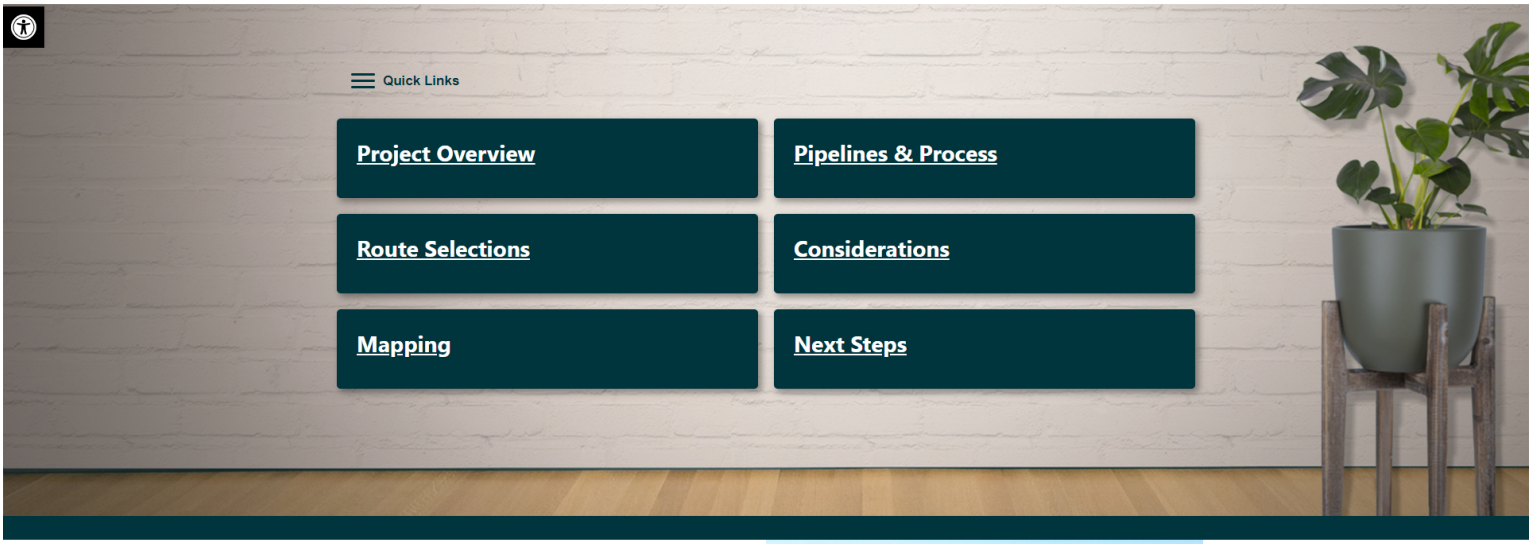
Virtual Information Session #2



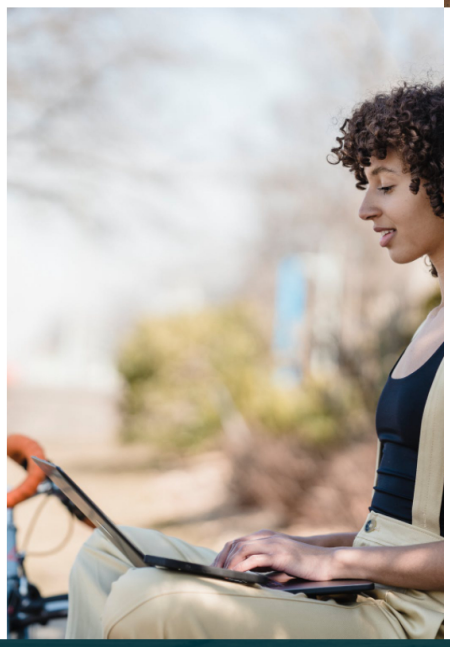
Welcome to the Panhandle Regional Expansion Project

Virtual Information Session #2

- This virtual information session was open from February 14 to February 28, 2022.
- Explore the website for more detailed information.
- If you would like to receive further information and updates regarding the Project, please sign-up using the form on the bottom of this page or email us at **panhandle@virtualengagement.ca.**
- Download the full presentation **here**.
- Review the pipeline routes on the **interactive mapping tool.**

Learn More





Purpose of the Virtual Information Session

- Provide an update on the Project, including the assessment of alternatives that resulted in the selected preferred routes for the transmission pipelines and the introduction of the preliminary preferred routes for the distribution pipelines.
- Provide a safe alternative to an in-person meeting.
- Inform landowners, Indigenous communities, municipalities, stakeholders, and regulatory authorities about the Panhandle Regional Expansion Project and gather feedback about the assessment and selection of the transmission and distribution pipeline routes.
- Give everyone the chance to participate in the process to complete the Environmental Report, which will be included in the Ontario Energy Board application.
- Provide an opportunity to identify any unknown constraints and review draft plans to mitigate impacts to the local community and the environment.
- Create a space for you to ask questions and / or provide comments to Enbridge Gas or AECOM.

Learn More

Our Commitment

Enbridge Gas provides safe and reliable delivery of natural gas to more than 3.8 million residential, commercial, and

Enbridge Gas will carefully consider all input. They are committed to involving community members and will provide

Enbridge Gas is committed to environmental stewardship and conducts all of its operations in an

industrial customers across Ontario.

up-to-date information in an open, honest and respectful manner.

environmentally responsible manner.

Sign-up for updates

Name

Email Address

Subscribe!

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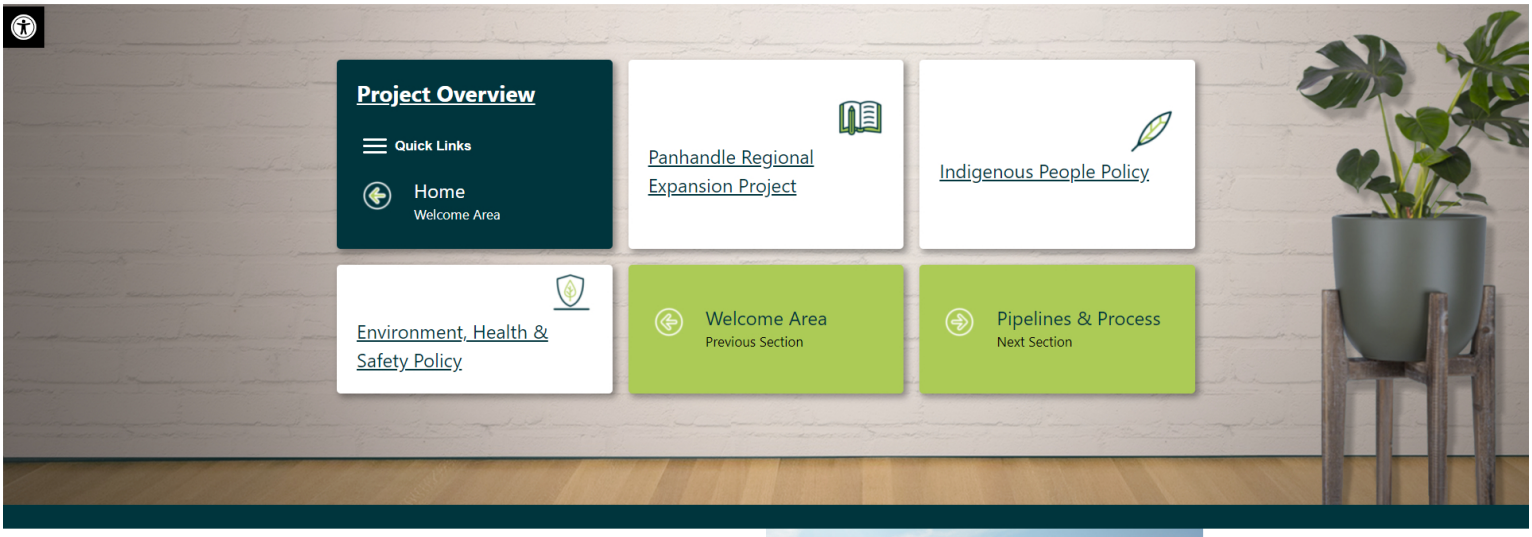
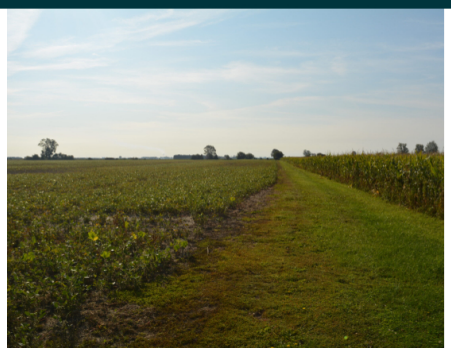


Panhandle Regional Expansion Project

The Panhandle Transmission System serves residential, commercial, industrial, greenhouse and power generation customers across Southwestern Ontario. In order to accommodate additional demand for affordable and reliable natural gas in Windsor, Essex County and Chatham-Kent, Enbridge Gas is proposing to increase the capacity of the system via the Panhandle Regional Expansion Project. This Project will address the current and future growth needs of the local area.



Back to Top | Next

Indigenous People Policy

Enbridge Gas recognizes the diversity of Indigenous Peoples who live where they work and operate. They understand from history the destructive impacts on the social and economic wellbeing of Indigenous Peoples. Enbridge Gas recognizes and realizes the importance of reconciliation between Indigenous communities and the broader society. Positive relationships with Indigenous Peoples, based on mutual respect and focused on achieving common goals, will create positive outcomes from Indigenous communities. Enbridge Gas commits to pursue sustainable relationships with Indigenous Nations and groups in proximity to where Enbridge Gas conducts business. To achieve this, Enbridge Gas will govern itself by the following principles:

Enbridge Gas recognizes the legal and constitutional rights of Indigenous Peoples, and the importance of the relationships between Indigenous Peoples and their traditional lands and resources. They commit to working with Indigenous communities in a manner that recognizes and respects those legal and constitutional rights and the traditional lands and resources to which they apply. Enbridge Gas commits to ensuring that Enbridge Gas projects and operations are carried out in an environmentally responsible manner.

Enbridge Gas understands the importance of the United Nations Declaration of the Rights of Indigenous Peoples in the context of existing Canadian law and the commitments that the government has made to protecting the rights of Indigenous Peoples.

Enbridge Gas engages in forthright and sincere consultation with Indigenous Peoples about their projects and operations through processes that seek to achieve early and meaningful engagement. Indigenous engagement helps define projects that may occur on lands traditionally occupied by Indigenous Peoples.

Enbridge Gas commits to working with Indigenous Peoples to achieve benefits for them resulting from Enbridge Gas' projects and operations, including opportunities in training and education, employment, procurement, business development, and community development.

Enbridge Gas fosters an understanding of the history and culture of Indigenous Peoples among their employees and contractors, in order to create better relationships between Enbridge Gas and Indigenous communities.

The commitment is a shared responsibility involving Enbridge Gas and its affiliates, employees and contractors. They will conduct business in a manner that reflects the above principles. Enbridge Gas will provide ongoing leadership and resources to effectively implement the above principles, including the development of implementation strategies and specific action plans. Enbridge Gas commits to periodically review this policy so that it remains relevant and

respects Indigenous culture and varied traditions.

Previous Next

Environment, Health and Safety Policy

Enbridge Gas' commitment

- Enbridge Gas is committed to protecting the health and safety of all individuals affected by their activities.
- Enbridge Gas will provide a safe and healthy working environment and will not compromise the health and safety of any individual.
- Enbridge Gas' goal is to have no incidents and mitigate impacts on the environment by working with stakeholders, peers, and others to promote responsible environmental practices and continuous improvement.
- Enbridge Gas is committed to environmental protection and stewardship and they recognize 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.

AECOM's commitment

- "Safety for Life" defines AECOM's commitment to achieving zero work-related injuries and / or illnesses; preventing damage to property and the environment; and maintaining an environmentally friendly and sustainable workplace.
- AECOM has adopted "Life Preserving Principles" to help demonstrate the commitment of AECOM's Safety for Life program.

Previous Pipelines & Process

Sign-up for updates

Name

Email Address

Subscribe!

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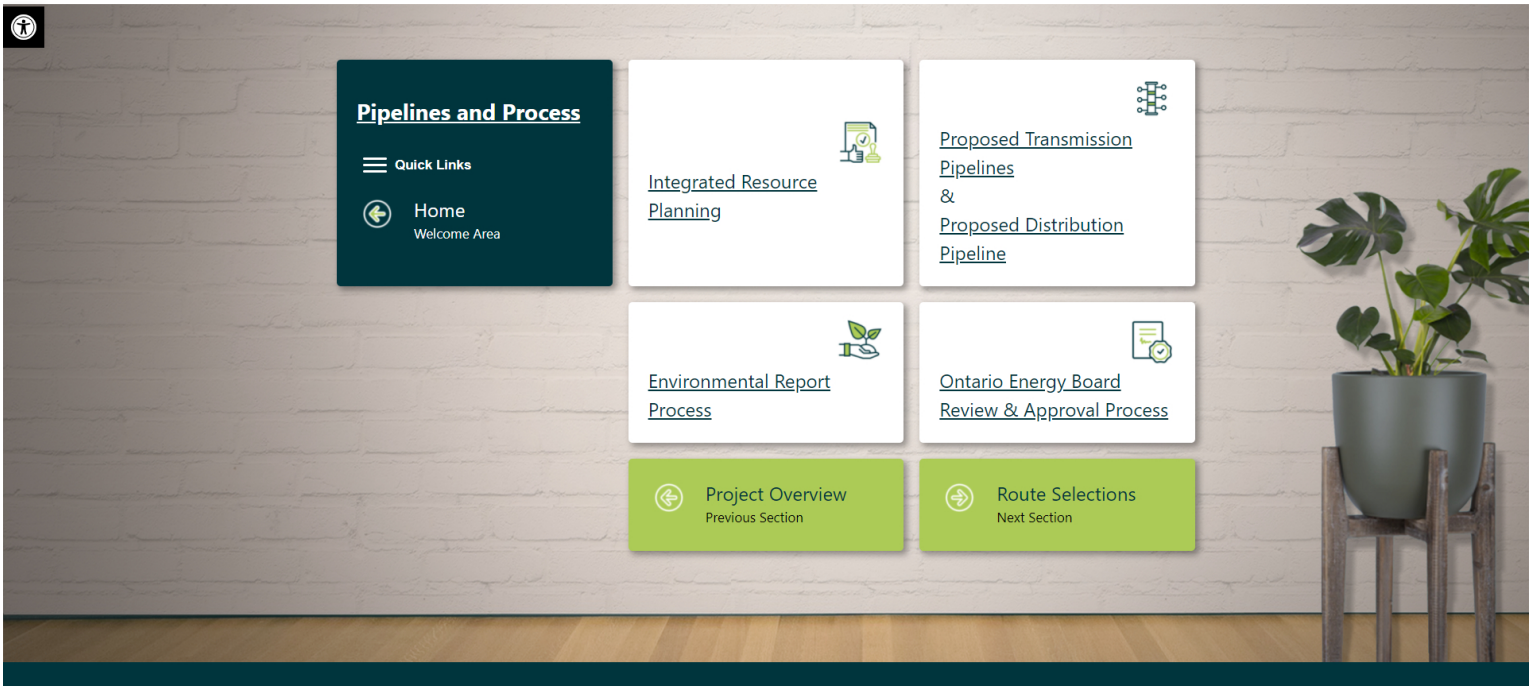
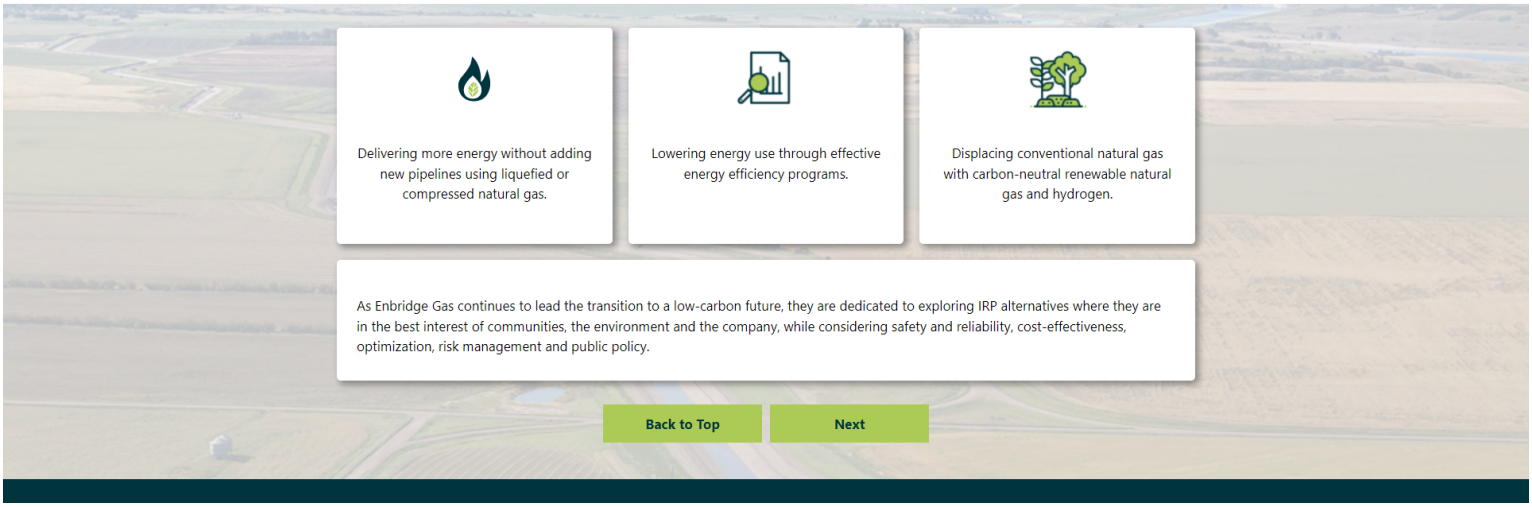


Integrated Resource Planning (IRP)

As the energy landscape continues to evolve, there is a growing interest in low-carbon alternatives to meet energy needs.

IRP is a framework through which Enbridge Gas reviews alternative approaches to meeting energy needs, before building new infrastructure such as:



Proposed Transmission Pipelines

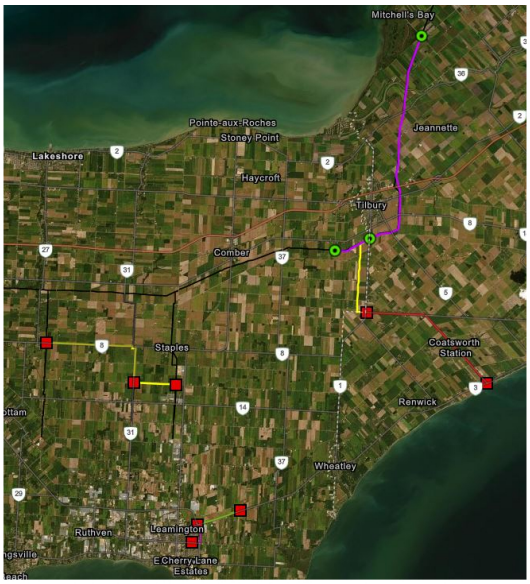
Panhandle Loop

Approximately 19 km of new pipeline which loops – or parallels – the existing 20-inch Panhandle Pipeline. The new pipeline will be 36 inches in diameter and located adjacent to an existing pipeline corridor between Richardson Side Road in the Municipality of Lakeshore, and Enbridge Gas' existing Dover Transmission Station in the Municipality of Chatham-Kent.

Leamington Interconnect

Approximately 12 km of new pipeline, 16 inches in diameter, adjacent to or within an existing road allowance on public or private property to connect the existing Leamington North Lines to both the Kingsville East Line and the Leamington North Reinforcement Line, located in the Municipality of Lakeshore, Town of Kingsville and Municipality of Leamington.





View the interactive map

Proposed Distribution Pipelines

Talbot Road Reinforcement

Construction of a new distribution pipeline up to 8 inches in diameter travelling adjacent to or within an existing road allowance on public or private property along Talbot Road East in the Municipality of Leamington. The pipeline will be approximately 3.2 km in length.

Oak Street and Essex Road 33 Reinforcement

Construction of a new distribution pipeline up to 6 inches in diameter travelling adjacent to or within existing road allowances on public or private property along Oak Street East and County Road 33 in the Municipality of Leamington. The pipeline will be approximately 1.9 km in length.

Wheatley Lateral Reinforcement (formerly Wheatley Interconnect)

Construction of a new distribution pipeline up to 8 inches in diameter starting from Enbridge Gas' Wheatley Road station and travelling west then south in an easement on private property to Goodreau Line. The pipeline will then travel east to a new proposed station at the intersection of Wheatley Road and Goodreau Line (preferred route). From this location, the new distribution line would travel east along Goodreau Line before turning southeast on Coatsworth Road to Talbot Trail (preliminary preferred route). The pipeline will be approximately 16.1 km in length and all new pipelines on Goodreau Line and Coatsworth Road would either travel adjacent to or within existing road allowances on public or private property. The pipeline will be located in the Municipality of Lakeshore and Municipality of Chatham-Kent.

If approved by the Ontario Energy Board, construction of the proposed transmission and distribution pipelines is planned to begin as early as Spring 2023 and is proposed to be in service by Fall 2023.

Previous Next

Environmental Report Process

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



Hydrocarbon Pipelines and Facilities in Ontario (2016).



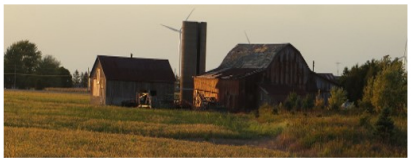
The study will:

- Undertake consultation to understand the views of interested and potentially impacted parties.
- Consult with Indigenous communities to understand interests and potential impacts.
- Be conducted during the earliest phase of the Project.
- Present pipeline routing options and outline the evaluation process to select preferred pipeline routes.
- Identify potential impacts of the Project.
- Develop environmental mitigation and protective measures to avoid or minimize potential impacts.
- Develop an appropriate environmental inspection, monitoring and follow-up program.

Previous Next

Ontario Energy Board (OEB) Review and Approval Process

An OEB Leave-to-Construct application and approval is required in order for the Project to proceed. The OEB is Ontario's independent regulator of the electricity and natural gas sectors who protect consumers and makes decisions that serve the public interest.



The application to the OEB will include information on the Project including:

- The need for the Project;
- Environmental Report and mitigation measures;
- Facility alternatives;
- Project costs and economics;
- Pipeline design and construction;
- Land requirements; and
- Consultation with Indigenous communities.

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

Additional information about the OEB process can be found at: www.oeb.ca

Previous Route Selections

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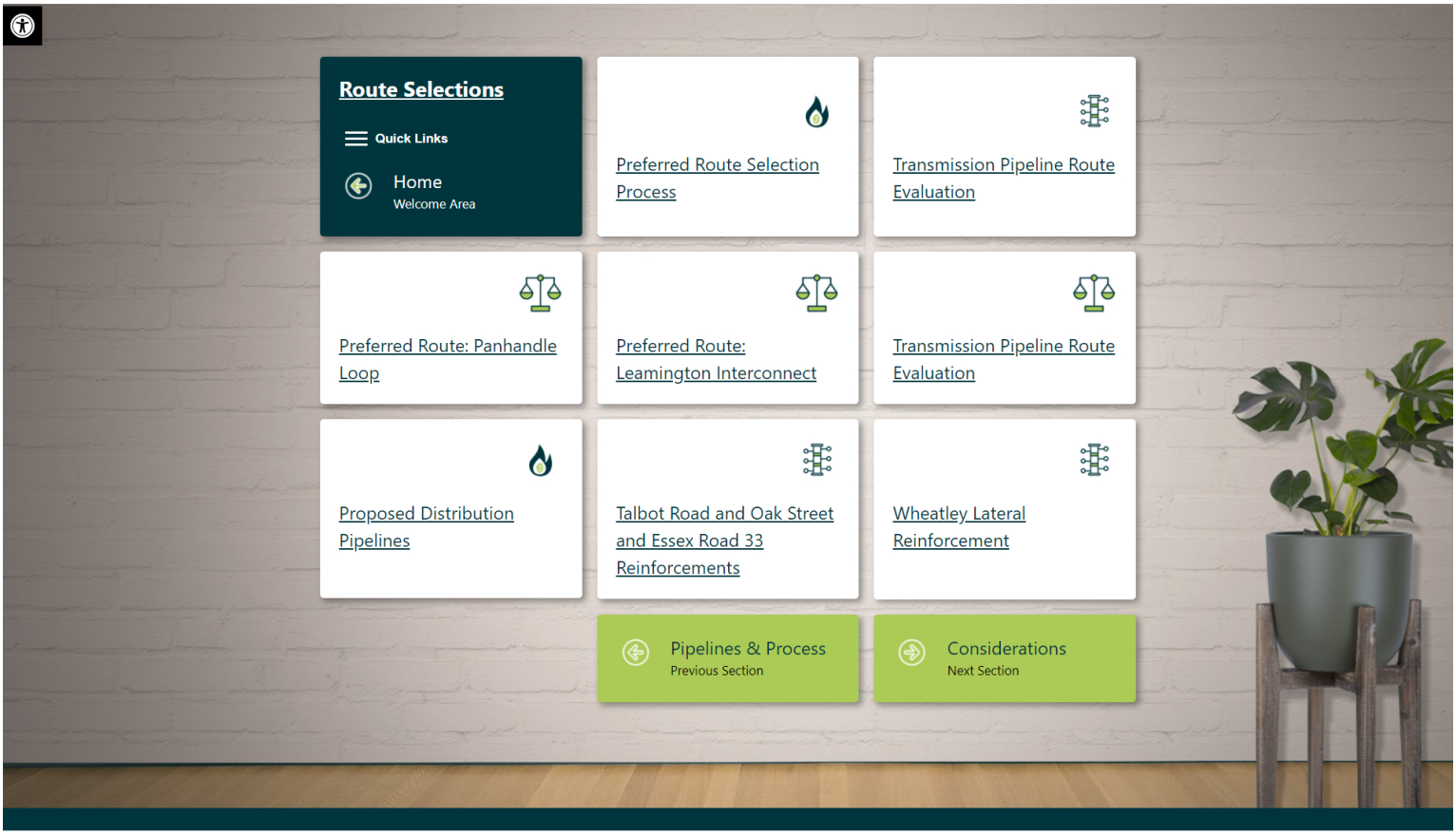

Preferred Route Selection Process

The preferred routes will be selected and confirmed through a five-step process.

Step 1: Develop Routing Parameters

- Establish a study area.
- Establish routing objectives. For example:
  - Follow a reasonably direct path between start and end points.
  - Avoid sensitive environmental and socio-economic features, where possible.
  - Parallel (loop) existing linear infrastructure.
  - Follow existing lot and property lines.
- Create an inventory of environmental and socio-economic features.

Step 2: Identify Alternative Routes in the Study Area

- Identify reasonable and feasible routes within the study area in consideration of the routing objectives and environmental and socio-economic opportunities and constraints.

Step 3: Route Evaluation

- An evaluation of the Alternative Routes has been conducted to select the preliminary preferred routes. The evaluation was based on:
  - Field visits and route reviews with environmental, engineering and construction staff;
  - Review of publicly available information about natural heritage features, slope, topography, and socio-economic features and landscapes;

- A GIS based quantitative evaluation of potential impacts to environmental and socio-economic features; and
- Early input from municipalities.

Step 4: Seek Input on Preferred and Preliminary Preferred Routes (WE ARE HERE)

- Gather feedback on the preferred and preliminary preferred routes.
- Make updates / modifications, as needed.

Step 5: Confirmation of Routes and Completion of Environmental Report

- The pipeline routes will be confirmed and analyzed in the Environmental Report, which will consider feedback received at this virtual information session. The location of the preferred pipeline routes may be refined as the Project moves forward based on pre-construction field investigations, landowner requests, and / or engineering and construction considerations.

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Transmission Pipeline Route Evaluation

Methodology

During virtual information session #1, a Preliminary Preferred Route for the Panhandle Loop and a Preliminary Preferred and two alternative routes were presented for the Leamington Interconnect. These routes have since been confirmed as Preferred Routes. These routes were selected as preferred using quantitative and qualitative methods.

Quantitative

A Geographic Information System (GIS), a computer-base mapping system, was used to determine the impacts of the preliminary preferred and alternative routes on a number of different categories, including: agricultural, aquatics, route characteristics, socio-economic, terrestrial features and groundwater resources.

Qualitative

A review of the comments received to date from the interested and potentially affected parties, and the experience of the Project Team in routing linear infrastructure.

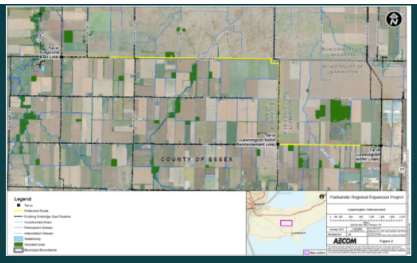
Preferred Route: Panhandle Loop

- New natural gas pipeline 36 inches in diameter and 19 km in length.
- Route will loop – or parallel – the existing 20-inch Panhandle Pipeline located between Richardson Side Road and Enbridge Gas' Dover Transmission Station.
- Key considerations for selecting the preferred route:
  - The route parallels an existing pipeline right-of-way (RoW).
  - It leverages an existing Enbridge Gas RoW, allowing for overlapping easements and reducing disturbance to new properties and farms.
  - A technically viable route avoids introduction of new environmental and social impacts to habitats and properties in the area.
  - Installation of the existing pipeline occurred with no long-term impacts to the environment.



Preferred Route: Leamington Interconnect

- New natural gas pipeline 16 inches in diameter and 12 km in length connecting the existing Leamington North Lines to both the Kingsville East Line and the Leamington North Reinforcement Line.
- Located adjacent to or within an existing road allowance on public or private property.
- Key considerations for selecting the preferred route:
  - The route parallels existing road allowances and utilities.
  - The route offers the most room for construction and staging due to the slope / topography of the area being flat and there are no deep ditches impacting construction.
  - It has the least direct impacts to homes, utilities, traffic and local access.



Transmission Pipeline Route Evaluation

POTENTIAL IMPACTS TO AGRICULTURAL FEATURES	LEAMINGTON PRELIMINARY PREFERRED ROUTE	LEAMINGTON ALTERNATIVE ROUTE 1	LEAMINGTON ALTERNATIVE ROUTE 2
Prime Agricultural Land (ha)	120	109	95
Tile Drainage (ha)	84	78	69

POTENTIAL IMPACTS TO AQUATIC FEATURES	LEAMINGTON PRELIMINARY PREFERRED ROUTE	LEAMINGTON ALTERNATIVE ROUTE 1	LEAMINGTON ALTERNATIVE ROUTE 2
Conservation Authority Regulated Lands (ha)	54	39	31
Watercourse / Drain Crossings	9	9	10
Watercourses with Identified SAR	0	0	0

ROUTE CHARACTERISTICS	LEAMINGTON PRELIMINARY PREFERRED ROUTE	LEAMINGTON ALTERNATIVE ROUTE 1	LEAMINGTON ALTERNATIVE ROUTE 2
Length (m)	11,982	10,748	9,407
Slope (m)	<5	<5	<5

POTENTIAL IMPACTS TO SOCIO-ECONOMIC FEATURES	LEAMINGTON PRELIMINARY PREFERRED ROUTE	LEAMINGTON ALTERNATIVE ROUTE 1	LEAMINGTON ALTERNATIVE ROUTE 2
Archaeological Sites (within 1 km of the route)	0	0	1
Homes (#)	7	23	17
Petroleum Wells (# within 250 m)	0	0	0
Socio-economic Features (schools, churches, community centres (# within 1 km))	1 recreational centre, 1 cemetery, 1 golf course	1 recreational centre and 1 golf course	0

POTENTIAL IMPACTS TO TERRESTRIAL FEATURES	LEAMINGTON PRELIMINARY PREFERRED ROUTE	LEAMINGTON ALTERNATIVE ROUTE 1	LEAMINGTON ALTERNATIVE ROUTE 2
ANSI (ha)	0	0	0
Wooded Areas (ha)	2	2	1
Wetlands (Provincially / Locally Significant)	0	0	0

POTENTIAL IMPACTS TO GROUNDWATER RESOURCES	LEAMINGTON PRELIMINARY PREFERRED ROUTE	LEAMINGTON ALTERNATIVE ROUTE 1	LEAMINGTON ALTERNATIVE ROUTE 2
Water Wells (within 100 m)	19	20	15

Overall Route Evaluation

Preferred

Leamington
Preliminary Preferred Route

Moderately Preferred

Leamington
Alternative Route 1

Least Preferred

Leamington
Alternative Route 2

- Although this route has the potential to impact the most agricultural and natural environmental features, it reduces disturbance to homes (impacts 7) and farm operations in the area by running parallel to existing road allowances and utilities.
- Most room within road allowance to allow for feasibility of construction and staging.
  - Slope / topography is flat and there are no deep ditches impacting construction.
- Less watercourse / drain crossings than Leamington Alternative Route 2.
- Less water wells than Leamington Alternative Route 1.
- Route does not impact any known archaeological sites.

- Less watercourse / drain crossings and known archaeological sites than Leamington Alternative Route 2.
- Current road allowance is narrow and does not have adequate room for construction.
- Potential impacts to homes (23) and farm operations.
- Impacts more agricultural and natural environment features than Leamington Alternative Route 2.

- Although this alternative impacts the most watercourses / drain crossings, it is the shortest route and crosses less wooded areas, prime agricultural land, tile drainage, and conservation authority regulated land.
- Current road allowance is very narrow with steep slopes on either side and existing utilities make feasibility of construction a challenge.
- Potential impacts to homes (17) and farm operations.

Previous Next

Proposed Distribution Pipelines

As noted at the first virtual information session, Enbridge Gas is proposing to construct distribution pipelines to connect new large-volume customers to the Panhandle Transmission System. Distribution pipelines are being proposed at several locations based on customer needs.

It should be noted that portions of the Wheatley Interconnect that were presented at virtual information session #1 now form part of the distribution pipelines being proposed and has since been confirmed as a preferred route.

The evaluation of these routes will include feedback gathered from this virtual information session and will be included in the Environmental Report, which can be reviewed and commented on during the Ontario Energy Board's approval process.



View the interactive mapping tool

Previous Next

Talbot Road and Oak Street and Essex Road 33 Reinforcements

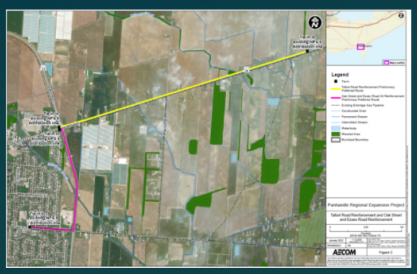
Talbot Road Reinforcement:

- New distribution pipeline up to 8 inches in diameter and 3.2 km in length.
- Located adjacent to or within an existing road allowance on public or private property.

Oak Street and Essex Road 33 Reinforcement:

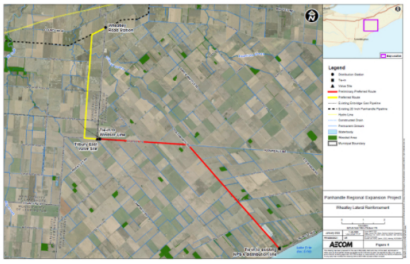
- New distribution pipeline up to 6 inches in diameter and 1.9 km in length.
- Located adjacent to or within existing road allowances on public or private property.

The routes have been selected as they are the most direct routes using road allowances.



Wheatley Lateral Reinforcement

- New pipeline up to 8 inches in diameter and 16.1 km in length.
- Preferred Route (yellow line, 6 km in length)
  - Presented as Wheatley Interconnect in virtual information session #1.
  - Located in an easement on private property that is parallel to Wheatley Road.
  - Key considerations for selecting the preferred route:
    - Upon consultation with the municipalities, Wheatley Road can't accommodate a pipeline due to existing utilities.
    - Route avoids the need for lane closures and traffic disruption on Wheatley Road, a main artery into the Town of Wheatley.
- Preliminary Preferred Route (red line, 10.1 km in length)
  - Located adjacent to or within existing road allowances on public or private property.
  - The route has been selected as it is the most direct route using road allowances.



Previous Considerations

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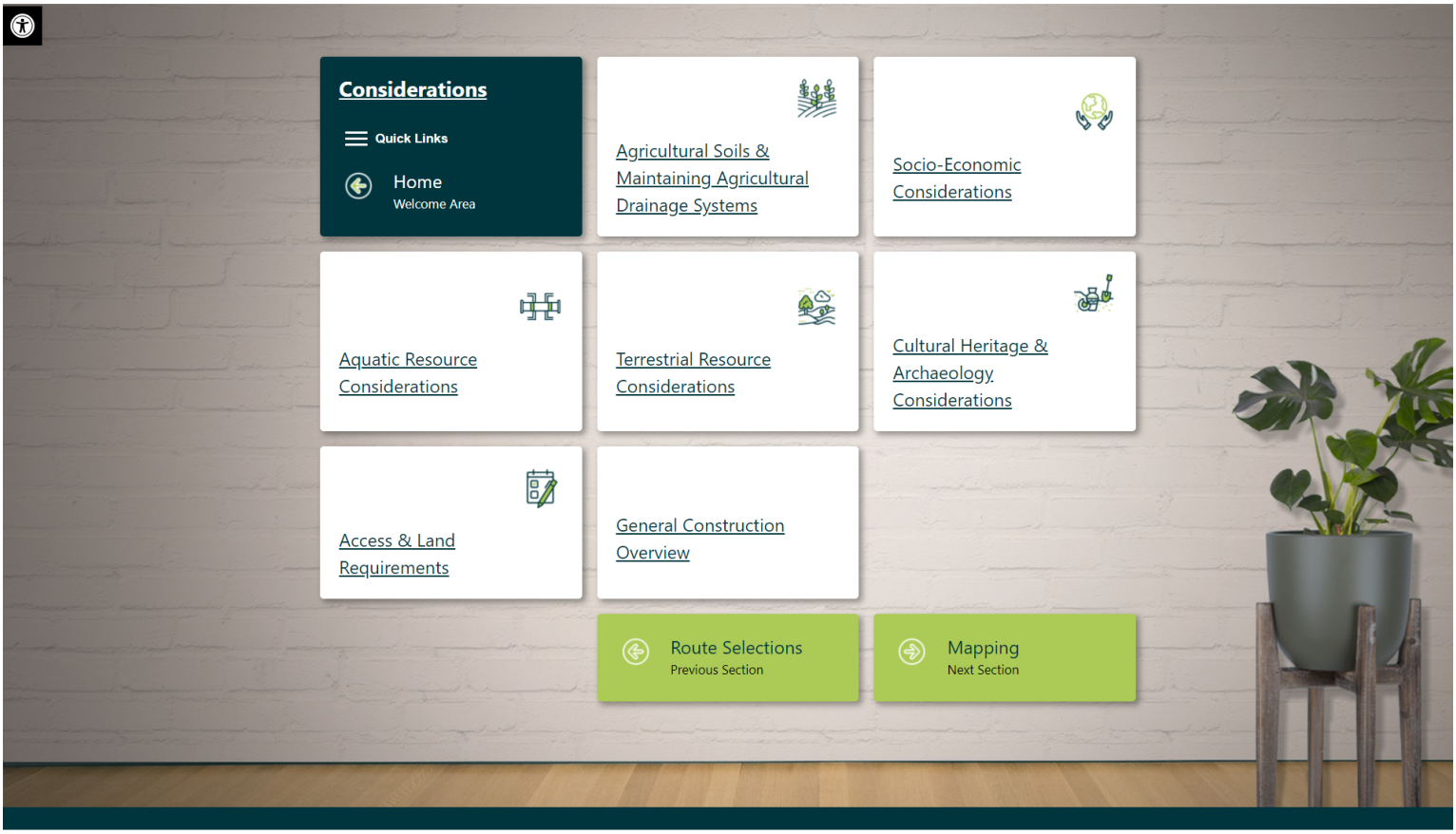

Agricultural Soils and Maintaining Agricultural Drainage Systems

The Project will be constructed, in part, on agricultural land within the Project study area.



Potential Effects

- Damaged and severed tile drains.
- Subsoil mixing, compaction, and rutting.
- Loss of organic matter / degraded soil structure.
- Decreased soil quality / agricultural capability.
- Erosion.
- Temporary drainage issues.
- Spread of soil pests / diseases.

Example Mitigation Measures

- 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.
- Landowners will be contacted prior to construction to confirm the location and type of existing drains. Any future drainage plans will also be discussed.
- Field tile will be temporarily re-routed during pre-construction activities where required to ensure proper drainage during construction.
- Construction activities will be temporarily halted on agricultural lands where excessively wet soil conditions are encountered.
- 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.
- A post-construction cover crop program will be available to landowners.

Socio-Economic Considerations

The Project will be constructed parallel to existing road allowances on private property, agricultural land, land regulated by Hydro One, Lower Thames Valley Conservation Authority and Essex Region Conservation Authority.



Potential Effects

- Temporary increases in noise, dust and air emissions.
- Increased construction traffic volumes.
- Temporary impairment of use and enjoyment of property.
- Vegetation clearing along the pipeline easement.

Example Mitigation Measures

- Access to residences, businesses and farm fields will be maintained during construction.
- Construction will be restricted to daylight hours and adhere to applicable noise by-laws.
- A Traffic Control Plan will be developed if potential disruption to traffic could occur.
- Fencing will be placed at appropriate locations to limit access to the work area.
- A water well monitoring program will be developed.
- Measures will be implemented to control dust during construction.
- Areas cleared for construction will be re-vegetated.
- A designated Enbridge Gas representative will be available prior to and throughout construction.

Previous Next

Aquatic Resource Considerations

Enbridge Gas understands the importance of protecting wildlife during construction and therefore will implement recognized mitigation measures to minimize possible environmental effects.



Potential Effects

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

Example Mitigation Measures

- Conduct surveys for waterbodies to assess potential impacts to aquatic species / habitat.
- Obtain all agency permits and approvals, including development of environmental mitigation measures for site specific habitat / species.
- Limit in-channel construction, where possible, and conform to fish timing window guidelines.
- If in-channel construction is required, protect aquatic species and manage sedimentation and turbidity.
- Restore and seed areas to establish habitat and reduce erosion.
- Replant vegetation along waterways as soon as possible following construction.

Terrestrial Resource Considerations

During the course of construction, natural heritage features such as wildlife habitat and vegetated / wooded areas will need to be crossed.





Potential Effects

- Damage or removal of vegetation and wildlife habitat adjacent to 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. If present, develop species / habitat-specific environmental mitigation measures.
- Secure any necessary permits and follow any conditions of approval.
- Clearly mark the construction area to avoid accidental damage.
- Restore and seed areas to establish habitat and reduce erosion.

Previous Next

Cultural Heritage and Archaeology Considerations

During the course of construction, cultural heritage and archaeology features such as archaeological finds, buildings, fences and landscapes may be encountered. Detailed field surveys will be conducted by independent, third-party archaeologists and cultural heritage professionals.



Potential Effects

- Damage or destruction of archaeological, paleontological or historical resources.

Example Mitigation Measures

- Complete archaeological assessments of the construction right-of-way, with review and comment from the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI).
- Complete cultural heritage assessments (for built heritage features and cultural heritage landscapes) of the construction right-of-way, with review and comment from MHSTCI.
- Report any previously unknown archaeological, paleontological or historical resources uncovered, or suspected of being uncovered, during excavation.

Previous Next

Access and Land Requirements

Once a preferred route is selected, an Enbridge Gas Land Agent will begin discussions with landowners for the

Enbridge Gas is committed to working with all directly affected landowners in anticipation of acquiring early access

These land rights will consist of permanent easements and / or temporary land rights. The temporary

appropriate land rights necessary for the construction of the pipeline.

agreements, where necessary, in order to gather essential information, including but not limited to, land survey data, environmental, archaeological and property site features, along with negotiating the necessary land rights.

land rights are only required during Project construction activities.

These land rights will consist of permanent easements and / or temporary land rights. The temporary land rights are only required during Project construction activities.

Enbridge Gas will have a Land Agent available to each landowner during all pipeline construction activities.

The Land Agent will keep all landowners informed of the progress of the Project and assist with any concerns that may arise as a result of the construction activities.

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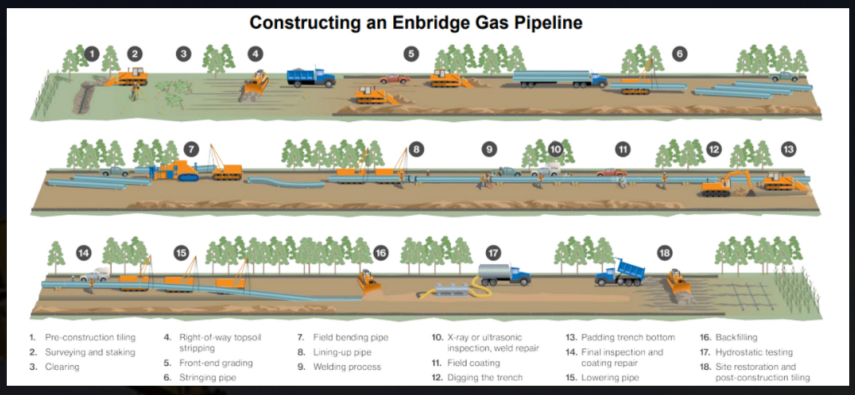
General Construction Overview



Site Preparation (1-5)

- Survey and staking crews will delineate project boundaries and install safety fencing, where required.
- The construction team will clear brush and other vegetation to permit construction.
- A grading crew prepares the construction area for access by construction equipment.

Installing the new pipeline (6-16)

- Once area has been prepped, a hydraulic hoe will excavate the trench, which will then be prepared for the installation of the new pipeline.
- The stringing crew lays pipe on wooden skids or boxes adjacent to trench area.
- The pipe is prepped, welded into continuous lengths and inspected before the pipeline is lowered into the trench. Crews also install pipes under obstacles such as roads or watercourses by directional drilling.

Finishing construction (17-18)

- The pipeline is tested hydrostatically with water from a suitable local source and is disposed of appropriately. Upon completion, the pipeline is dried, purged of air and prepared for delivery of the product.
- The construction crew backfills the originally excavated subsoil over the pipe in the trench. Any surplus backfill material will be removed from the construction area.
- A clean-up crew is responsible for the restoration of the land. In natural areas, restoration includes re-seeding and removing erosion and sediment controls. In developed areas the clean-up crew undertakes landscaping plans developed for site restoration.

Previous Mapping

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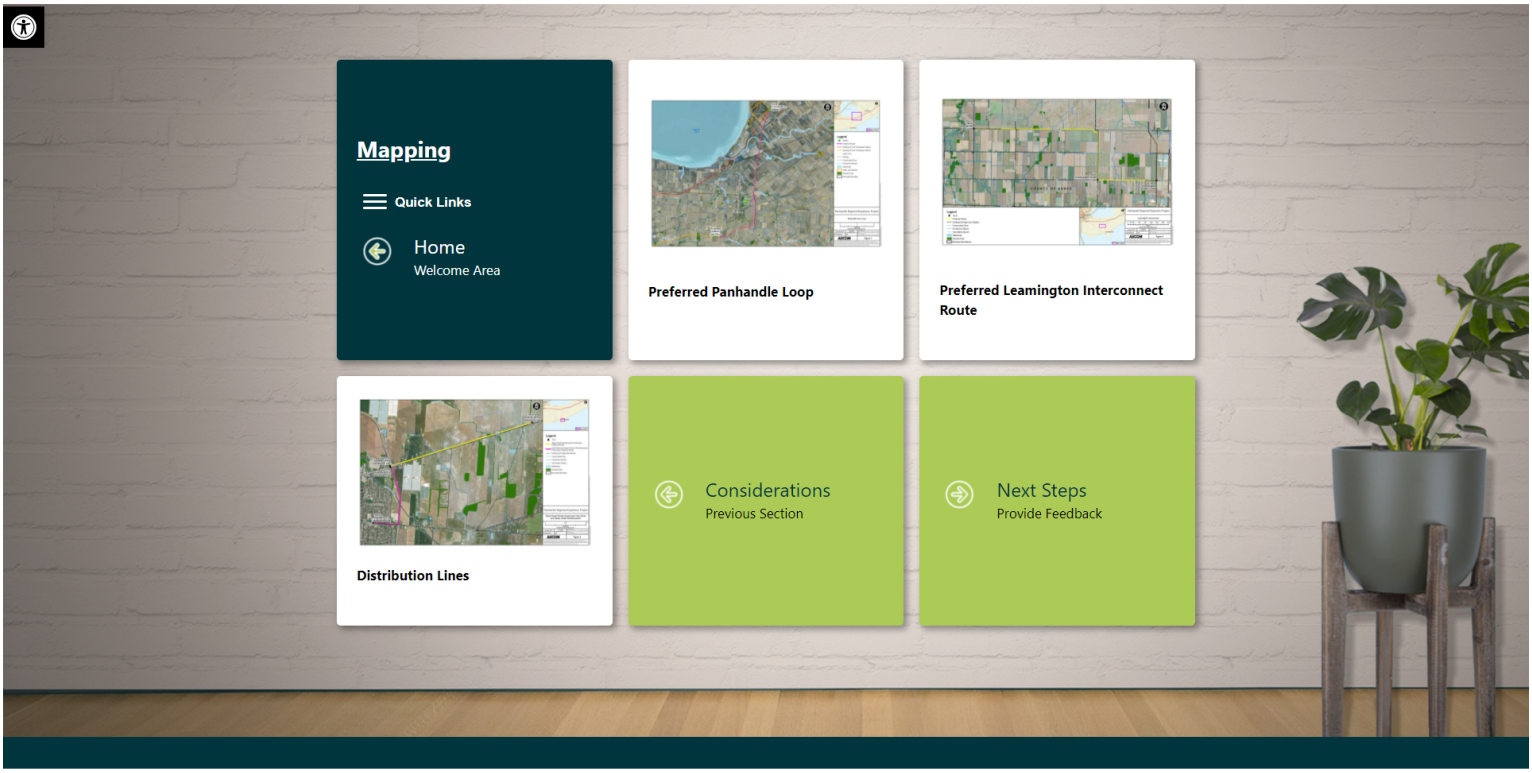

Preferred Panhandle Loop



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INTERACTIVE MAP

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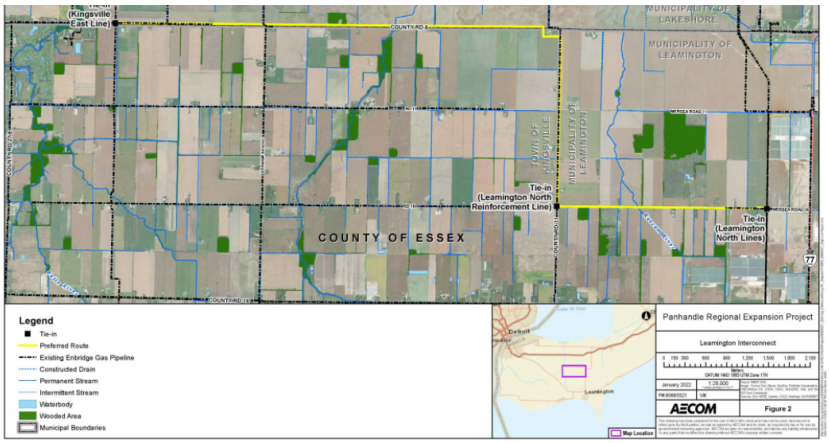
Preferred Leamington Interconnect Route





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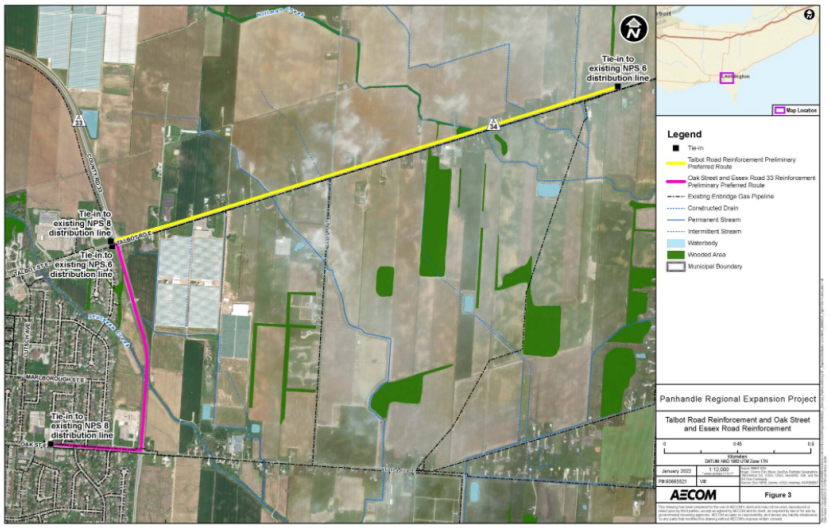
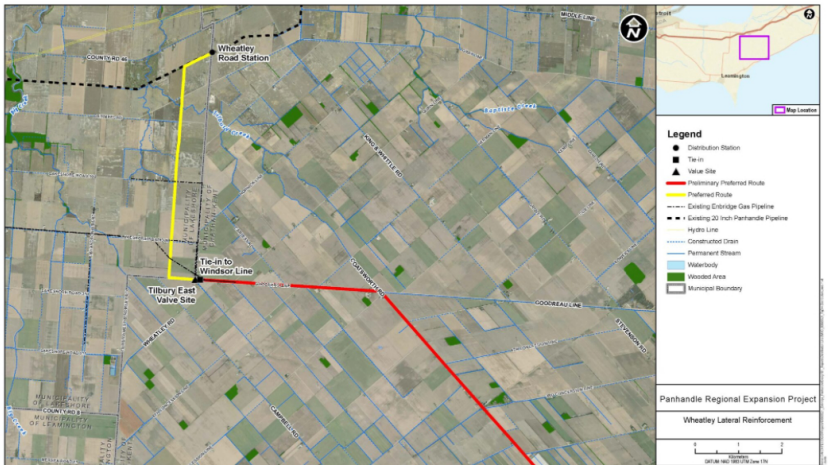
Distribution Lines

Talbot Road and Oak Street and Essex Road 33 Reinforcements



Wheatley Lateral Reinforcement





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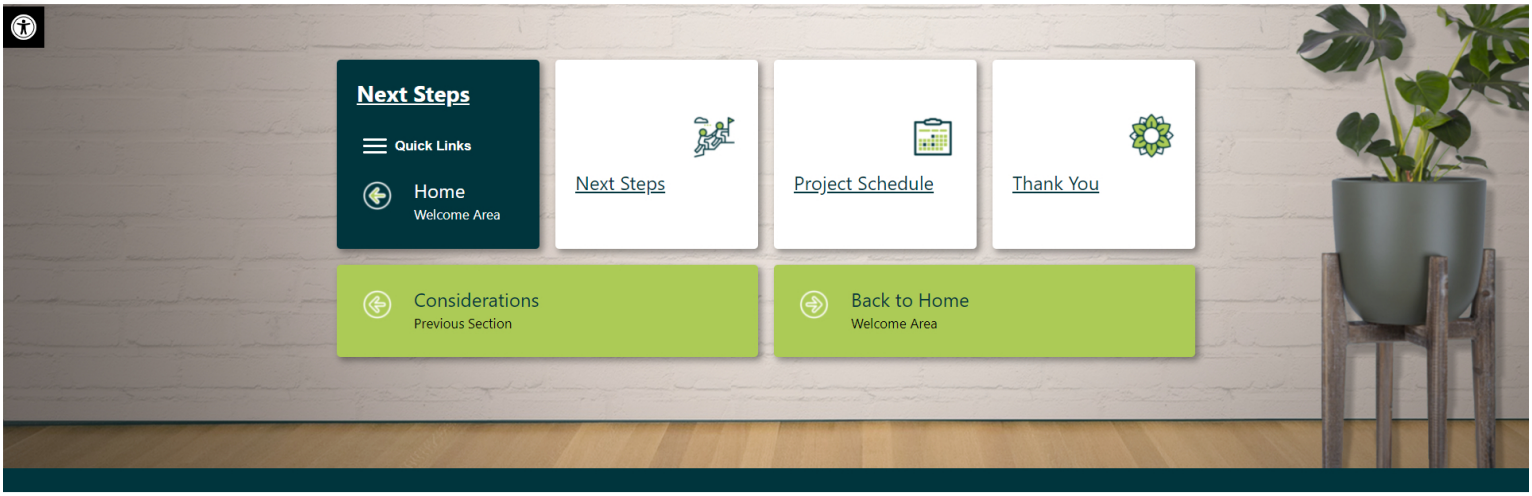

Next Steps

Enbridge Gas will evaluate the feedback received from the virtual information session, make updates as required and finalize the pipeline route evaluation. The final evaluation will be included in the Environmental Report (ER), which will be completed in early 2022. You will have the opportunity to review and provide feedback on the ER by signing up to receive future Project information.



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Project Schedule

2021

- Start the environmental planning process.
- Evaluate potential pipeline routes.
- Virtual information session #1.

2022 (WE ARE HERE)

- Virtual information session #2.
- Complete ER.
- Complete Ontario Energy Board application and obtain approval.
- Finish permitting, pipeline design and construction planning.

2023+

- Construction.
- Pipeline in service.
- Site cleanup and restoration and post-construction monitoring.

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Thank you!

Thank you for participating in the virtual information session. If you have feedback or comments, please email us at panhandle@virtualengagement.ca.

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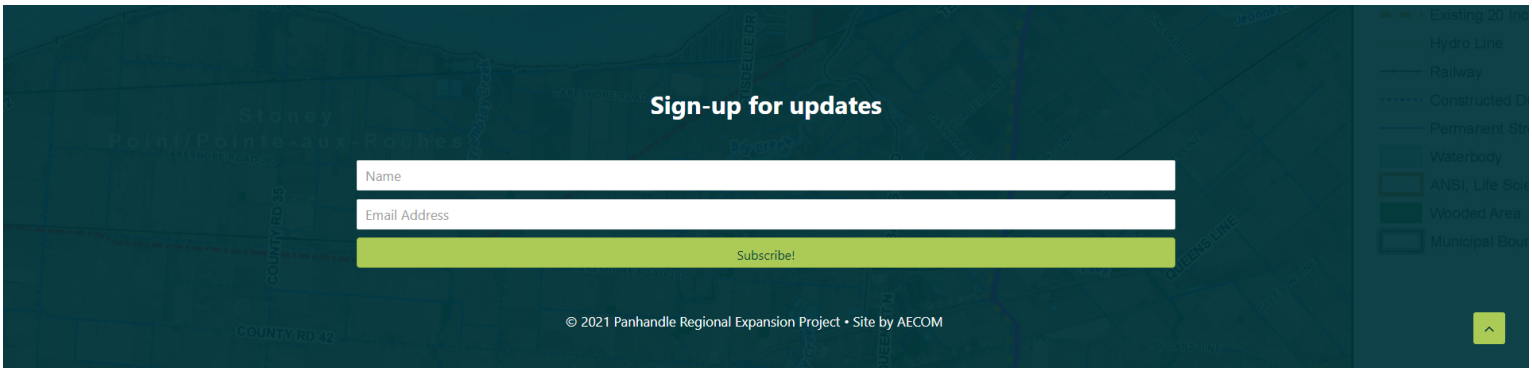
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Panhandle Regional Expansion Project

Virtual Information Session #2

Welcome to the Panhandle Regional Expansion Project

Virtual Information Session #2

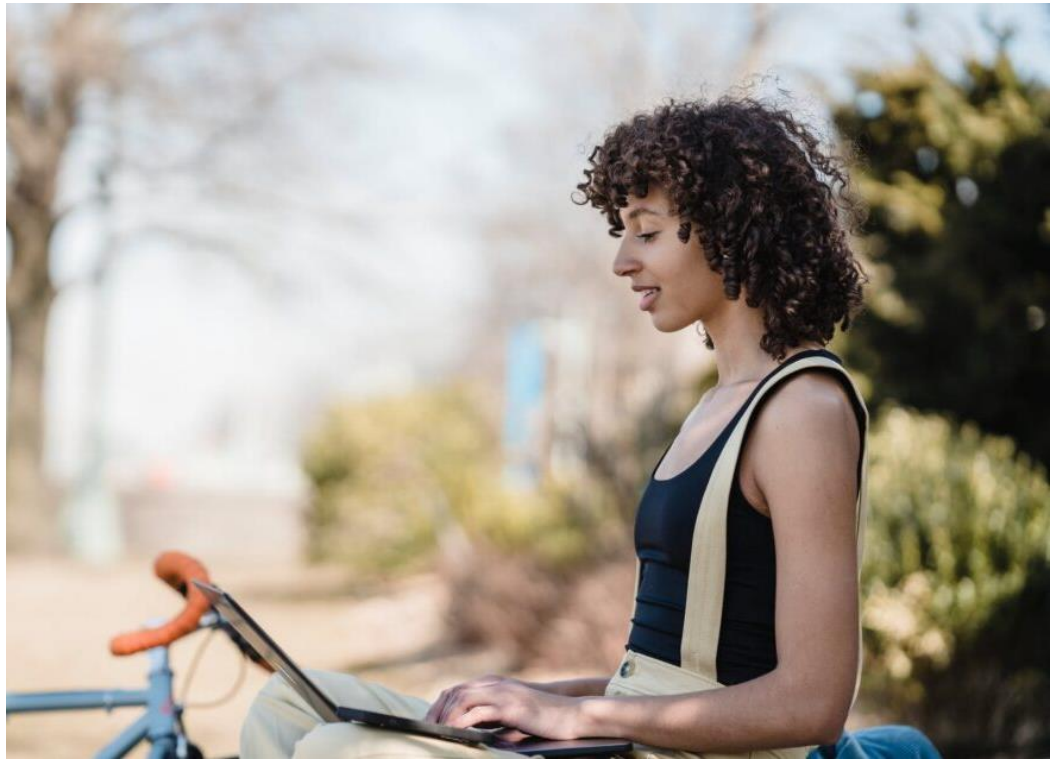
- This virtual information session is open from February 14 to February 28, 2022.
- Explore the website for more detailed information.
- Fill out the comment form by February 28, 2022, where you can also submit questions, comments and sign-up to receive future Project updates.
- Download the full presentation here.
- Review the pipeline routes on the interactive mapping tool.

Our Commitment

- Enbridge Gas provides safe and reliable delivery of natural gas to more than 3.8 million residential, commercial, and industrial customers across Ontario.
- Enbridge Gas will carefully consider all input. They are committed to involving community members and will provide up-to-date information in an open, honest and respectful manner.
- Enbridge Gas is committed to environmental stewardship and conducts all of its operations in an environmentally responsible manner.

Purpose of Virtual Information Session

- Provide an update on the Project, including the assessment of alternatives that resulted in the selected preferred routes for the transmission pipelines and the introduction of the preliminary preferred routes for the distribution pipelines.
- Provide a safe alternative to an in-person meeting.
- Inform landowners, Indigenous communities, municipalities, stakeholders, and regulatory authorities about the Panhandle Regional Expansion Project and gather feedback about the assessment and selection of the transmission and distribution pipeline routes.
- Give everyone the chance to participate in the process to complete the Environmental Report, which will be included in the Ontario Energy Board application.
- Provide an opportunity to identify any unknown constraints and review draft plans to mitigate impacts to the local community and the environment.
- Create a space for you to ask questions and / or provide comments to Enbridge Gas or AECOM.



Panhandle Regional Expansion Project

The Panhandle Transmission System serves residential, commercial, industrial, greenhouse and power generation customers across Southwestern Ontario. In order to accommodate additional demand for affordable and reliable natural gas in Windsor, Essex County and Chatham-Kent, Enbridge Gas is proposing to increase the capacity of the system via the Panhandle Regional Expansion Project. This Project will address the current and future growth needs of the local area.



Indigenous People Policy

- Enbridge Gas recognizes the diversity of Indigenous Peoples who live where we work and operate. They understand from history the destructive impacts on the social and economic wellbeing of Indigenous Peoples. Enbridge Gas recognizes and realizes the importance of reconciliation between Indigenous communities and the broader society. Positive relationships with Indigenous Peoples, based on mutual respect and focused on achieving common goals, will create positive outcomes from Indigenous communities. Enbridge Gas commits to pursue sustainable relationships with Indigenous Nations and groups in proximity to where Enbridge Gas conducts business. To achieve this, Enbridge Gas will govern itself by the following principles:
  - Enbridge Gas recognizes the legal and constitutional rights of Indigenous Peoples, and the importance of the relationships between Indigenous Peoples and their traditional lands and resources. They commit to working with Indigenous communities in a manner that recognizes and respects those legal and constitutional rights and the traditional lands and resources to which they apply. Enbridge Gas commits to ensuring that Enbridge Gas projects and operations are carried out in an environmentally responsible manner.
  - Enbridge Gas understands the importance of the United Nations Declaration of the Rights of Indigenous Peoples in the context of existing Canadian law and the commitments that the government has made to protecting the rights of Indigenous Peoples.

Indigenous People Policy

- Enbridge Gas engages in forthright and sincere consultation with Indigenous Peoples about their projects and operations through processes that seek to achieve early and meaningful engagement. Indigenous engagement helps define projects that may occur on lands traditionally occupied by Indigenous Peoples.
- Enbridge Gas commits to working with Indigenous Peoples to achieve benefits for them resulting from Enbridge Gas' projects and operations, including opportunities in training and education, employment, procurement, business development, and community development.
- Enbridge Gas fosters an understanding of the history and culture of Indigenous Peoples among their employees and contractors, in order to create better relationships between Enbridge Gas and Indigenous communities.
- The commitment is a shared responsibility involving Enbridge Gas and its affiliates, employees and contractors. They will conduct business in a manner that reflects the above principles. Enbridge Gas will provide ongoing leadership and resources to effectively implement the above principles, including the development of implementation strategies and specific action plans. Enbridge Gas commits to periodically review this policy so that it remains relevant and respects Indigenous culture and varied traditions.

Environment, Health and Safety Policy

Enbridge Gas' 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.
- Enbridge Gas' goal is to have no incidents and mitigate impacts on the environment by working with stakeholders, peers, and others to promote responsible environmental practices and continuous improvement.
- Enbridge Gas is committed to environmental protection and stewardship and we recognize 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.

AECOM's commitment

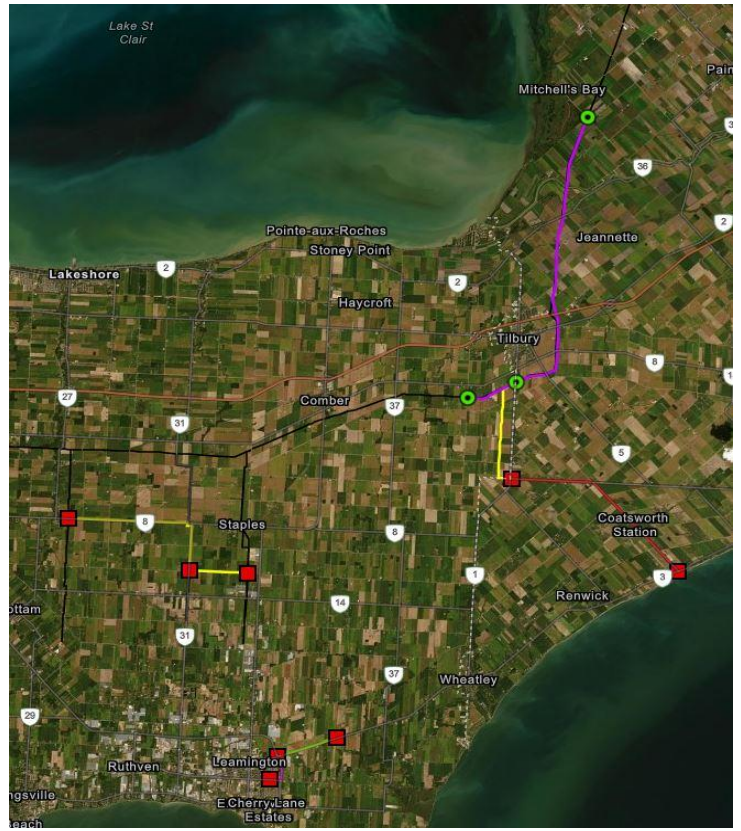
- "Safety for Life" defines AECOM's commitment to achieving zero work-related injuries and / or illnesses; preventing damage to property and the environment; and maintaining an environmentally friendly and sustainable workplace.
- AECOM has adopted "Life Preserving Principles" to help demonstrate the commitment of AECOM's Safety for Life program.

Integrated Resource Planning (IRP)

- As the energy landscape continues to evolve, there is a growing interest in low-carbon alternatives to meet energy needs.
- IRP is a framework through which Enbridge Gas reviews alternative approaches to meeting energy needs, before building new infrastructure such as:
  - Delivering more energy without adding new pipelines using liquefied or compressed natural gas.
  - Lowering energy use through effective energy efficiency programs.
  - Displacing conventional natural gas with carbon-neutral renewable natural gas and hydrogen.
- As Enbridge Gas continues to lead the transition to a low-carbon future, they are dedicated to exploring IRP alternatives where they are in the best interest of communities, the environment and the company, while considering safety and reliability, cost-effectiveness, optimization, risk management and public policy.

Proposed Transmission Pipelines

- **Panhandle Loop:** Approximately 19 km of new pipeline which loops – or parallels – the existing 20-inch Panhandle Pipeline. The new pipeline will be 36 inches in diameter and located adjacent to an existing pipeline corridor between Richardson Side Road in the Municipality of Lakeshore, and Enbridge Gas' existing Dover Transmission Station in the Municipality of Chatham-Kent.
- **Leamington Interconnect:** Approximately 12 km of new pipeline, 16 inches in diameter, adjacent to or within an existing road allowance on public or private property to connect the existing Leamington North Lines to both the Kingsville East Line and the Leamington North Reinforcement Line, located in the Municipality of Lakeshore, Town of Kingsville and Municipality of Leamington.



View the interactive mapping tool

Proposed Distribution Pipelines

- **Talbot Road Reinforcement:** Construction of a new distribution pipeline up to 8 inches in diameter travelling adjacent to or within an existing road allowance, on public or private property along Talbot Road East in the Municipality of Leamington. The pipeline will be approximately 3.2 km in length.
- **Oak Street and Essex Road 33 Reinforcement:** Construction of a new distribution pipeline up to 6 inches in diameter travelling adjacent to or within existing road allowances on public or private property along Oak Street East and County Road 33 in the Municipality of Leamington. The pipeline will be approximately 1.9 km in length.
- **Wheatley Lateral Reinforcement (formerly Wheatley Interconnect):** Construction of a new distribution pipeline up to 8 inches in diameter starting from Enbridge Gas' Wheatley Road station and travelling west then south in an easement on private property to Goodreau Line. The pipeline will then travel east to a new proposed station at the intersection of Wheatley Road and Goodreau Line (preferred route). From this location, the new distribution line will travel east along Goodreau Line before turning southeast on Coatsworth Road to Talbot Trail (preliminary preferred route). The pipeline will be approximately 16.1 km in length and all new pipelines on Goodreau Line and Coatsworth Road would either travel adjacent to or within existing road allowances on public or private property. The pipeline will be located in the Municipality of Lakeshore and Municipality of Chatham-Kent.

If approved by the Ontario Energy Board, construction of the proposed transmission and distribution pipelines is planned to begin as early as Spring 2023 and is proposed to be in service by Fall 2023.



View the interactive mapping tool

Environmental Report Process

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

The study will:

- Undertake consultation to understand the views of interested and potentially impacted parties.
- Consult with Indigenous communities to understand interests and potential impacts.
- Be conducted during the earliest phase of the Project.
- Present pipeline routing options and outline the evaluation process to select preferred pipeline routes.
- Identify potential impacts of the Project.
- Develop environmental mitigation and protective measures to avoid or minimize potential impacts.
- Develop an appropriate environmental inspection, monitoring and follow-up program.



Ontario Energy Board (OEB) Review and Approval Process

- An OEB Leave-to-Construct application and approval is required in order for the Project to proceed. The OEB is Ontario's independent regulator of the electricity and natural gas sectors who protect consumers and makes decisions that serve the public interest.
- The application to the OEB will include information on the Project including:
  - The need for the Project;
  - Environmental Report and mitigation measures;
  - Facility alternatives;
  - Project costs and economics;
  - Pipeline design and construction;
  - Land requirements; and
  - Consultation with Indigenous communities.



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

Additional information about the OEB process can be found at: www.oeb.ca

Preferred Route Selection Process

The preferred routes will be selected and confirmed through a five-step process.

Step 1:

Develop Routing Parameters

- Establish a study area.
- Establish routing objectives. For example:
  - Follow a reasonably direct path between start and end points.
  - Avoid sensitive environmental and socio-economic features, where possible.
  - Parallel (loop) existing linear infrastructure.
  - Follow existing lot and property lines.
- Create an inventory of environmental and socio-economic features.

Step 2:

Identify Alternative Routes in the Study Area

- Identify reasonable and feasible routes within the study area in consideration of the routing objectives and environmental and socio-economic opportunities and constraints.

Preferred Route Selection Process

The preferred routes will be selected and confirmed through a five-step process.

Step 3: Route Evaluation

- An evaluation of the Alternative Routes has been conducted to select the preliminary preferred routes. The evaluation was based on:
  - Field visits and route reviews with environmental, engineering and construction staff;
  - Review of publicly available information about natural heritage features, slope, topography, and socio-economic features and landscapes;
  - A GIS based quantitative evaluation of potential impacts to environmental and socio-economic features; and
  - Early input from municipalities.

Step 4: Seek Input on Preferred and Preliminary Preferred Routes

- Gather feedback on the preferred and preliminary preferred routes.
- Make updates / modifications, as needed.

We are here

Step 5: Confirmation of Routes and Completion of Environmental Report

- The pipeline routes will be confirmed and analyzed in the Environmental Report, which will consider feedback received at this virtual information session. The location of the preferred pipeline routes may be refined as the Project moves forward based on pre-construction field investigations, landowner requests, and / or engineering and construction considerations.

Transmission Pipeline Route Evaluation

Methodology

During virtual information session #1, a Preliminary Preferred Route for the Panhandle Loop and a Preliminary Preferred and two alternative routes were presented for the Leamington Interconnect. These routes have since been confirmed as Preferred Routes. These routes were selected as preferred using quantitative and qualitative methods.

Quantitative

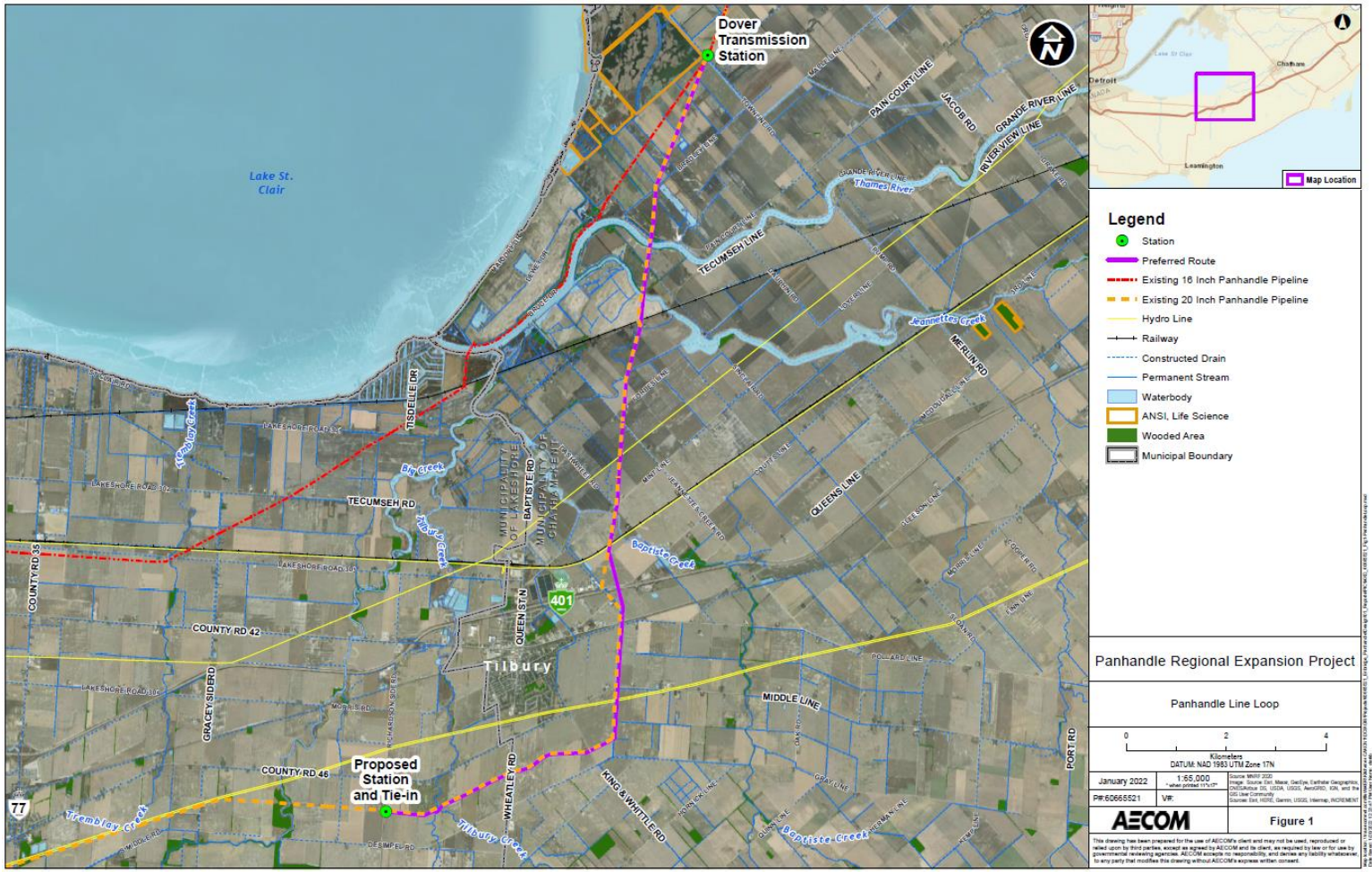
A Geographic Information System (GIS), a computer-base mapping system, was used to determine the impacts of the preliminary preferred and alternative routes on a number of different categories, including: agricultural, aquatics, route characteristics, socio-economic, terrestrial features and groundwater resources.

Qualitative

A review of the comments received to date from the interested and potentially affected parties, and the experience of the Project Team in routing linear infrastructure.

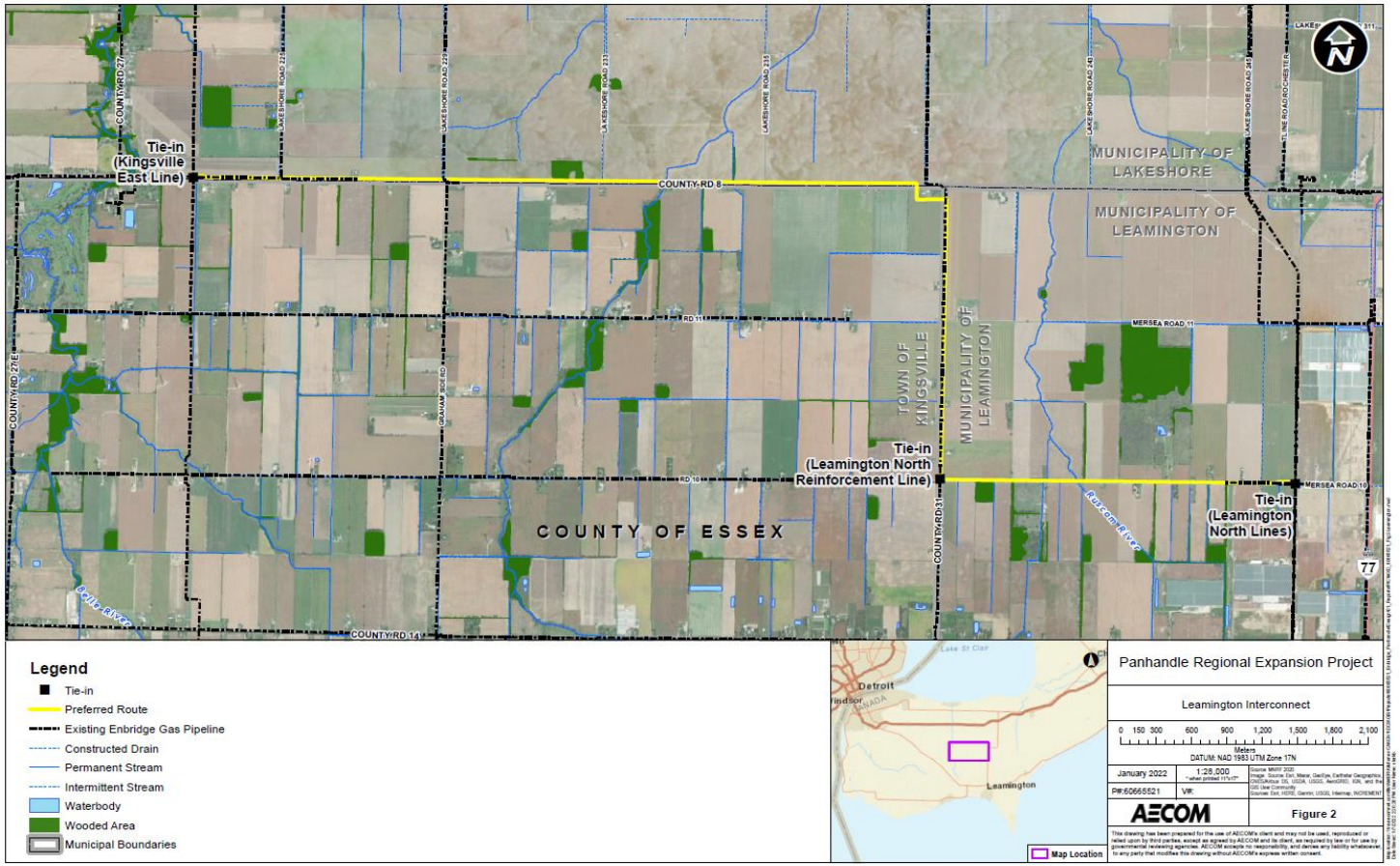
Preferred Route: Panhandle Loop

- New natural gas pipeline 36 inches in diameter and 19 km in length.
- Route will loop – or parallel – the existing 20-inch Panhandle Pipeline located between Richardson Side Road and Enbridge Gas' Dover Transmission Station.
- Key considerations for selecting the preferred route:
  - The route parallels an existing pipeline right-of-way (RoW).
  - It leverages an existing Enbridge Gas RoW, allowing for overlapping easements and reducing disturbance to new properties and farms.
  - A technically viable route avoids introduction of new environmental and social impacts to habitats and properties in the area.
  - Installation of the existing pipeline occurred with no long-term impacts to the environment.



Preferred Route: Leamington Interconnect

- New natural gas pipeline 16 inches in diameter and 12 km in length connecting the existing Leamington North Lines to both the Kingsville East Line and the Leamington North Reinforcement Line.
- Located adjacent to or within an existing road allowance on public or private property.
- Key considerations for selecting the preferred route:
  - The route parallels existing road allowances and utilities.
  - The route offers the most room for construction and staging due to the slope / topography of the area being flat and there are no deep ditches impacting construction.
  - It has the least direct impacts to homes, utilities, traffic and local access.



Transmission Pipeline Route Evaluation

Features	Leamington Preliminary Preferred Route	Leamington Alternative Route 1	Leamington Alternative Route 2
Potential Impacts to Agricultural Features			
Prime Agricultural Land (ha)	120	109	95
Tile Drainage (ha)	84	78	69
Potential Impacts to Aquatic Features			
Conservation Authority Regulated Lands (ha)	54	39	31
Watercourse / Drain Crossings	9	9	10
Watercourses with Identified SAR	0	0	0
Route Characteristics			
Length (m)	11,982	10,748	9,407
Slope (m)	<5	<5	<5
Potential Impacts to Socio-Economic Features			
Archaeological Sites (within 1 km of the route)	0	0	1
Homes (#)	7	23	17
Petroleum Wells (# within 250 m)	0	0	0
Socio-economic Features (schools, churches, community centres (# within 1 km))	1 recreational centre, 1 cemetery, 1 golf course	1 recreational centre and 1 golf course	0

Transmission Pipeline Route Evaluation Continued

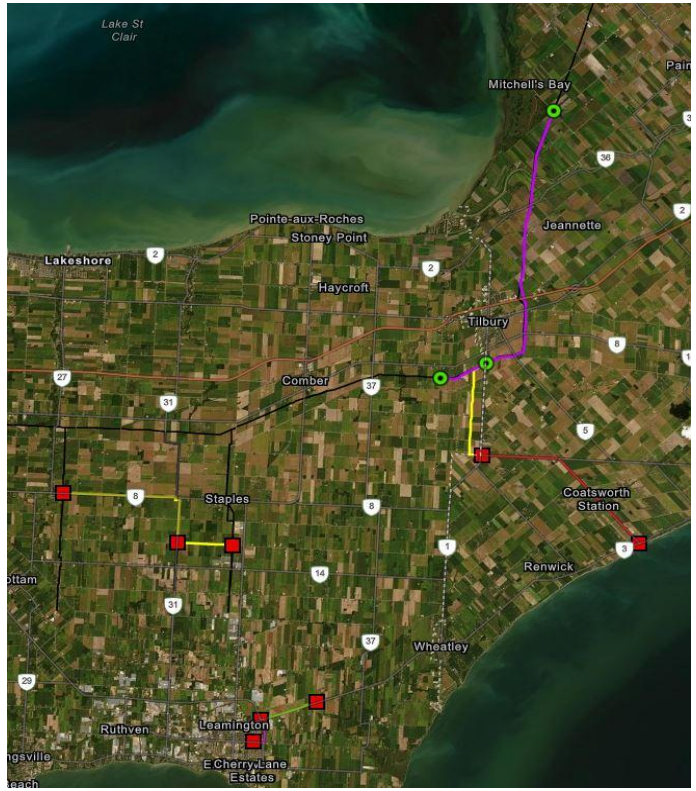
Features	Leamington Preliminary Preferred Route	Leamington Alternative Route 1	Leamington Alternative Route 2
Potential Impacts to Terrestrial Features			
ANSI (ha)	0	0	0
Wooded Areas (ha)	2	2	1
Wetlands (Provincially / Locally Significant)	0	0	0
Potential Impacts to Groundwater Resources			
Water Wells (within 100 m)	19	20	15
Overall Route Evaluation	***Preferred***	***Moderately Preferred***	***Least Preferred***
	• Although this route has the potential to impact the most agricultural and natural environmental features, it reduces disturbance to homes (impacts 7) and farm operations in the area by running parallel to existing road allowances and utilities. • Most room within road allowance to allow for feasibility of construction and staging. ○ Slope / topography is flat and there are no deep ditches impacting construction. • Less watercourse / drain crossings than Leamington Alternative Route 2. • Less water wells than Leamington Alternative Route 1. • Route does not impact any known archaeological sites.	• Less watercourse / drain crossings and known archaeological sites than Leamington Alternative Route 2. • Current road allowance is narrow and does not have adequate room for construction. • Potential impacts to homes (23) and farm operations. • Impacts more agricultural and natural environment features than Leamington Alternative Route 2.	• Although this alternative impacts the most watercourses / drain crossings, it is the shortest route and crosses less wooded areas, prime agricultural land, tile drainage, and conservation authority regulated land. • Current road allowance is very narrow with steep slopes on either side and existing utilities make feasibility of construction a challenge. • Potential impacts to homes (17) and farm operations.

Proposed Distribution Pipelines

As noted at the first virtual information session, Enbridge Gas is proposing to construct distribution pipelines to connect new large-volume customers to the Panhandle Transmission System. Distribution pipelines are being proposed at several locations based on customer needs.

It should be noted that portions of the Wheatley Interconnect that were presented at virtual information session #1 now form part of the distribution pipelines being proposed and has since been confirmed as a preferred route.

The evaluation of these routes will include feedback gathered from this virtual information session and will be included in the Environmental Report, which can be reviewed and commented on during the Ontario Energy Board's approval process.

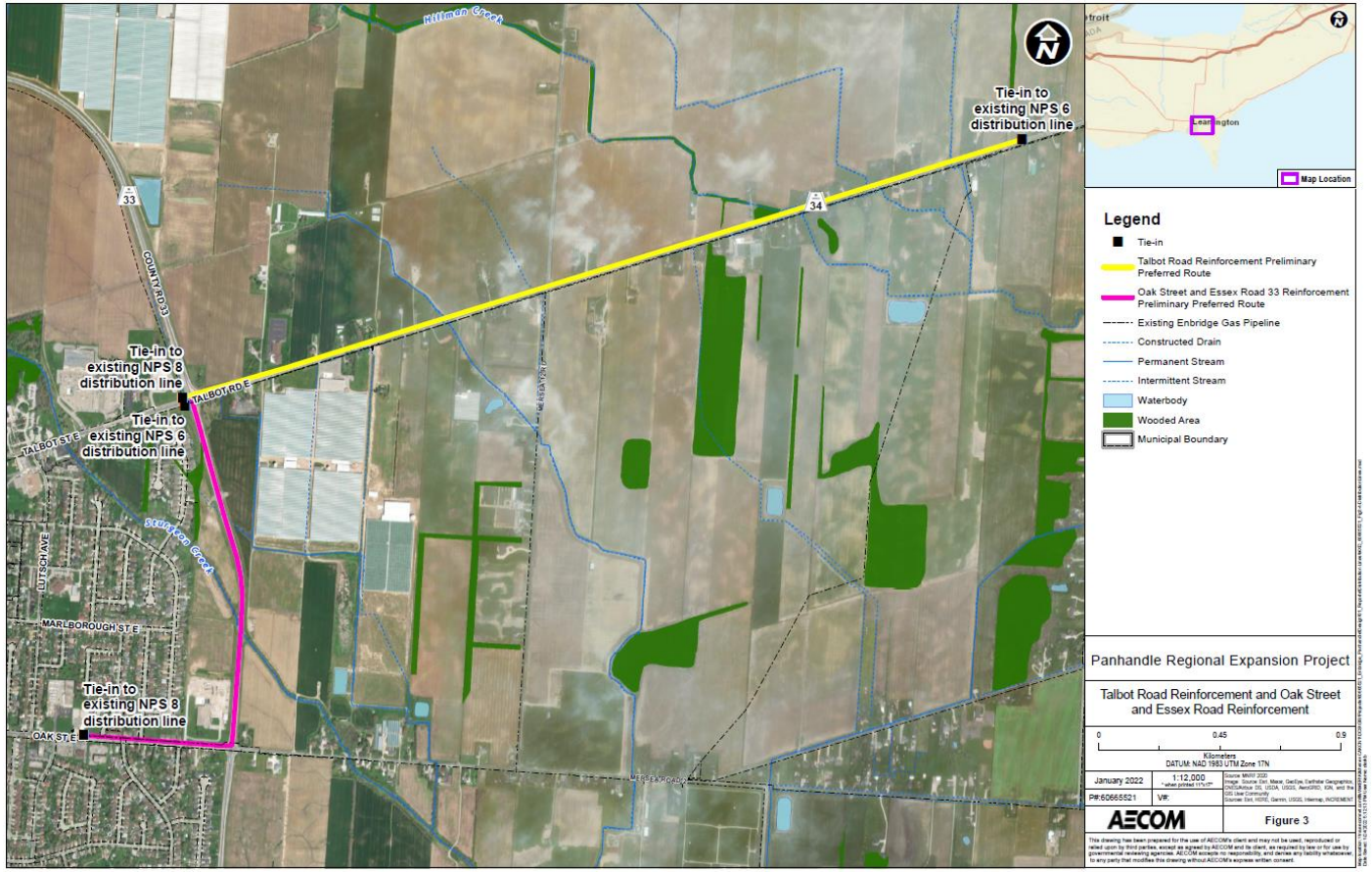


View the interactive mapping tool

Talbot Road and Oak Street and Essex Road 33 Reinforcements

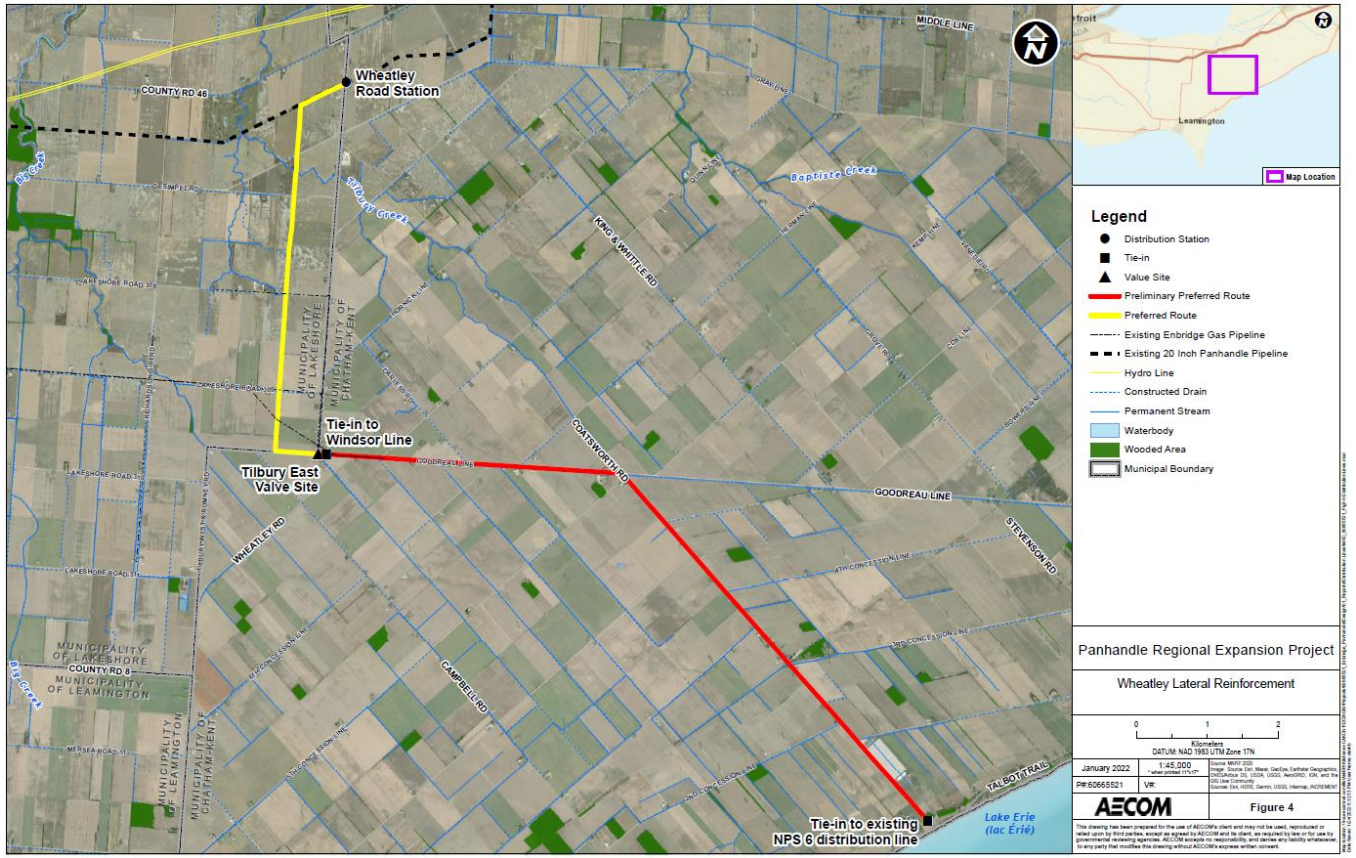
- **Talbot Road Reinforcement**: New distribution pipeline up to 8 inches in diameter and 3.2 km in length.
- Located adjacent to or within an existing road allowance on public or private property.
- **Oak Street and Essex Road 33 Reinforcement**: New distribution pipeline up to 6 inches in diameter and 1.9 km in length.
- Located adjacent to or within existing road allowances on public or private property.

The routes have been selected as they are the most direct routes using road allowances.



Wheatley Lateral Reinforcement

- New pipeline up to 8 inches in diameter and 16.1 km in length.
- Preferred Route (yellow line, 6 km in length)
  - Presented as Wheatley Interconnect in virtual information session #1.
  - Located in an easement on private property that is parallel to Wheatley Road.
  - Key considerations for selecting the preferred route:
    - Upon consultation with the municipalities, Wheatley Road cannot accommodate a pipeline due to existing utilities.
    - Route avoids the need for lane closures and traffic disruption on Wheatley Road, a main artery into the Town of Wheatley.
- Preliminary Preferred Route (red line, 10.1 km in length)
  - Located adjacent to or within existing road allowances on public or private property.
  - The route has been selected as it is the most direct route using road allowances.



Agricultural Soils and Maintaining Agricultural Drainage Systems

- The Project will be constructed, in part, on agricultural land within the Project study area.

Potential Effects

- Damaged and severed tile drains.
- Subsoil mixing, compaction, and rutting.
- Loss of organic matter / degraded soil structure.
- Decreased soil quality / agricultural capability.
- Erosion.
- Temporary drainage issues.
- Spread of soil pests / diseases.



Example Mitigation Measures

- 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.
- Landowners will be contacted prior to construction to confirm the location and type of existing drains. Any future drainage plans will also be discussed.
- Field tile will be temporarily re-routed during pre-construction activities where required to ensure proper drainage during construction.
- Construction activities will be temporarily halted on agricultural lands where excessively wet soil conditions are encountered.
- 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.
- A post-construction cover crop program will be available to landowners.

Socio-Economic Considerations

- The Project will be constructed parallel to existing road allowances on private property, agricultural land, land regulated by Hydro One, Lower Thames Valley Conservation Authority and Essex Region Conservation Authority.

Potential Effects

- Temporary increases in noise, dust and air emissions.
- Increased construction traffic volumes.
- Temporary impairment of use and enjoyment of property.
- Vegetation clearing along the pipeline easement.



Example Mitigation Measures

- Access to residences, businesses and farm fields will be maintained during construction.
- Construction will be restricted to daylight hours and adhere to applicable noise by-laws.
- A Traffic Control Plan will be developed if potential disruption to traffic could occur.
- Fencing will be placed at appropriate locations to limit access to the work area.
- A water well monitoring program will be developed.
- Measures will be implemented to control dust during construction.
- Areas cleared for construction will be re-vegetated.
- A designated Enbridge Gas representative will be available prior to and throughout construction.

Aquatic Resource Considerations

- Enbridge Gas understands the importance of protecting wildlife during construction and therefore will implement recognized mitigation measures to minimize possible environmental effects.

Potential Effects

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

Example Mitigation Measures

- Conduct surveys for waterbodies to assess potential impacts to aquatic species / habitat.
- Obtain all agency permits and approvals, including development of environmental mitigation measures for site specific habitat / species.
- Limit in-channel construction, where possible, and conform to fish timing window guidelines.
- If in-channel construction is required, protect aquatic species and manage sedimentation and turbidity.
- Restore and seed areas to establish habitat and reduce erosion.
- Replant vegetation along waterways as soon as possible following construction.



Terrestrial Resource Considerations

- During the course of construction, natural heritage features such as wildlife habitat and vegetated / wooded areas will need to be crossed.

Potential Effects

- Damage or removal of vegetation and wildlife habitat adjacent to 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. If present, develop species / habitat specific environmental mitigation measures.
- Secure any necessary permits and follow any conditions of approval.
- Clearly mark the construction area to avoid accidental damage.
- Restore and seed areas to establish habitat and reduce erosion.

Cultural Heritage and Archaeology Considerations

- During the course of construction, cultural heritage and archaeology features such as archaeological finds, buildings, fences and landscapes may be encountered. Detailed field surveys will be conducted by independent, third-party archaeologists and cultural heritage professionals.

Potential Effects

- Damage or destruction of archaeological, paleontological or historical resources.



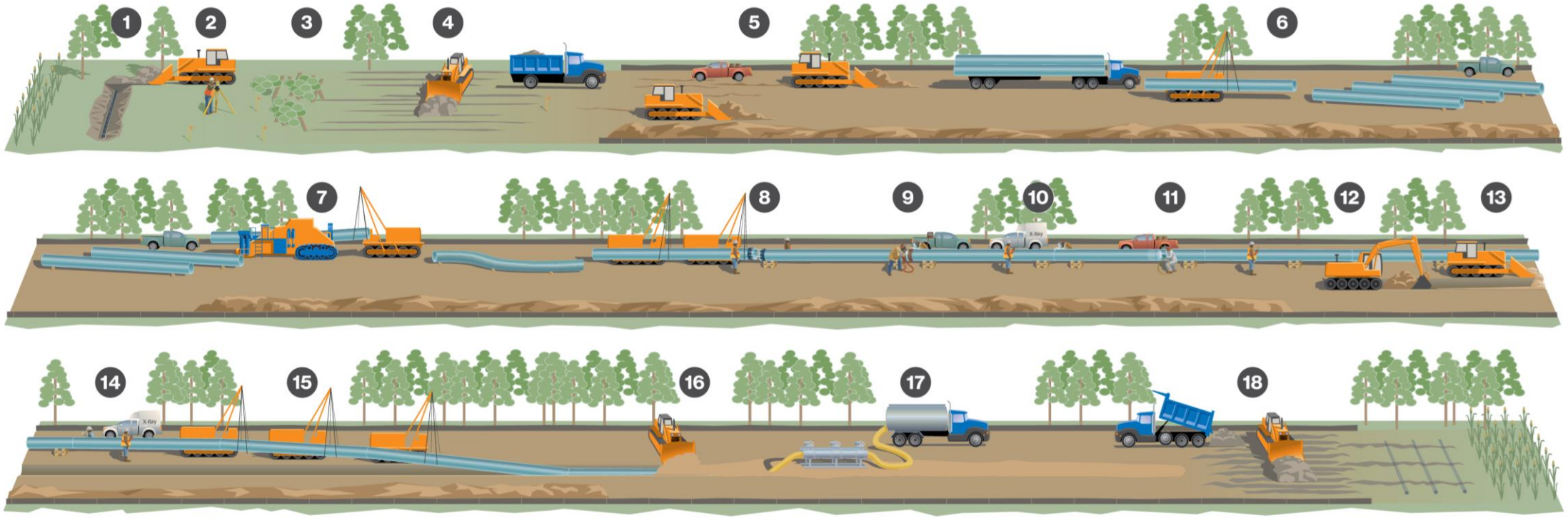
Example Mitigation Measures

- Complete archaeological assessments of the construction right-of-way, with review and comment from the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI).
- Complete cultural heritage assessments (for built heritage features and cultural heritage landscapes) of the construction right-of-way, with review and comment from MHSTCI.
- Report any previously unknown archaeological, paleontological or historical resources uncovered, or suspected of being uncovered, during excavation.

Access and Land Requirements

- Once a preferred route is selected, an Enbridge Gas Land Agent will begin discussions with landowners for the appropriate land rights necessary for the construction of the pipeline.
- Enbridge Gas is committed to working with all directly affected landowners in anticipation of acquiring early access agreements, where necessary, in order to gather essential information, including but not limited to, land survey data, environmental, archaeological and property site features, along with negotiating the necessary land rights.
- These land rights will consist of permanent easements and / or temporary land rights. The temporary land rights are only required during Project construction activities.
- Enbridge Gas will have a Land Agent available to each landowner during all pipeline construction activities.
- The Land Agent will keep all landowners informed of the progress of the Project and assist with any concerns that may arise as a result of the construction activities.

General Construction Overview



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

General Construction Overview

Site preparation (1-5)
- Survey and staking crews will delineate project boundaries and install safety fencing, where required.
- The construction team will clear brush and other vegetation to permit construction.
- A grading crew prepares the construction area for access by construction equipment.

Installing the new pipeline (6-16)
- Once area has been prepped, a hydraulic hoe will excavate the trench, which will then be prepared for the installation of the new pipeline.
- The stringing crew lays pipe on wooden skids or boxes adjacent to trench area.
- The pipe is prepped, welded into continuous lengths and inspected before the pipeline is lowered into the trench. Crews also install pipes under obstacles such as roads or watercourses by directional drilling.

Finishing construction (17-18):
- The pipeline is tested hydrostatically with water from a suitable local source and is disposed of appropriately. Upon completion, the pipeline is dried, purged of air and prepared for delivery of the product.
- The construction crew backfills the originally excavated subsoil over the pipe in the trench. Any surplus backfill material will be removed from the construction area.
- A clean-up crew is responsible for the restoration of the land. In natural areas, restoration includes re-seeding and removing erosion and sediment controls. In developed areas the clean-up crew undertakes landscaping plans developed for site restoration.

Next Steps

Enbridge Gas will evaluate the feedback received from the virtual information session, make updates as required and finalize the pipeline route evaluation. The final evaluation will be included in the Environmental Report (ER), which will be completed in early 2022. You will have the opportunity to review and provide feedback on the ER by signing up to receive future Project information.

Project Schedule

2021

- Start the environmental planning process.
- Evaluate potential pipeline routes.
- Virtual information session #1.

2022

- Virtual information session #2.
- Complete ER.
- Complete Ontario Energy Board application and obtain approval.
- Finish permitting, pipeline design and construction planning.

We are here

2023+

- Construction.
- Pipeline in service.
- Site cleanup and restoration and post-construction monitoring.

Thank you!

Thank you for participating in virtual information session #2. If you have feedback or comments, please complete the comment form by February 28, 2022.

Mark Van der Word
Senior Environmental Planner
AECOM
45 Goderich Road, Suite 201
Hamilton, ON L8E 4W8
Tel: (289) 439-9803
email: panhandle@virtualengagement.ca



For more information about the proposed Project, please visit our Project website at:
www.virtualengagement.ca/panhandle

Enbridge Gas Panhandle Regional Expansion Project

VIRTUAL INFORMATION SESSION #2 COMMENT FORM

We want to hear from you! We encourage you to review the virtual information session material at www.virtualengagement.ca/panhandle and fill out this comment form by February 28, 2022 to provide comments, feedback, and questions about the Project. Your input is welcomed and appreciated. This comment form will take approximately 5-10 minutes to complete.

Should you need to submit the comment form by a mode other than email, please contact the Project Team at panhandle@virtualengagement.ca or call 519-897-3107 and we will be happy to help you provide your input by another means.

CONTACT INFORMATION AND GENERAL QUESTIONS

If you would like to be added to the Project's mailing list and receive project updates, please provide your contact information.

1. Name: _____
2. Email: _____
3. Phone number: _____
4. Mailing Address:

   _____

   _____

5. How would you like to receive future updates about the Project (Please choose one answer)?

☐	By Email
☐	By regular mail (i.e., Canada Post)
☐	I do not want to receive future updates about the Project

6. When did you visit the virtual information session #2 website? _____
   m/d/yyyy

7. How did you hear about the Panhandle Regional Expansion Project? (Select all that apply):

☐	Notice in the newspaper
☐	Received a notice in the mail
☐	From a friend or neighbour
☐	Twitter
☐	Facebook
☐	Other: _____

8. Do you own property, live, or work beside any of the routes below? (Please select all that apply):

- ☐ Panhandle Loop Preferred Route
- ☐ Leamington Interconnect Preferred Route
- ☐ Talbot Road Reinforcement Preliminary Preferred Route
- ☐ Oak Street and Essex Road 33 Reinforcement Preliminary Preferred Route
- ☐ Wheatley Lateral Reinforcement Preferred Route
- ☐ Wheatley Lateral Reinforcement Preliminary Preferred Route

9. Please explain your interest in the Project:

_____

_____

_____

_____

_____

_____

10. Which group represents you the most? (Please choose one answer):

- ☐ I am a member of or represent an Indigenous community
- ☐ I am a landowner or resident in the study area
- ☐ I am a member of a community interest group
- ☐ I am a government official
- ☐ I work for a public agency or organization
- ☐ Other: _____

COMMENTS AND INPUT ABOUT THE PROJECT

11. Do you agree with the route evaluation of the transmission pipelines (Panhandle Loop and Leamington Preliminary Preferred Route as preferred, followed by Leamington Alternative Route 1 as moderately preferred and Leamington Alternative Route 2 as least preferred)?

- ☐ Yes
- ☐ No
- ☐ No opinion (go to question 13)

12. Please provide your comments on the route evaluation of the transmission pipelines. Please indicate which route you are commenting on.

13. Do you agree with the selection of the proposed preferred / preliminary preferred routes for the distribution pipelines (Talbot Road Reinforcement, Oak Street and Essex Road 33 Reinforcement, and Wheatley Lateral Reinforcement)?

- ☐ Yes
- ☐ No
- ☐ No opinion (go to question 15)

14. Please provide your comments on the proposed preferred / preliminary preferred routes for the distribution pipelines. Please indicate which route you are commenting on.

15. Are there any environmental, socio-economic, or cultural heritage features along the routes that you would like to identify? Please indicate which route you are commenting on.

16. Are there any potential effects (e.g., to you, your property, business or otherwise) and any mitigation measures that Enbridge Gas should consider and address prior to the construction of the Project? Please indicate which route you are commenting on.

17. Please provide any additional comments, feedback, questions, or concerns that you may have about the Project. If applicable, please indicate which route you are commenting on.

FEEDBACK ON VIRTUAL INFORMATION SESSION #2

18. Was sufficient information about the Project provided during the virtual information session?

- ☐ Yes (Go to question 20)
- ☐ No

19. If you answered "No" to question 18, what additional Project information would you have liked to have seen?

20. Please provide any comments you have on the virtual information session (e.g., format, content, delivery).

21. Did you receive sufficient information about the Ontario Energy Board and the environmental study processes?

- ☐ Yes
- ☐ No
- ☐ Partly

22. If you responded, “No” or “Partly”, please indicate what additional information you would like about the processes.

THANK YOU FOR PARTICIPATING IN VIRTUAL INFORMATION SESSION #2!

If you require further information about the Project, please contact us by email at panhandle@virtualengagement.ca or call our phone number (519-897-3107) and leave a detailed message.

Please visit the project website at: www.virtualengagement.ca/panhandle for more information about the Project.

All comments and questions submitted for this project will be collected and considered in the development of an Environmental Report that will be part of the public record and will be made available to individuals or organizations with an interest in this project. Under the Freedom of Information and Protection Privacy Act, personal information such as name and address will not be included in the Environmental Report but may be released, if requested in accordance with the Act, to any person as part of the review of the Environmental Report.

Dover Transmission Station

Proposed Station and Tie-in

Lake St. Clair

Tilbury

Thames River

Jeannettes Creek

Tremblay Creek

Big Creek

Tilbury Creek

Baptiste Creek

MAPLE LINE
TOWN LINE RD
PAIN COURT LINE
JACOB RD
GRANDE RIVER LINE
RIVER VIEW LINE
BRADLEY LINE
DRAKE RD
MARJORY DR
DEWEY DR
BRUGE DR
TECUMSEH LINE
DAUPHIN RD
PUMP RD
LOYER LINE
3RD LINE
MERLIN RD
ST CLAIR RD
TISDELLE DR
FORBES LINE
SINCLAIR RD
McDOUGALL LINE
LAKESHORE ROAD 301
LAKESHORE ROAD 302
LAKESHORE ROAD 303
LAKESHORE ROAD 305
TECUMSEH RD
MUNICIPALITY OF LAKESHORE
MUNICIPALITY OF CHATHAM-KENT
BAPTISTE RD
DASHWHEEL RD
MINT LINE
JEANNETTES CREEK RD
COUTTS LINE
QUEENS LINE
GLEESON LINE
MORRIS LINE
COOPER RD
FINN LINE
SLOAN RD
POLLARD LINE
COUNTY RD 35
COUNTY RD 42
COUNTY RD 46
QUEEN ST N
401
GRACEY SIDERD
RICHARDSON SIDERD
MORRIS RD
MIDDLE LINE
OAK RD
PORT RD
WHEATLEY RD
KING & WHITTLE RD
HORNICK LINE
GRAY LINE
QUINN LINE
HERMAN LINE
KEMP LINE
S MIDDLE RD
DESIMPEL RD
77

Lake St Clair
Detroit
Chatham
Leamington
Map Location

Legend

- Station
- Preferred Route
- Existing 16 Inch Panhandle Pipeline
- Existing 20 Inch Panhandle Pipeline
- Hydro Line
- Railway
- Constructed Drain
- Permanent Stream
- Waterbody
- ANSI, Life Science
- Wooded Area
- Municipal Boundary

Panhandle Regional Expansion Project

Panhandle Line Loop

0 2 4
Kilometers
DATUM: NAD 1983 UTM Zone 17N

January 2022	1:65,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
P#:60665521	V#:	

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Figure 1

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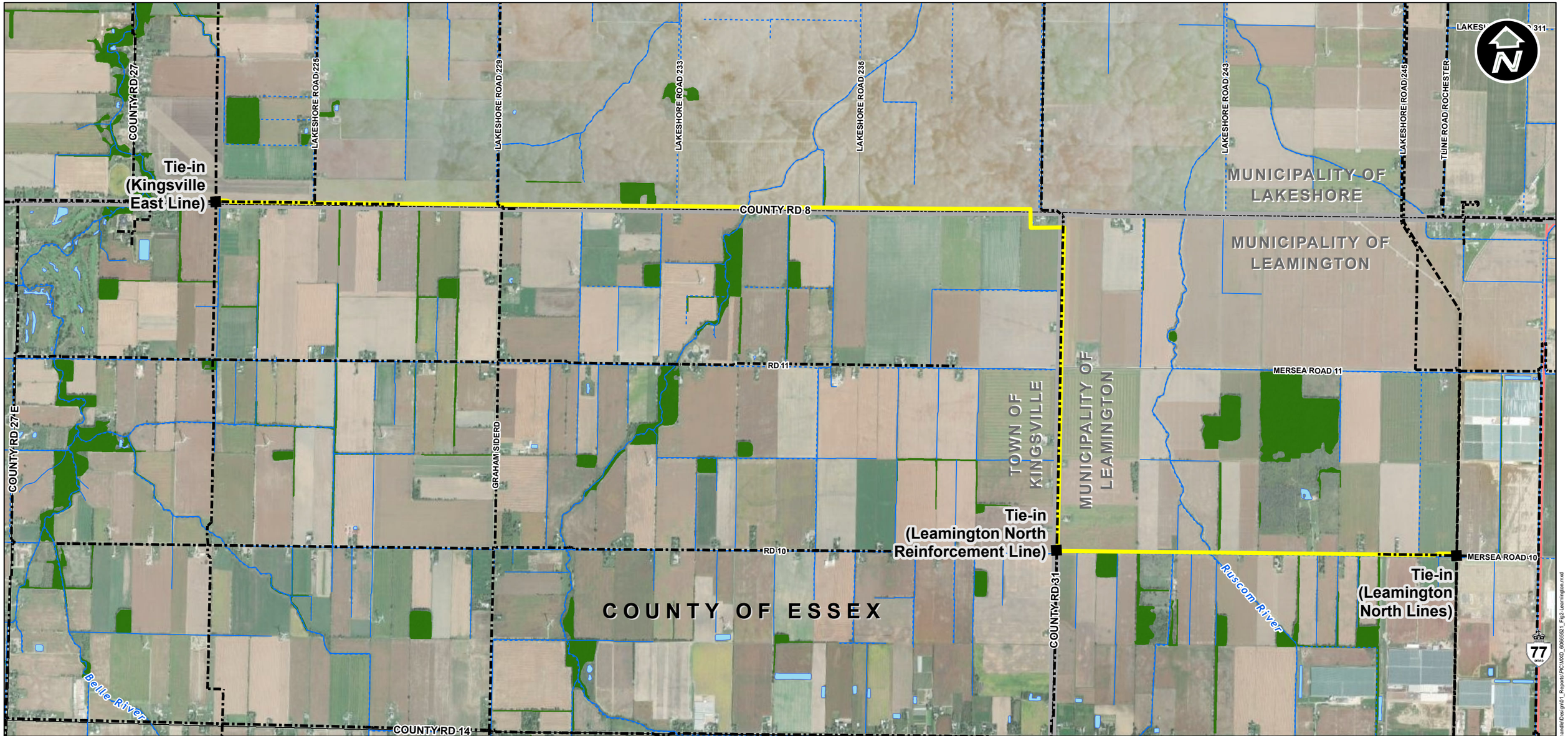
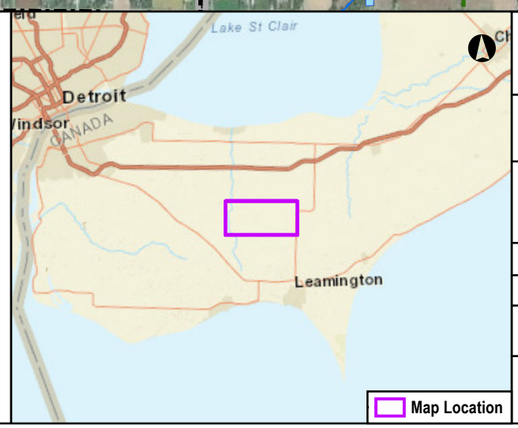
Map location: \\na.aecomnet.com\kit\AMER\Kitchener-CA\KCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\01_Reports\PC\MXD_60665521_Fig1-PanhandleLoop.mxd
Date Saved: 1/20/2022 12:23:47 PM User Name: clarkb



Legend

- Tie-in
- Preferred Route
- Existing Enbridge Gas Pipeline
- Constructed Drain
- Permanent Stream
- Intermittent Stream
- Waterbody
- Wooded Area
- Municipal Boundaries



Panhandle Regional Expansion Project

Leamington Interconnect

0 150 300 600 900 1,200 1,500 1,800 2,100
Meters
DATUM: NAD 1983 UTM Zone 17N

January 2022	1:28,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
P#:60665521	V#:	

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Figure 2

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Map location: \\ca.aecomnet.com\fs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60666521_Enbridge_Panhandle\Design\01_Reports\PIC\MXD_60665521_Fig2-Leamington.mxd
Date Saved: 1/7/2022 2:20:25 PM User Name: clarkb

Hillman Creek

Tie-in to existing NPS 6 distribution line

33

34

COUNTY RD 33

TALBOT RD E

MERSEA 12 RD

Tie-in to existing NPS 8 distribution line

Tie-in to existing NPS 6 distribution line

TALBOT ST E

Sturgeon Creek

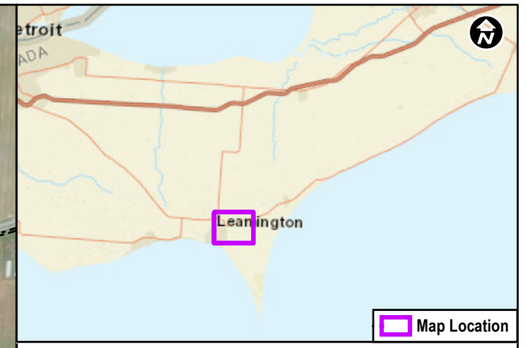
LUTSCH AVE

MARLBOROUGH ST E

Tie-in to existing NPS 8 distribution line

OAK ST E

MERSEA ROAD 2



Legend

- Tie-in
- Talbot Road Reinforcement Preliminary Preferred Route
- Oak Street and Essex Road 33 Reinforcement Preliminary Preferred Route
- Existing Enbridge Gas Pipeline
- Constructed Drain
- Permanent Stream
- Intermittent Stream
- Waterbody
- Wooded Area
- Municipal Boundary

Panhandle Regional Expansion Project

Talbot Road Reinforcement and Oak Street and Essex Road Reinforcement

0 0.45 0.9

Kilometers
DATUM: NAD 1983 UTM Zone 17N

January 2022	1:12,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
P#:60665521	V#:	

AECOM

Figure 3

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Map location: \\na.aecomnet.com\fs\AMER\Kitchener-CA\CN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\01_Reports\Distribution Lines\MXD_60665521_Fig3-4-DistributionLines.mxd
Date Saved: 1/24/2022 5:12:13 PM User Name: clarkb

Wheatley Road Station

Tie-in to Windsor Line

Tilbury East Valve Site

Tie-in to existing NPS 6 distribution line

COUNTY RD 46

DESIMPEL RD

LAKESHORE ROAD 308

LAKESHORE ROAD 309

LAKESHORE ROAD 310

LAKESHORE ROAD 311

COUNTY RD 8

MERSEA ROAD 11

MIDDLE LINE

GRAY LINE

QUINN LINE

HERMAN LINE

KEMP LINE

VANEDIE RD

HORNICK LINE

CARLESS RD

GROVE RD

COX LINE

BOWERS LINE

KING & WHITTLE RD

COATSWORTH RD

GOODREAU LINE

WHEATLEY RD

TILBURY WEST-ROMNEY RD

R16HARDSON SIDERD

STEVENSON RD

4TH CONCESSION LINE

3RD CONCESSION LINE

2ND CONCESSION LINE

6TH CONCESSION LINE

5TH CONCESSION LINE

CAMPBELL RD

TALBOT TRAIL

MUNICIPALITY OF LAKESHORE

MUNICIPALITY OF CHATHAM-KENT

MUNICIPALITY OF LEAMINGTON

Big Creek

Tilbury Creek

Baptiste Creek

Lake Erie (lac Érié)

Leamington

Map Location

Legend

- Distribution Station
- Tie-in
- Value Site
- Preliminary Preferred Route
- Preferred Route
- Existing Enbridge Gas Pipeline
- Existing 20 Inch Panhandle Pipeline
- Hydro Line
- Constructed Drain
- Permanent Stream
- Waterbody
- Wooded Area
- Municipal Boundary

Panhandle Regional Expansion Project

Wheatley Lateral Reinforcement

0 1 2

Kilometers

DATUM: NAD 1983 UTM Zone 17N

January 2022	1:45,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
P#:60665521	V#:	

AECOM

Figure 4

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Map location: \\na.aecomnet.com\fs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\01_Reports\Distribution Lines\MXD_60665521_Fig3-4-DistributionLines.mxd
Date Saved: 1/24/2022 5:12:13 PM User Name: clarkb

Appendix B5

Completed Comment Forms

Virtual Information Session #1

Respondent

3 Anonymous

05:06
Time to complete

Contact Information and General Questions

1. Name

[redacted]

2. Email

[redacted]@hotmail.com

3. Mailing Address

[redacted]

4. How would you like to receive future updates about the Project (Please choose one answer)?

- (●) By email
- ( ) By regular mail (i.e., Canada Post)
- ( ) I do not want to receive future updates about the Project

5. When did you visit the Virtual Information Session website?

11/23/2021

6. How did you hear about the Panhandle Regional Expansion Project? (Select all that apply):

- ○ Notice in the newspaper
- ◉ Received a notice in the mail
- ○ From a friend or neighbour
- ○ Twitter
- ○ Facebook
- ○ Radio advertisement
- ○ Other

7. Do you own property, live, or work beside? (Please select all that apply):

- ☑ Panhandle Loop (preliminary preferred route)
- ☐ Leamington Preliminary Preferred Route
- ☐ Leamington Alternative Route 1
- ☐ Leamington Alternative Route 2
- ☐ Wheatley Preliminary Preferred Route
- ☐ Wheatley Alternative Route 1

8. Please explain your interest in the Project

Land owner

9. Which group represents you the most? (Please choose one answer):

- ○ I am a member of an Indigenous community
- ◉ I am a landowner or resident in the study area
- ○ I am a member of a community interest group
- ○ I am a government official
- ○ Other

Comments and Input About the Project

10. Do you agree with the preliminary preferred routes for the Project?

- ◉ Yes
- ○ No

11. Why do you agree or disagree with the preliminary preferred routes?

12. Are there any environmental, socio-economic, or cultural heritage features along the route alternatives that you would like to identify? Please indicate which route alternative you are commenting on.

13. Are there any potential effects (e.g., to you, your property, business or otherwise) and any mitigation measures that Enbridge Gas should consider and address prior to the construction of the Project? Please indicate which route alternative you are commenting on.

14. Please provide any additional comments, feedback, questions, or concerns that you may have about the Project. If applicable, please indicate which route alternative you are commenting on.

Feedback on the Virtual Information Session

15. Was sufficient information about the Project provided during the Virtual Information Session?

- ○ Yes
- ◉ No

16. If you answered no to question 15 above, what additional Project information would you have liked to have seen?

Width of construction site

17. Please provide any comments you have on the Virtual Information Session (for example: format, content, delivery).

18. Did you receive sufficient information about the Ontario Energy Board and the environmental study processes?

- ◉ Yes
- ○ No
- ○ Partially

19. If you responded, "No" or "Partly" to question 18 above, please indicate what additional information you would like about the processes.

Thank You for Participating in the Virtual Information Session

If you require further information about the Project, please contact us by email at panhandle@virtualengagement.ca (mailto:panhandle@virtualengagement.ca) or call our phone number (519-897-3107) and leave a detailed message.

Please visit the Project website at: www.virtualengagement.ca/panhandle (http://www.virtualengagement.ca/panhandle) for more information about the Project.

All comments and questions submitted for this Project will be collected and considered in the development of an Environmental Report that will be part of the public record and will be made available to individuals or organizations with an interest in this Project. Under the Freedom of Information and Protection Privacy Act, personal information such as name and address will not be included in the Environmental Report but may be released, if requested in accordance with the Act, to any person as part of the review of the Environmental Report.

Respondent

4 Anonymous

39:12
Time to complete

Contact Information and General Questions

1. Name

[redacted]

2. Email

[redacted]@mnsi.net

3. Mailing Address

[redacted]

4. How would you like to receive future updates about the Project (Please choose one answer)?

- (●) By email
- ( ) By regular mail (i.e., Canada Post)
- ( ) I do not want to receive future updates about the Project

5. When did you visit the Virtual Information Session website?

11/20/2021

6. How did you hear about the Panhandle Regional Expansion Project? (Select all that apply):

- ○ Notice in the newspaper
- ◉ Received a notice in the mail
- ○ From a friend or neighbour
- ○ Twitter
- ○ Facebook
- ○ Radio advertisement
- ○ Other

7. Do you own property, live, or work beside? (Please select all that apply):

- ☑ Panhandle Loop (preliminary preferred route)
- ☐ Leamington Preliminary Preferred Route
- ☐ Leamington Alternative Route 1
- ☐ Leamington Alternative Route 2
- ☐ Wheatley Preliminary Preferred Route
- ☐ Wheatley Alternative Route 1

8. Please explain your interest in the Project

Affected landowner.

9. Which group represents you the most? (Please choose one answer):

- ○ I am a member of an Indigenous community
- ○ I am a landowner or resident in the study area
- ○ I am a member of a community interest group
- ○ I am a government official
- ◉ I am a member of the [redacted] family in Dover W

Comments and Input About the Project

10. Do you agree with the preliminary preferred routes for the Project?

- ○ Yes
- ○ No

11. Why do you agree or disagree with the preliminary preferred routes?

I reserve opinion.

12. Are there any environmental, socio-economic, or cultural heritage features along the route alternatives that you would like to identify? Please indicate which route alternative you are commenting on.

I/we would like to review in person with the Enbridge Representative.

13. Are there any potential effects (e.g., to you, your property, business or otherwise) and any mitigation measures that Enbridge Gas should consider and address prior to the construction of the Project? Please indicate which route alternative you are commenting on.

I/we would like to review in person with the Enbridge Representative.

14. Please provide any additional comments, feedback, questions, or concerns that you may have about the Project. If applicable, please indicate which route alternative you are commenting on.

I/we would like to review in person with the Enbridge Representative.

Feedback on the Virtual Information Session

15. Was sufficient information about the Project provided during the Virtual Information Session?

- ○ Yes
- ◉ No

16. If you answered no to question 15 above, what additional Project information would you have liked to have seen?

I/we would like to review in person with the Enbridge Representative.

17. Please provide any comments you have on the Virtual Information Session (for example: format, content, delivery).

18. Did you receive sufficient information about the Ontario Energy Board and the environmental study processes?

- ○ Yes
- ◉ No

Partially

19. If you responded, "No" or "Partly" to question 18 above, please indicate what additional information you would like about the processes.

I/we would like to review in person with the Enbridge Representative.

Thank You for Participating in the Virtual Information Session

If you require further information about the Project, please contact us by email at panhandle@virtualengagement.ca (mailto:panhandle@virtualengagement.ca) or call our phone number (519-897-3107) and leave a detailed message.

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Respondent

5 Anonymous

12:07
Time to complete

Contact Information and General Questions

1. Name

[redacted]

2. Email

[redacted]@gmail.com

3. Mailing Address

[redacted]

4. How would you like to receive future updates about the Project (Please choose one answer)?

- ○ By email
- ◉ By regular mail (i.e., Canada Post)
- ○ I do not want to receive future updates about the Project

5. When did you visit the Virtual Information Session website?

11/30/2021

6. How did you hear about the Panhandle Regional Expansion Project? (Select all that apply):

- ○ Notice in the newspaper
- ◉ Received a notice in the mail
- ○ From a friend or neighbour
- ○ Twitter
- ○ Facebook
- ○ Radio advertisement
- ○ Other

7. Do you own property, live, or work beside? (Please select all that apply):

- ☐ Panhandle Loop (preliminary preferred route)
- ☐ Leamington Preliminary Preferred Route
- ☐ Leamington Alternative Route 1
- ☐ Leamington Alternative Route 2
- ☑ Wheatley Preliminary Preferred Route
- ☑ Wheatley Alternative Route 1

8. Please explain your interest in the Project

It's going through property of my family

9. Which group represents you the most? (Please choose one answer):

- ○ I am a member of an Indigenous community
- ◉ I am a landowner or resident in the study area
- ○ I am a member of a community interest group
- ○ I am a government official
- ○ Other

Comments and Input About the Project

10. Do you agree with the preliminary preferred routes for the Project?

- ○ Yes
- ◉ No

11. Why do you agree or disagree with the preliminary preferred routes?

It goes right through the majority of my family's fields and is rather disrupting of farming practices

12. Are there any environmental, socio-economic, or cultural heritage features along the route alternatives that you would like to identify? Please indicate which route alternative you are commenting on.

Take the Townline!!!

13. Are there any potential effects (e.g., to you, your property, business or otherwise) and any mitigation measures that Enbridge Gas should consider and address prior to the construction of the Project? Please indicate which route alternative you are commenting on.

Take the Townline!!!

14. Please provide any additional comments, feedback, questions, or concerns that you may have about the Project. If applicable, please indicate which route alternative you are commenting on.

Take the Townline!!! Like seriously you are going to go through farmers fields! This is our living, you can stop traffic on the Townline here and there, they will get to where they have to go still. We only have certain times to make our living, and you would go over or next to some of the bridges we need to get into our fields. Our families and our living come first!

Feedback on the Virtual Information Session

15. Was sufficient information about the Project provided during the Virtual Information Session?

- (●) Yes
- ( ) No

16. If you answered no to question 15 above, what additional Project information would you have liked to have seen?

17. Please provide any comments you have on the Virtual Information Session (for example: format, content, delivery).

You needed to do this in person, not everyone has the internet to view this

18. Did you receive sufficient information about the Ontario Energy Board and the environmental study processes?

- ( ) Yes

- ○ No
- ◉ Partially

19. If you responded, "No" or "Partly" to question 18 above, please indicate what additional information you would like about the processes.

How we can say in person to rethink where you are putting the line in person. I'm sorry if Covid has gotten in the way but you can't use it as an excuse to hide behind having an in person meet.

Thank You for Participating in the Virtual Information Session

If you require further information about the Project, please contact us by email at panhandle@virtualengagement.ca (mailto:panhandle@virtualengagement.ca) or call our phone number (519-897-3107) and leave a detailed message.

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Respondent

2 Anonymous

14:56
Time to complete

Contact Information and General Questions

1. Name

[redacted]

2. Email

3. Mailing Address

[redacted]

4. How would you like to receive future updates about the Project (Please choose one answer)?

- ○ By email
- ◉ By regular mail (i.e., Canada Post)
- ○ I do not want to receive future updates about the Project

5. When did you visit the Virtual Information Session website?

11/17/2021

6. How did you hear about the Panhandle Regional Expansion Project? (Select all that apply):

- ○ Notice in the newspaper
- ◉ Received a notice in the mail
- ○ From a friend or neighbour
- ○ Twitter
- ○ Facebook
- ○ Radio advertisement
- ○ Other

7. Do you own property, live, or work beside? (Please select all that apply):

- ☐ Panhandle Loop (preliminary preferred route)
- ☐ Leamington Preliminary Preferred Route
- ☐ Leamington Alternative Route 1
- ☐ Leamington Alternative Route 2
- ☑ Wheatley Preliminary Preferred Route
- ☐ Wheatley Alternative Route 1

8. Please explain your interest in the Project

Affected landowner

9. Which group represents you the most? (Please choose one answer):

- (●) I am a member of an Indigenous community
- ( ) I am a landowner or resident in the study area
- ( ) I am a member of a community interest group
- ( ) I am a government official
- ( ) Other

Comments and Input About the Project

10. Do you agree with the preliminary preferred routes for the Project?

- ( ) Yes
- (●) No

11. Why do you agree or disagree with the preliminary preferred routes?

the environmental impact will be greater than alternate route.

12. Are there any environmental, socio-economic, or cultural heritage features along the route alternatives that you would like to identify? Please indicate which route alternative you are commenting on.

the alternative route is more direct and has less environmental impact for the Wheatley Interconnect.

13. Are there any potential effects (e.g., to you, your property, business or otherwise) and any mitigation measures that Enbridge Gas should consider and address prior to the construction of the Project? Please indicate which route alternative you are commenting on.

The Wheatley Interconnect will not have our support due to destruction of farm property.

14. Please provide any additional comments, feedback, questions, or concerns that you may have about the Project. If applicable, please indicate which route alternative you are commenting on.

Common sense is not prevalent when Toronto people determine routing of pipes through agricultural land.

Feedback on the Virtual Information Session

15. Was sufficient information about the Project provided during the Virtual Information Session?

- (●) Yes
- ( ) No

16. If you answered no to question 15 above, what additional Project information would you have liked to have seen?

17. Please provide any comments you have on the Virtual Information Session (for example: format, content, delivery).

the presentation confirmed that common sense no longer exists in the world.

18. Did you receive sufficient information about the Ontario Energy Board and the environmental study processes?

- ( ) Yes
- (●) No

Partially

19. If you responded, "No" or "Partly" to question 18 above, please indicate what additional information you would like about the processes.

i cannot believe that the OEB would agree to this Wheatley proposal.

Thank You for Participating in the Virtual Information Session

If you require further information about the Project, please contact us by email at panhandle@virtualengagement.ca (mailto:panhandle@virtualengagement.ca) or call our phone number (519-897-3107) and leave a detailed message.

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Virtual Information Session #2

Respondent

2

Anonymous

11:12

Time to complete

Contact Information and General Questions

If you would like to be added to the Project s mailing list and receive project updates, please provide your contact information.

1. Name

[redacted]

2. Email

[redacted]@wavedirect.net

3. Phone Number

[redacted]

4. Mailing Address

[redacted]

5. How would you like to receive future updates about the Project (Please choose one answer)?

- (●) By email
- ( ) By regular mail (i.e., Canada Post)

6. When did you visit the Virtual Information Session #2 website?

2/15/2022

7. How did you hear about the Panhandle Regional Expansion Project? (Select all that apply):

- ( ) Notice in the newspaper
- (•) Received a notice in the mail
- ( ) From a friend or neighbour
- ( ) Twitter
- ( ) Facebook
- ( ) Other

8. Do you own property, live, or work beside any of the routes below? (Please select all that apply):

- [x] Panhandle Loop Preferred Route
- [ ] Leamington Interconnect Preferred Route
- [ ] Talbot Road Reinforcement Preliminary Preferred Route
- [ ] Oak Street and Essex Road 33 Reinforcement Preliminary Preferred Route
- [ ] Wheatley Lateral Reinforcement Preferred Route
- [ ] Wheatley Lateral Reinforcement Preliminary Preferred Route

9. Please explain your interest in the Project

I am a property owner along the route, and I am interested to see if we will have access to gas.

10. Which group represents you the most? (Please choose one answer):

- ( ) I am a member of or represent an Indigenous community
- (•) I am a landowner or resident in the study area
- ( ) I am a member of a community interest group
- ( ) I am a government official
- ( ) I work for a public agency or organization
- ( ) Other

Comments and Input About the Project

11. Do you agree with the route evaluation of the transmission pipelines (Panhandle Loop and Leamington Preliminary Preferred Route as preferred, followed by Leamington Alternative Route 1 as moderately preferred and Leamington Alternative Route 2 as least preferred)?

- (•) Yes
- ( ) No
- ( ) No opinion (go to question 13)

12. Please provide your comments on the route evaluation of the transmission pipelines. Please indicate which route you are commenting on.

I am commenting on the pan handle pipeline, I would like to know if we will have access to the gasline for our homes along cty rd 8

13. Do you agree with the selection of the proposed preferred / preliminary preferred routes for the distribution pipelines (Talbot Road Reinforcement, Oak Street and Essex Road 33 Reinforcement, and Wheatley Lateral Reinforcement)?

- ( ) Yes

- ○ No
- ◉ No opinion (go to question 15)

14. Please provide your comments on the proposed preferred / preliminary preferred routes for the distribution pipelines. Please indicate which route you are commenting on.

15. Are there any environmental, socio-economic, or cultural heritage features along the routes that you would like to identify? Please indicate which route you are commenting on.

16. Are there any potential effects (e.g., to you, your property, business or otherwise) and any mitigation measures that Enbridge Gas should consider and address prior to the construction of the Project? Please indicate which route you are commenting on.

17. Please provide any additional comments, feedback, questions, or concerns that you may have about the Project. If applicable, please indicate which route you are commenting on.

If the pipeline runs down Cty rd 8, will it be on the north or south side of the rd? Also will we have the option for services for our homes along cty rd 8? Is there an option to run a distribution line as well along that route?

Feedback on the Virtual Information Session #2

18. Was sufficient information about the Project provided during the virtual information session?

- ( ) Yes (go to questions 20)
- ( ) No

19. If you answered "No" to question 18, what additional Project information would you have liked to have seen?

20. Please provide any comments you have on the virtual information session (e.g., format, content, delivery).

21. Did you receive sufficient information about the Ontario Energy Board and the environmental study processes?

- ( ) Yes
- ( ) No
- ( ) Partly

22. If you responded, "No" or "Partly", please indicate what additional information you would like about the processes.

Thank you for Participating in Virtual Information Session #2

If you require further information about the Project, please contact us by email at panhandle@virtualengagement.ca (mailto:panhandle@virtualengagement.ca) or call our phone number (519-897-3107) and leave a detailed message.

Please visit the project website at: www.virtualengagement.ca/panhandle (http://www.virtualengagement.ca/panhandle) for more information about the Project.

All comments and questions submitted for this project will be collected and considered in the

development of an Environmental Report that will be part of the public record and will be made available to individuals or organizations with an interest in this project. Under the Freedom of Information and Protection Privacy Act, personal information such as name and address will not be included in the Environmental Report but may be released, if requested in accordance with the Act, to any person as part of the review of the Environmental Report.

Respondent

4 | Anonymous

18:34
Time to complete

Contact Information and General Questions

If you would like to be added to the Project s mailing list and receive project updates, please provide your contact information.

1. Name

[redacted]

2. Email

[redacted]@gmail.com

3. Phone Number

[redacted]

4. Mailing Address

[redacted]

5. How would you like to receive future updates about the Project (Please choose one answer)?

- ○ By email
- ◉ By regular mail (i.e., Canada Post)

6. When did you visit the Virtual Information Session #2 website?

2/17/2022

7. How did you hear about the Panhandle Regional Expansion Project? (Select all that apply):

- [ ] Notice in the newspaper
- [x] Received a notice in the mail
- [ ] From a friend or neighbour
- [ ] Twitter
- [ ] Facebook
- [ ] Other

8. Do you own property, live, or work beside any of the routes below? (Please select all that apply):

- [ ] Panhandle Loop Preferred Route
- [ ] Leamington Interconnect Preferred Route
- [ ] Talbot Road Reinforcement Preliminary Preferred Route
- [ ] Oak Street and Essex Road 33 Reinforcement Preliminary Preferred Route
- [x] Wheatley Lateral Reinforcement Preferred Route
- [x] Wheatley Lateral Reinforcement Preliminary Preferred Route

9. Please explain your interest in the Project

I am directly affected landowner.

10. Which group represents you the most? (Please choose one answer):

- ( ) I am a member of or represent an Indigenous community
- (•) I am a landowner or resident in the study area
- ( ) I am a member of a community interest group
- ( ) I am a government official
- ( ) I work for a public agency or organization
- ( ) Other

Comments and Input About the Project

11. Do you agree with the route evaluation of the transmission pipelines (Panhandle Loop and Leamington Preliminary Preferred Route as preferred, followed by Leamington Alternative Route 1 as moderately preferred and Leamington Alternative Route 2 as least preferred)?

- ( ) es
- ( ) No
- (•) No opinion (go to question 13)

12. Please provide your comments on the route evaluation of the transmission pipelines. Please indicate which route you are commenting on.

13. Do you agree with the selection of the proposed preferred / preliminary preferred routes for the distribution pipelines (Talbot Road Reinforcement, Oak Street and Essex Road 33 Reinforcement, and Wheatley Lateral Reinforcement)?

- ( ) Yes
- (•) No

- [ ] No opinion (go to question 15)

14. Please provide your comments on the proposed preferred / preliminary preferred routes for the distribution pipelines. Please indicate which route you are commenting on.

The Wheatley Lateral should run along Kent Rd 1 to mitigate environmental impact and save 4000 feet of unnecessary construction. Road allowance is more than sufficient to accomadate.

15. Are there any environmental, socio-economic, or cultural heritage features along the routes that you would like to identify? Please indicate which route you are commenting on.

16. Are there any potential effects (e.g., to you, your property, business or otherwise) and any mitigation measures that Enbridge Gas should consider and address prior to the construction of the Project? Please indicate which route you are commenting on.

The Wheatley Lateral will affect Goodreau road drainage and cut field main drainage for the entire field.

17. Please provide any additional comments, feedback, questions, or concerns that you may have about the Project. If applicable, please indicate which route you are commenting on.

we are still not in favor of the routing for the Wheatley Lateral.

Feedback on the Virtual Information Session #2

18. Was sufficient information about the Project provided during the virtual information session?

- ( ) Yes (go to questions 20)
- (•) No

19. If you answered "No" to question 18, what additional Project information would you have liked to have seen?

More details and alternatives should be discussed with land owners.

20. Please provide any comments you have on the virtual information session (e.g., format, content, delivery).

21. Did you receive sufficient information about the Ontario Energy Board and the environmental study processes?

- ( ) Yes
- ( ) No
- (•) Partly

22. If you responded, "No" or "Partly", please indicate what additional information you would like about the processes.

I know that this has been planned for years and this is to appease landowners.

Thank you for Participating in Virtual Information Session #2

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Please visit the project website at: www.virtualengagement.ca/panhandle (http://www.virtualengagement.ca/panhandle) for more information about the Project.

development of an Environmental Report that will be part of the public record and will be made available to individuals or organizations with an interest in this project. Under the Freedom of Information and Protection Privacy Act, personal information such as name and address will not be included in the Environmental Report but may be released, if requested in accordance with the Act, to any person as part of the review of the Environmental Report.

Respondent

3

Anonymous

03:30

Time to complete

Contact Information and General Questions

If you would like to be added to the Project s mailing list and receive project updates, please provide your contact information.

1. Name

[redacted]

2. Email

[redacted]@hotmail.com

3. Phone Number

[redacted]

4. Mailing Address

[redacted]

5. How would you like to receive future updates about the Project (Please choose one answer)?

- ○ By email
- ◉ By regular mail (i.e., Canada Post)

6. When did you visit the Virtual Information Session #2 website?

2/16/2022

7. How did you hear about the Panhandle Regional Expansion Project? (Select all that apply):

- [ ] Notice in the newspaper
- [x] Received a notice in the mail
- [ ] From a friend or neighbour
- [ ] Twitter
- [ ] Facebook
- [ ] Other

8. Do you own property, live, or work beside any of the routes below? (Please select all that apply):

- [ ] Panhandle Loop Preferred Route
- [ ] Leamington Interconnect Preferred Route
- [x] Talbot Road Reinforcement Preliminary Preferred Route
- [ ] Oak Street and Essex Road 33 Reinforcement Preliminary Preferred Route
- [ ] Wheatley Lateral Reinforcement Preferred Route
- [ ] Wheatley Lateral Reinforcement Preliminary Preferred Route

9. Please explain your interest in the Project

- ( ) I am a member of or represent an Indigenous community
- (•) I am a landowner or resident in the study area
- ( ) I am a member of a community interest group
- ( ) I am a government official
- ( ) I work for a public agency or organization
- ( ) Other

Comments and Input About the Project

11. Do you agree with the route evaluation of the transmission pipelines (Panhandle Loop and Leamington Preliminary Preferred Route as preferred, followed by Leamington Alternative Route 1 as moderately preferred and Leamington Alternative Route 2 as least preferred)?

- ( ) es
- ( ) No
- (•) No opinion (go to question 13)

12. Please provide your comments on the route evaluation of the transmission pipelines. Please indicate which route you are commenting on.

13. Do you agree with the selection of the proposed preferred / preliminary preferred routes for the distribution pipelines (Talbot Road Reinforcement, Oak Street and Essex Road 33 Reinforcement, and Wheatley Lateral Reinforcement)?

- ( ) Yes
- ( ) No
- (•) No opinion (go to question 15)

14. Please provide your comments on the proposed preferred / preliminary preferred routes for the distribution pipelines. Please indicate which route you are commenting on.

15. Are there any environmental, socio economic, or cultural heritage features along the routes that you would like to identify? Please indicate which route you are commenting on.

16. Are there any potential effects (e.g., to you, your property, business or otherwise) and any mitigation measures that Enbridge Gas should consider and address prior to the construction of the Project? Please indicate which route you are commenting on.

17. Please provide any additional comments, feedback, questions, or concerns that you may have about the Project. If applicable, please indicate which route you are commenting on.

Feedback on the Virtual Information Session #2

18. Was sufficient information about the Project provided during the virtual information session?

- (●) Yes (go to questions 20)
- ( ) No

19. If you answered "No" to question 18, what additional Project information would you have liked to have seen?

20. Please provide any comments you have on the virtual information session (e.g., format, content, delivery).

21. Did you receive sufficient information about the Ontario Energy Board and the environmental study processes?

- ( ) Yes
- (•) No
- ( ) Partly

22. If you responded, "No" or "Partly", please indicate what additional information you would like about the processes.

Thank you for Participating in Virtual Information Session #2

If you require further information about the Project, please contact us by email at panhandle@virtualengagement.ca (mailto:panhandle@virtualengagement.ca) or call our phone number (519-897-3107) and leave a detailed message.

Please visit the project website at: www.virtualengagement.ca/panhandle (http://www.virtualengagement.ca/panhandle) for more information about the Project.

All comments and questions submitted for this project will be collected and considered in the development of an Environmental Report that will be part of the public record and will be made available to individuals or organizations with an interest in this project. Under the Freedom of Information and Protection Privacy Act, personal information such as name and address will not be included in the Environmental Report but may be released, if requested in accordance with the Act, to

Appendix B6

Correspondence

- Contact List
- Communication Summary Table
- Inputs Received

Stakeholder/ Agency	Salutation	First Name	Last Name	Title	Street Address	City	Prov	Postal Code	Phone #	Email	Date Added/Updated
Municipal Elected Officials and Staff											
Town of Kingsville / County of Essex	Mayor and Deputy Warden	Nelson	Santos	Mayor and Deputy Warden	2021 Division Road North	Kingsville	ON	N9Y 2Y9	(519) 796-5259	nsantos@kingsville.ca	28-Jul-21
Town of Kingsville/ County of Essex	Deputy Mayor and County Councillor	Gord	Queen	Deputy Mayor and County Councillor	2021 Division Road North	Kingsville	ON	N9Y 2Y9	(519) 733-4241	gqueen@kingsville.ca	28-Jul-21
Town of Kingsville	Councillor	Kimberly	DeYong	Councillor	2021 Division Road North	Kingsville	ON	N9Y 2Y9	(519) 839-6328	kdeyong@kingsville.ca	28-Jul-21
Town of Kingsville	Councillor	Tony	Gaffan	Councillor	2021 Division Road North	Kingsville	ON	N9Y 2Y9	(519) 733-4161	tgaffan@kingsville.ca	28-Jul-21
Town of Kingsville	Councillor	Laura	Lucier	Councillor	2021 Division Road North	Kingsville	ON	N9Y 2Y9	(519) 300-1234	llucier@kingsville.ca	28-Jul-21
Town of Kingsville	Councillor	Thomas	Neufeld	Councillor	2021 Division Road North	Kingsville	ON	N9Y 2Y9	(519) 890-8527	tneufeld@kingsville.ca	28-Jul-21
Town of Kingsville	Councillor	Larry	Patterson	Councillor	2021 Division Road North	Kingsville	ON	N9Y 2Y9	(519) 839-5443	lpatterson@kingsville.ca	28-Jul-21
Town of Kingsville		John	Norton	CAO	2021 Division Road North	Kingsville	ON	N9Y 2Y9	(519) 733-2305	jnorton@kingsville.ca	28-Jul-21
Town of Kingsville		Andrew	Plancke	Director of Municipal Services	2021 Division Road North	Kingsville	ON	N9Y 2Y9	(519) 733-2305	aplancke@kingsville.ca	28-Jul-21
Town of Kingsville		Shaun	Martinho	Public Works Manager	2021 Division Road North	Kingsville	ON	N9Y 2Y9	(519) 733-2305	smartinho@kingsville.ca	28-Jul-21
Town of Kingsville		Robert	Brown	Manager of Planning & Development Services	2021 Division Road North	Kingsville	ON	N9Y 2Y9	(519) 733-2305	rbrown@kingsville.ca	28-Jul-21
Town of Kingsville		Susan	Hirota	Director, Legislative Services	2021 Division Road North	Kingsville	ON	N9Y 2Y9	(519) 733-2305	shirota@kingsville.ca	07-Oct-21
Town of Kingsville		Kristina	Brcic	Town Planner	2021 Division Road North	Kingsville	ON	N9Y 2Y9	(519) 733-2305	kbrcic@kingsville.ca	07-Oct-21
Town of Kingsville		Sandra	Kitchen	Deputy Clerk/Council Services	2021 Division Road North	Kingsville	ON	N9Y 2Y9	(519) 733-2305	skitchen@kingsville.ca	28-Jul-21
Municipality of Leamington / County of Essex	Mayor and County Councillor	Hilda	MacDonald	Mayor and County Councillor	111 Erie Street North	Leamington	ON	N8H 2Z9	519-326-5761 ext. 1102	mayor@leamington.ca	28-Jul-21
Municipality of Leamington / County of Essex	Deputy Mayor and County Councillor	Larry	Verbeke	Deputy Mayor and County Councillor	111 Erie Street North	Leamington	ON	N8H 2Z9	519-326-5963	deputymayor@leamington.ca	28-Jul-21
Municipality of Leamington	Councillor	Bill	Dunn	Councillor	111 Erie Street North	Leamington	ON	N8H 2Z9	519-322-1246	council@leamington.ca	28-Jul-21
Municipality of Leamington	Councillor	John	Hammond	Councillor	111 Erie Street North	Leamington	ON	N8H 2Z9	519-326-2474	council@leamington.ca	28-Jul-21
Municipality of Leamington	Councillor	Trevor	Jones	Councillor	111 Erie Street North	Leamington	ON	N8H 2Z9	519-324-7625	council@leamington.ca	28-Jul-21
Municipality of Leamington	Councillor	Paul	Tiessen	Councillor	111 Erie Street North	Leamington	ON	N8H 2Z9	519-326-8917	council@leamington.ca	28-Jul-21
Municipality of Leamington	Councillor	Tim	Wilkinson	Councillor	111 Erie Street North	Leamington	ON	N8H 2Z9	519-324-7625	council@leamington.ca	28-Jul-21
Municipality of Leamington		Peter	Neufeld	CAO	111 Erie Street North	Leamington	ON	N8H 2Z9	(519) 326-5761	pneufeld@leamington.ca	28-Jul-21
Municipality of Leamington		Robert	Sharon	Director of Infrastructure Services	111 Erie Street North	Leamington	ON	N8H 2Z9	(519) 326-5761	rsharon@leamington.ca	28-Jul-21
Municipality of Leamington		Corrine	Gabriele	Public Works Supervisor	111 Erie Street North	Leamington	ON	N8H 2Z9	(519) 326-5761	cgabriele@leamington.ca	28-Jul-21
Municipality of Leamington		Danielle	Truax	Manager of Planning Services	111 Erie Street North	Leamington	ON	N8H 2Z9	(519) 326-5761	dtruax@leamington.ca	28-Jul-21
Municipality of Leamington		Paul	Barnable	Director of Community and Development Services	111 Erie Street North	Leamington	ON	N8H 2Z9	(519) 326-5761	pbarnable@leamington.ca	28-Jul-21
Municipality of Leamington		Brenda	Percy	Municipal Clerk/Manager of Legislative Services	111 Erie Street North	Leamington	ON	N8H 2Z9	(519) 326-5761	bpercy@leamington.ca	28-Jul-21
Municipality of Leamington		John	Pilmer		111 Erie Street North	Leamington	ON	N8H 2Z9	(519) 326-5761	jpilmer@leamington.ca	27-Sep-21
County of Essex	Warden	Gary	McNamara	Warden	360 Fairview Avenue West	Essex	ON	N8M 1Y6	519-776-6441 ext. 1327	gmcnamara@countyofessex.ca	28-Jul-21
County of Essex	Essex County Councillor	Aldo	DiCarlo	Essex County Councillor	360 Fairview Avenue West	Essex	ON	N8M 1Y6	519-981-2605	adicarlo@amherstburg.ca	28-Jul-21
County of Essex	Essex County Councillor	Leo	Meloche	Essex County Councillor	360 Fairview Avenue West	Essex	ON	N8M 1Y6	226-346-0621	lmeloche@amherstburg.ca	28-Jul-21
County of Essex	Essex County Councillor	Larry	Snively	Essex County Councillor	360 Fairview Avenue West	Essex	ON	N8M 1Y6	519-890-2381	lsnively@essex.ca	28-Jul-21
County of Essex	Essex County Councillor	Richard	Meloche	Essex County Councillor	360 Fairview Avenue West	Essex	ON	N8M 1Y6	519-982-2776	rmeloche@essex.ca	28-Jul-21
County of Essex	Essex County Councillor	Tom	Bain	Essex County Councillor	360 Fairview Avenue West	Essex	ON	N8M 1Y6	519-567-9812	tbain@lakeshore.ca	28-Jul-21
County of Essex	Essex County Councillor	Tracey	Bailey	Essex County Councillor	360 Fairview Avenue West	Essex	ON	N8M 1Y6	519-990-2472	tbailey@lakeshore.ca	28-Jul-21
County of Essex	Essex County Councillor	Marc A.	Bondy	Essex County Councillor	360 Fairview Avenue West	Essex	ON	N8M 1Y6	519-734-8029	mbondy@lasalle.ca	28-Jul-21
County of Essex	Essex County Councillor	Crystal	Meloche	Essex County Councillor	360 Fairview Avenue West	Essex	ON	N8M 1Y6	519-250-4879	cmeloche@lasalle.ca	28-Jul-21
County of Essex	Essex County Councillor	Joe	Bachetti	Essex County Councillor	360 Fairview Avenue West	Essex	ON	N8M 1Y6	519-979-3339	jbachetti@tecumseh.ca	28-Jul-21
County of Essex		Mike	Galloway	CAO	360 Fairview Avenue West	Essex	ON	N8M 1Y6	519-776-6441	mgalloway@countyofessex.ca	28-Jul-21
County of Essex		Jerry	Behl		360 Fairview Avenue West	Essex	ON	N8M 1Y6	519-776-6441	JBehl@countyofessex.ca	27-Sep-21
County of Essex		Sumaiya	Habiba	Environmental Coordinator	360 Fairview Avenue West	Essex	ON	N8M 1Y6	519-776-6441ext. 1385	SHabiba@countyofessex.ca	06-Apr-22
County of Essex		Mary	Birch	Director of Council Services & Community Services / Clerk	360 Fairview Avenue West	Essex	ON	N8M 1Y6	519-776-6441	mbirch@countyofessex.ca	28-Jul-21
Municipality of Chatham-Kent	Mayor	Darrin	Canniff	Mayor	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-436-3219	ckmayor@chatham-kent.ca	28-Jul-21
Municipality of Chatham-Kent	Councillor	Mark	Authier	Councillor	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-436-3228	mark.authier@chatham-kent.ca	28-Jul-21
Municipality of Chatham-Kent	Councillor	Melissa	Harrigan	Councillor	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-350-8254	melissa.harrigan@chatham-kent.ca	28-Jul-21
Municipality of Chatham-Kent	Councillor	Anthony	Ceccacci	Councillor	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-436-3206	anthony.ceccacci@chatham-kent.ca	28-Jul-21
Municipality of Chatham-Kent	Councillor	Mary Clare	Latimer	Councillor	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-436-3207	maryclare.latimer@chatham-kent.ca	28-Jul-21
Municipality of Chatham-Kent	Councillor	Trevor	Thompson	Councillor	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-350-3715	trevor.thompson@chatham-kent.ca	28-Jul-21
Municipality of Chatham-Kent	Councillor	John	Wright	Councillor	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-436-3252	john.wright@chatham-kent.ca	28-Jul-21
Municipality of Chatham-Kent	Councillor	Steve	Pinsonneault	Councillor	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-436-3253	steve.pinsonneault@chatham-kent.ca	28-Jul-21
Municipality of Chatham-Kent	Councillor	Jamie	McGrail	Councillor	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-436-3221	jamie.mcgrail@chatham-kent.ca	28-Jul-21
Municipality of Chatham-Kent	Councillor	Joe	Faas	Councillor	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-436-3208	joe.faas@chatham-kent.ca	28-Jul-21
Municipality of Chatham-Kent	Councillor	Carmen	McGregor	Councillor	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-350-3659	carmen.mcgregor@chatham-kent.ca	28-Jul-21
Municipality of Chatham-Kent	Councillor	Aaron	Hall	Councillor	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-436-3229	aaron.hall@chatham-kent.ca	28-Jul-21
Municipality of Chatham-Kent	Councillor	Amy	Finn	Councillor	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-436-3216	amy.finn@chatham-kent.ca	28-Jul-21
Municipality of Chatham-Kent	Councillor	Douglas	Sulman	Councillor	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-436-3234	doug.sulman@chatham-kent.ca	28-Jul-21
Municipality of Chatham-Kent	Councillor	Brock	McGregor	Councillor	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-350-2537	brock.mcgregor@chatham-kent.ca	28-Jul-21
Municipality of Chatham-Kent	Councillor	Karen	Kirkwood-Whyte	Councillor	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-436-3209	karen.kirkwood-whyte@chatham-kent.ca	28-Jul-21
Municipality of Chatham-Kent	Councillor	Michael	Bondy	Councillor	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-436-3246	michael.bondy@chatham-kent.ca	28-Jul-21
Municipality of Chatham-Kent	Councillor	Marjorie	Crew	Councillor	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-436-3218	marjorie.crew@chatham-kent.ca	28-Jul-21

Municipality of Chatham-Kent		Don	Shropshire	CAO	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-360-1998	dons@chatham-kent.ca	28-Jul-21
Municipality of Chatham-Kent		Thomas	Kelly	General Manager, Infrastructure & Engineering Services	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-360-1998	thomas.kelly@chatham-kent.ca	28-Jul-21
Municipality of Chatham-Kent		Bruce	McAllister	General Manager of Community Development	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-360-1998	brucem@chatham-kent.ca	28-Jul-21
Municipality of Chatham-Kent		Stuart	McFadden	Director of Economic Development	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-360-1998	stuartm@chatham-kent.ca	28-Jul-21
Municipality of Chatham-Kent		Judy	Smith	Director, Municipal Governance/Clerk	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-360-1998	judys@chatham-kent.ca	28-Jul-21
Municipality of Chatham-Kent		Jamie	Rainbird	Manager of Economic Development	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-360-1998	jamier@chatham-kent.ca	28-Jul-21
Chatham-Kent Public Utilities Comission		Rob	Bernardi	Facilities & Systems Manager, Water & Wastewater Services	325 Grand Avenue East, PO box 1191	Chatham	ON	N7M 5L8	226-312-2023 ext. 4336	robbe@chatham-kent.ca	03-Sep-21
Municipality of Chatham-Kent		Ryan	Jacques	Director, Planning Services	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-360-1998	ryanj@chatham-kent.ca	23-Sep-21
Municipality of Chatham-Kent		Mark	McFadden	Manager, Engineering	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-360-1998	markmc@chatham-kent.ca	23-Sep-21
Municipality of Chatham-Kent		Gabriel	Clarke	Manager, Growth and Sustainability	Civic Centre, 315 King Street West	Chatham	ON	N7M 5K8	519-360-1998	gabrielc@chatham-kent.ca	23-Sep-21
Municipality of Lakeshore	Mayor	Tom	Bain	Mayor	419 Notre Dame Street	Belle River	ON	N0R 1A0	519-728-1975 ext. 298	tbain@lakeshore.ca	01-Oct-21
Municipality of Lakeshore	Deputy Mayor	Tracey	Bailey	Deputy Mayor	419 Notre Dame Street	Belle River	ON	N0R 1A0	519-728-1975 ext. 218	tbailey@lakeshore.ca	01-Oct-21
Municipality of Lakeshore	Councillor	Steven	Wilder	Councillor Ward 1	419 Notre Dame Street	Belle River	ON	N0R 1A0	519-981-9529	swilder@lakeshore.ca	01-Oct-21
Municipality of Lakeshore	Councillor	Len	Janisse	Councillor Ward 2	419 Notre Dame Street	Belle River	ON	N0R 1A0	519-728-1975 ext. 212	ljanisse@lakeshore.ca	01-Oct-21
Municipality of Lakeshore	Councillor	Kelsey	Santarossa	Councillor Ward 3	419 Notre Dame Street	Belle River	ON	N0R 1A0	519-728-1975 ext. 213	ksantarossa@lakeshore.ca	01-Oct-21
Municipality of Lakeshore	Councillor	John	Kerr	Councillor Ward 4	419 Notre Dame Street	Belle River	ON	N0R 1A0	519-728-1975 ext. 214	jkerr@lakeshore.ca	01-Oct-21
Municipality of Lakeshore	Councillor	Kirk	Walstedt	Councillor Ward 5	419 Notre Dame Street	Belle River	ON	N0R 1A0	519-728-1975 ext. 215	kwalstedt@lakeshore.ca	01-Oct-21
Municipality of Lakeshore	Councillor	Linda	Mckinlay	Councillor Ward 6	419 Notre Dame Street	Belle River	ON	N0R 1A0	519-728-1975 ext. 216	lmckinlay@lakeshore.ca	01-Oct-21
Municipality of Lakeshore		Truper	McBride	CAO	419 Notre Dame Street	Belle River	ON	N0R 1A0		tmcbride@lakeshore.ca	20-Sep-21
Municipality of Lakeshore		Krystal	Kalbol	Director, Engineering and Infrastructure Services	419 Notre Dame Street	Belle River	ON	N0R 1A0		kkalbol@lakeshore.ca	20-Sep-21
Municipality of Lakeshore		Jeff	Wilson		419 Notre Dame Street	Belle River	ON	N0R 1A0		jwilson@lakeshore.ca	01-Oct-21
Other											
Essex County Federation of Agriculture					P.O. Box 36	Essex	ON	N8M 2Y1	519-776-5159	office@ecfa.ca	28-Jul-21
Kent Federation of Agriculture		Jay	Cunningham	President	120 Main Street East	Ridgetown	ON	N0P 2C0	519-784-2084	jay.cunningham2@gmail.com	28-Jul-21
Kent Federation of Agriculture		Carol	Verstraete	Member Services Representative	120 Main Street East	Ridgetown	ON	N0P 2C0	519-809-3040	carol.verstraete@ofa.on.ca	28-Jul-21
Kent Federation of Agriculture					120 Main Street East	Ridgetown	ON	N0P 2C0		kfa@uoguelph.ca	28-Jul-21
Invest WindsorEssex		Stephen	MacKenzie	CEO	119 Chatham Street West	Windsor	ON	N9A 5M7	519-255-9200 ext. 2237	SMacKenzie@choosewindsoressex.com	28-Jul-21
Invest WindsorEssex		Marion	Fantetti	Business Ombudsman	119 Chatham Street West	Windsor	ON	N9A 5M7	226-345-1785	mfantetti@investewindsoressex.com	28-Jul-21
Windsor-Essex Regional Chamber of Commerce		Rakesh	Naidu	President & CEO	2565 Ouellette Avenue, Suite 101	Windsor	ON	N8X 1L9	519-966-3696	rnaidu@windsoressexchamber.org	28-Jul-21
Chatham-Kent Chamber of Commerce		Gail	Hundt	President & CEO	54 Fourth Street	Chatham	ON	N7M 2G2	519-352-7540 ext. 22	gail@chatham-kentchamber.ca	28-Jul-21
Wind Farms											
South Kent Wind Farm		Pattern Energy			5873 Seventh Line West	Merlin	ON	N0P 1W0	519-689-7301	southkentwind@patternenergy.com	13-Oct-21
Gosfield Wind Farm		Brookfield			181 Bay Street, Suite 300	Toronto	ON	M5J 2T3	416-363-9491	enquiries@brookfield.com	13-Oct-21
Comber Wind Farm		Brookfield			181 Bay Street, Suite 300	Toronto	ON	M5J 2T3	416-363-9491	enquiries@brookfield.com	14-Oct-21
Richardson (Thames River II) Wind Farm		Gengrowth			23 Lesmill Road, Suite 205	Toronto	ON	M3B 3P6	647-505-1912	admin@gengrowth.com	14-Oct-21
Boralex		Stephen	Courey	Wind Site Manager, Thames River	13900 Tecumseh Road	Tilbury	ON	N0P 2L0	519-359-2540	stephen.courey@boralex.com	20-Dec-21
Conservation Authority											
Lower Thames Valley Conservation Authority		Randall	Van Wagner	Manager, Conservation Lands and Service	100 Thames Street	Chatham	ON	N7L 2Y8	519-354-7310 ext. 230	randall.vanwagner@ltvca.ca	07-Sep-21
Essex Region Conservation Authority		Dan	Jenner	Regulations Coordinator	360 Fairview Avenue West, Suite 311	Essex	ON	N8M 1Y6	519-776-5209 ext. 359	djenner@erca.org	07-Sep-21
Provincial Agencies											
Ministry of the Environment, Conservation and Parks	Ms.	Kathleen	O'Neill	Director, Environmental Assessment	135 St. Clair Avenue West	Toronto	ON	M4V 1P5	647-287-5664	kathleen.oneill@ontario.ca	07-Sep-21
Ministry of Northern Development, Mines, Natural Resources and Forestry Aylmer District	Mr.	Mitch	Wilson	District Manager	615 John Street North	Aylmer	ON	N5H 2S8	519-773-4710	mitch.wilson@ontario.ca	07-Sep-21
Ministry of Transportation West Region Operations	Mr.	Geoffrey	Gladdy	Director	659 Exeter Road, 4th Floor	London	ON	N6E 1L3	519-873-4335	geoffrey.gladdy@ontario.ca	07-Sep-21
OPCC Members											
Ontario Energy Board	Ms.	Zora	Crnojacki	Chair - Ontario Pipeline Coordinating Committee	P.O. Box 2319, 2300 Yonge Street, 26th Floor	Toronto	ON	M4P 1E4	416-440-8104	zora.crnojacki@oeb.ca	06-Apr-22
Ministry of Agriculture, Food, and Rural Affairs	Ms.	Helma	Geerts	Land Use Policy & Stewardship Member - Ontario Pipeline Coordinating Committee	1 Stone Road West, 3rd Floor	Guelph	ON	N1G 4Y2	519-546-7423	helma.geerts@ontario.ca	07-Sep-21
Ministry of Heritage, Sport, Tourism, and Culture Industries	Ms.	Karla	Barboza	Team Lead, Heritage Member - Ontario Pipeline Coordinating Committee	400 University Avenue, 5th Floor	Toronto	ON	M7A 2R9	416-660-1027	karla.barboza@ontario.ca	27-Oct-21
Ministry of Transportation	Mr.	Tony	Difabio	Team Lead, Corridor Management Member - Ontario Pipeline Coordinating Committee	301 St. Paul Street West	St. Catharines	ON	L2R 7R4	365-336-2136	Tony.DiFabio@ontario.ca	06-Apr-22
Technical Standards and Safety Authority	Mr.	Kourosh	Manouchehri	Engineer Specialist Member - Ontario Pipeline Coordinating Committee	345 Carlingview Drive	Toronto	ON	M9W 6N9	416-734-3539	manouchehri@tssa.org	06-Apr-22
Ministry of Northern Development, Mines, Natural Resources and Forestry	Mr.	Keith	Johnston	Environmental Planning Team Lead (Acting) Member - Ontario Pipeline Coordinating Committee	99 Wellesley Street West	Toronto	ON	M7A 1W3	705-313-6960	keith.johnston@ontario.ca	06-Apr-22
Ministry of Municipal Affairs and Housing Western Municipal Services Office	Ms.	Michelle	Knieriem	Team Lead - Planning (A) Member - Ontario Pipeline Coordinating Committee	659 Exeter Road, 2nd Floor	London	ON	N6E 1L3	519-873-4033	Michelle.Knieriem@ontario.ca	06-Apr-22
Ministry of Energy	Mrs.	Amy	Gibson	Manager Member - Ontario Pipeline Coordinating Committee	77 Grenville Street, 6th Floor	Toronto	ON	M7A 1B3	416-315-8641	amy.gibson@ontario.ca	06-Apr-22
Ministry of the Environment, Conservation and Parks	Ms.	Katy	Potter	Supervisor (Acting) Ontario Pipeline Coordinating Committee	135 St. Clair Avenue West, 7th Floor	Toronto	ON	M4V 1P5	416-804-2793	katy.potter@ontario.ca	06-Apr-22
Infrastructure Ontario	Mr.	Cory	Ostrowka	Environmental Specialist Member - Ontario Pipeline Coordinating Committee	1 Dundas Street West, Suite 2000	Toronto	ON	M5G 1Z3	647-264-3331	cory.ostrowka@infrastructureontario.ca	07-Sep-21
Utilities											
Entegrus		Matthew	Meloche		P.O. Box 70, 320 Queen Street	Chatham	ON	N7M 5K2		matthew.meloche@entegrus.com	03-Sep-21
E.L.K. Energy Inc.					172 Forest Avenue	Essex	ON	N8M 3E4	519-776-5291	customer.service@elkenergy.com	07-Sep-21
Hydro One Networks Inc.	Mr.	Walter D.	Kloostra	Transmission Lines Sustainment Manager	483 Bay Street, TCT15-A11, North To	Toronto	ON	M5G 2P5	416-345-6275	w.d.kloostra@HydroOne.com	21-May-20

Hydro One Networks Inc. - Real Estate Management	Mr.	Roman	Dorfman	Real Estate Coordinator	185 Clegg Road	Markham	ON	L6G 1B7	905-946-6243	roman.dorfman@hydroone.com	21-May-20
Conservation Organizations											
Essex County Nature	Ms.	Karen	Alexander	President	5200 Matchette Road	Windsor	ON	N9C 4E8		coastalkare@gmail.com	07-Sep-21
Sydenham Field Naturalists	Ms.	Sherri-Anne	Wills	Communications Chairperson	P.O. Box 22008 Dufferin Avenue	Wallaceburg	ON	N8A 5G4			07-Sep-21
Ontario Nature	Ms.	Melina	Damian	Communications Coordinator	214 King Street West, Suite 612	Toronto	ON	M5H 3S6			07-Sep-21

Indigenous Community	First Name	Last Name	Title	Street Address	City	Prov	Postal Code	Phone #	Email	Notes
Aamjiwnaang First Nation	Cathleen	O'Brien	Environment Coordinator	978 Tashmoo Avenue	Sarnia	ON	N7T 7H5		cobrien@aamjiwnaang.ca	
Aamjiwnaang First Nation			General Inbox						a	CC when sending to Cathleen
Aamjiwnaang First Nation	Lynn	Rosales		978 Tashmoo Avenue	Sarnia	ON	N7T 7H5		lrosales@aamjiwnaang.ca	
Bkejwanong (Walpole Island First Nation)	Janet	Macbeth	Project Review Coordinator	2185 River Rd N.	Wallaceburg	ON	N8A 4K9	519-627-1481 ext. 101	janet.macbeth@wifn.org	
Bkejwanong (Walpole Island First Nation)	Dean	Jacobs	Consultation Coordinator	2185 River Rd N.	Wallaceburg	ON	N8A 4K9	519-627-1481 ext. 109	dean.jacobs@wifn.org	
Bkejwanong (Walpole Island First Nation)	Norma	Altiman		2185 River Rd N.	Wallaceburg	ON	N8A 4K9		Norma.Altiman@wifn.org	
Caldwell First Nation	Michelle	McCormack		14 Orange Street	Leamington	ON	N8H 1P5		ecc@caldwellfirstnation.ca	
Caldwell First Nation	Zack	Hamm		14 Orange Street	Leamington	ON	N8H 1P5		ecc2@caldwellfirstnation.ca	
Caldwell First Nation	Jenna	Morrison		14 Orange Street	Leamington	ON	N8H 1P5		etow@caldwellfirstnation.ca	Contact for monitors
Chippewas of the Thames First Nation	Fallon	Burch	Consultation Coordinator	320 Chippewa Road	Muncey	ON	N0L 1Y0	519-289-5555 ext. 251	fburch@cottfn.com	
Chippewas of the Thames First Nation			Consultation General Inbox						consultation@cottfn.ca	CC when sending to Fallon
Chippewas of Kettle and Stony Point First Nation	Claire	Sault	Band Manager	6247 Indian Lane	Lambton Shores	ON	N0N 1J1		Claire.sault@kettlepoint.org	
Oneida Nation of the Thames	Brandon	Doxtator	Enviromental Committee						environment@oneida.on.ca	
Eelūnaapèewii Lahkèewiit (Delaware Nation or Moravian of the Thames)	Denise	Stonefish	Chief	14760 School House Line	Thamesville	ON	N0P 2K0	519-692-3936	denise.stonefish@delawarenation.on.ca	

Enbridge Gas Indigenous Engagement Log

Log updated as of April 22, 2022

Aamjiwnaang First Nation (AFN)		
Date	Method	Summary
August 11, 2021	Email	The Enbridge Gas representative emailed the AFN representatives providing information regarding the Panhandle Regional Expansion Project ("Project"). The Enbridge Gas representative noted the Project was in preliminary stages and advised a formal Project notification letter would be provided at a later date. The Enbridge Gas representative provided a map of the Project.
October 15, 2021	Email	The Enbridge Gas representative emailed the AFN representatives providing a Project notification letter, notice of commencement and maps of the proposed Project. The letter provided an overview of the Project, noted capacity funding would be available and requested a meeting to discuss the Project.
November 18, 2021	Email	The Enbridge Gas representative emailed the AFN representatives providing the open house slides related to the Project and a website link for the virtual open house. The Enbridge Gas representative noted the virtual open house would be open for two weeks.
January 26, 2022	Email	The Enbridge Gas representative emailed the AFN representative providing a notice of a second virtual open house that would be available from February 14 to 28, 2022. The Enbridge Gas representative advised they would provide them with a copy of the presentation and indicated capacity funding was available for participation in the Project.
January 27, 2022	Virtual Meeting	The Enbridge Gas and the AFN representative met virtually to discuss the Project as well as other Enbridge Gas projects. The Enbridge Gas representative reviewed the scope and routing of each project as well as the Species at Risk in the area. The AFN representative advised they would review the presentation and provide any comments or questions.
January 27, 2022	Phone	The Enbridge Gas representative had a conference call with the AFN representative to provide updates on the Project including Enbridge Gas's projects. The parties discussed the Project including a Project overview, a review of the virtual open house for the Project and the proposed routing.
January 28, 2022	Email	The Enbridge Gas representative emailed the AFN representative to provide them with a copy of the Project update presentation they had discussed on their conference call the previous day.
February 16, 2022	Email	The Enbridge Gas representative emailed the AFN representative to provide them with a copy of the second virtual open house slides. The Enbridge Gas representative advised the virtual open house would be available from February 14, 2022 to February 28, 2022 and provided a website link.
April 11, 2022	Email	The Enbridge Gas representative emailed the AFN representative providing a letter and maps detailing a change in scope for the Project and noted the environmental report would likely be completed by the end of April 2022. The Enbridge Gas representative requested the AFN representative's availability for a Project update meeting in May 2022. The AFN representative replied the same day and requested clarification regarding components omitted from the Project. The Enbridge Gas representative confirmed that certain Project components had been removed from the scope of the Project. The Enbridge Gas representative provided an overview of the revised Project scope/remaining Project components.
Caldwell First Nation (CFN)		
Date	**Method**	**Summary**
February 17, 2021	Email	An Enbridge Gas representative emailed the CFN representative providing information regarding the Expression of Interest for the Project.
August 11, 2021	Email	The Enbridge Gas representative emailed the CFN representatives providing information regarding the Project. The Enbridge Gas representative noted the Project was in its preliminary stages and advised a formal Project notification letter would be provided at a later date. The Enbridge Gas representative provided the CFN representatives with a map of the Project. The Enbridge Gas representative requested information regarding the new CFN consultation process.
October 18, 2021	Email	The CFN representative emailed the Enbridge Gas representative providing information regarding the online consultation tool and how to input information for the Project.
October 26, 2021	Email	The Enbridge Gas representative emailed the CFN representatives providing a Project notification letter, notice of commencement and maps of the proposed Project. The letter provided an overview of the Project, noted capacity funding would be available and requested a meeting to discuss the Project. The Enbridge Gas representative advised they were unable to complete the upload process through the online consultation tool.
January 26, 2022	Email	The Enbridge Gas representative provided a notice of a second virtual open house that would be available from February 14 to 28, 2022 in relation to the Project. The Enbridge Gas representative advised they would provide the CFN representative with a copy of the presentation and indicated capacity funding was available for their participation in the Project. The Enbridge Gas representative also indicated they would like to discuss with the CFN representatives the consultation process and online portal to ensure that information would be provided to them in a timely manner.
January 28, 2022	Phone	The CFN representative called the Enbridge Gas representative to inform them of staffing changes at CFN. The parties discussed the Project, and the Enbridge Gas struggles with CFN's online portal. The CFN representative was presenting to Chief and wanted to ensure she had all information on the Project. The Enbridge Gas representative advised that they would send over everything to confirm all correspondence. The CFN representative advised they would work with their IT to resolve the portal issues.
January 28, 2022	Email	The Enbridge Gas representative emailed the CFN representative thanking them for the telephone call and following up on the requests from that call. The Enbridge Gas representative provided a copy of all the correspondence that had previously been provided. The Enbridge Gas representative also provided the CFN representative with a copy of the Virtual Open House #1 slides.
February 3, 2022	Email	The CFN representative emailed the Enbridge Gas representative requesting information regarding the Enbridge Gas contractor and inquired about the Environmental Report and the stage one archaeology work. The Enbridge Gas representative advised the stage one and stage two archaeology reports would be combined and indicated stage two surveys were planned for Spring 2022 and the report would likely be available in Summer 2022. The Enbridge Gas representative advised the Environmental Report was being developed and a draft would be available in March 2022 with a planned filing date in April 2022. The Enbridge Gas representative provided information regarding their contractor. The CFN representative advised they would participate in the virtual open house and requested a copy of the presentation. The CFN representative replied on February 3 to advise that they are keen to look over the environmental and archaeological assessments as they become available.

February 16, 2022	Email	The Enbridge Gas representative emailed the CFN representatives providing them with a copy of the second virtual open house slides. The Enbridge Gas representative advised the virtual open house would be available from February 14, 2022 to February 28, 2022 and provided a website link.
March 11, 2022	Email	The CFN representative emailed the Enbridge Gas representative providing a re-engagement letter. The letter requested engagement on the Project to address their concerns related to impacts on their rights, interests and way of life. The letter requested a meeting and Project information package including previous correspondence with CFN. The Enbridge Gas representative acknowledged the request for a meeting and inquired as to which Enbridge Gas representatives CFN wanted to attend the initial meeting.
March 16, 2022	Email	The CFN representative emailed the Enbridge Gas representative advising they would be available for a meeting for information gathering purposes and they would discuss direction with Chief and Council going forward. The Enbridge Gas representative replied the same day to provide their availability and noted they were interested in learning about the CFN portal and consultation protocol.
March 21, 2022	Email	The Enbridge Gas representative emailed the CFN representative to provide the Project Information package that had been requested. The Enbridge Gas representative advised it would be sent in multiple emails due to the size of the files and asked to advise them if they don't receive one of the emails. The Enbridge Gas representative provided additional availability for a meeting. The Enbridge Gas representative sent over three emails containing the information package on the Project.
April 5, 2022	Email	The Enbridge Gas representative emailed the CFN representative following up on their March 21, 2022 emails to ensure they had been received. The Enbridge Gas representative also provided additional availability for a virtual or in-person meeting.
April 11, 2022	Email	The Enbridge Gas representative emailed the CFN representatives providing a letter and maps detailing a change in scope for the Project and noted the environmental report would likely be completed by end of April 2022. The Enbridge Gas representative requested their availability for a meeting to discuss the Project, consultation protocol, and capacity funding.
April 20, 2022	Email	The Enbridge Gas representative emailed the CFN representatives to indicate a portion of the information package provided via email on March 21, 2022 was not delivered and advised they would re-send it. The Enbridge Gas representative advised capacity funding was available and requested a proposal if capacity funding was needed. The Enbridge Gas representative requested their availability for a meeting. The Enbridge Gas representative emailed part 2a and 2b.
Chippewas of Kettle and Stony Point First Nation (CKSPFN)		
Date	**Method**	**Summary**
August 11, 2021	Email	The Enbridge Gas representative emailed the CKSPFN representative providing information regarding the Project. The Enbridge Gas representative noted the Project was in preliminary stages and advised a formal Project notification letter would be provided at a later date. The Enbridge Gas representative provided a map in relation to the Project.
September 20, 2021	Virtual Meeting	The Enbridge Gas representative had a conference call with the CKSPFN representative regarding the Project including other Enbridge Gas projects. Topics of discussion included a high-level Project overview. The CKSPFN representative advised only one monitor was available and noted they may require capacity funding. The Enbridge Gas representative advised that capacity funding was available.
October 15, 2021	Email	The Enbridge Gas representative emailed the CKSPFN representative providing a Project notification letter, notice of commencement and maps of the proposed Project. The letter provided an overview of the Project, noted capacity funding would be available and requested a meeting to discuss the Project.
November 18, 2021	Email	The Enbridge Gas representative emailed the CKSPFN representative providing the open house slides and a website link for the virtual open house for the Project. The Enbridge Gas representative noted the virtual open house would be open for two weeks.
December 8, 2021	Phone	The Enbridge Gas representative and the CKSPFN representative discussed having Enbridge Gas present to the CKSPFN representative in early 2022 to review all of Enbridge Gas's projects and to discuss the community's comments and concerns. The parties also discussed providing capacity funding to CKSPFN to train monitors for field surveys and that capacity funding for projects was always available to CKSPFN. The Enbridge Gas representative followed up the conversation with an email to confirm.
January 11, 2022	Email	The Enbridge Gas representative emailed the CKSPFN representative to request a virtual meeting with the newly formed Consultation Committee to bring them up to date on the Project and additional Enbridge Gas projects. The Enbridge Gas representative requested that the CKSPFN representative provided some dates and times that worked best for them and also advised that capacity funding would be provided if needed.
January 26, 2022	Email	The Enbridge Gas representative emailed the CKSPFN representative providing a notice of a second virtual open house for the Project that would be available from February 14 to 28, 2022. The Enbridge Gas representative advised they would provide the CKSPFN representative with a copy of the presentation and indicated capacity funding was available for participation in the Project.
February 7, 2022	Phone	The Enbridge Gas representative had a telephone call with the CKSPFN Band Manager to introduce themselves and to touch base on some topics. The CKSPFN representative advised that a consultant from IBA Braiding had been hired to do their consultation engagement and the consultant would be working with Enbridge Gas on the Project as well as upcoming Enbridge Gas Projects. The CKSPFN representative advised they would like to be copied on all correspondence. The Enbridge Gas representative advised that they would provide capacity funding to train monitors for Enbridge Gas field surveys. The Enbridge Gas representative committed to sending an email with a local contact for training.
February 8, 2022	Email	The Enbridge Gas representative responded to an email from the CKSPFN representative to provide a list of Enbridge Gas Projects and some dates to meet to discuss the Project and the additional Enbridge Gas projects. A meeting was set for February 11, 2022.
February 9, 2022	Email	The Enbridge Gas representative emailed the CKSPFN representative providing correspondence that had been sent to the previous CKSPFN representative. The Enbridge Gas representative advised the second virtual open house for the

		Project would be available from February 14, 2022 to February 28, 2022 and provided a website link. The Enbridge Gas representative noted capacity funding would be available.
February 11, 2022	Virtual Meeting	The Enbridge Gas representative had a conference call with the CKSPFN representatives regarding the Project. Topics of discussion included supply chain management participation and the scope of the Project. During the meeting the CKSFPN representative requested information regarding the value/estimated cost of the Project as well as a schedule for the Project. The Enbridge Gas representative noted capacity funding would be available. The presentation was provided via email following the meeting.
February 16, 2022	Email	The Enbridge Gas representative emailed the CKSPFN representatives providing them with a copy of the second virtual open house presentation slides. The Enbridge Gas representative advised the virtual open house would be available from February 14, 2022 to February 28, 2022 and provided a website link.
February 17, 2022	Email	The Enbridge Gas representative emailed the CKSPFN representatives providing an overview of topics of discussion from their February 11, 2022 meeting. The Enbridge Gas representative provided the information about the estimated value of the Project and proposed schedule. The Enbridge Gas representative advised capacity funding was available for engagement related to the Project.
April 8, 2022	In person Meeting	An Enbridge Gas representative met in person with a CKSPFN representative to discuss supply chain management and possible business opportunities for Indigenous Nations on the Project.
April 11, 2022	Email	The Enbridge Gas representative emailed the CKSPFN representatives providing a letter and maps detailing a change in scope for the Project and noted the environmental report would likely be completed by end of April 2022. The Enbridge Gas representative requested their availability for a Project update meeting. The Enbridge representative noted capacity funding was available and requested a proposal if funding was needed.
Chippewas of the Thames First Nation (COTTFN)		
Date	**Method**	**Summary**
October 15, 2021	Email	The Enbridge Gas representative emailed the COTTFN representative providing a Project notification letter, notice of commencement of the Project and maps of the Project. The letter provided an overview of the Project, noted capacity funding would be available and requested a meeting to discuss the Project.
November 17, 2021	Email	The Enbridge Gas representative emailed the COTTFN representative providing a copy of the open house slides for the Project and a website link for the virtual open house. The Enbridge Gas representative noted the virtual open house would be open for two weeks.
January 19, 2022	Email	The Enbridge Gas representative emailed the COTTFN representative providing them with a copy of the presentation and an agenda for their conference call on January 24, 2022 to discuss the Project and other Enbridge Gas projects. The Enbridge Gas representative requested a Zoom meeting invitation and provided a list of Enbridge Gas attendees for the meeting.
January 21, 2022	Email	The Enbridge Gas representative emailed the COTTFN representative providing an updated presentation for their January 24, 2022 conference call.
January 24, 2022	Virtual Meeting	The Enbridge Gas representatives had a conference call with the COTTFN representative regarding the Project. Topics of discussion included a Project overview and routing. The COTTFN representative inquired about capacity funding and Enbridge Gas representative advised that it would provide capacity funding.
February 14, 2022	Email	The Enbridge Gas representative emailed the CKSPFN representatives providing them with a copy of the second virtual open house presentation slides and advised they would follow up with a Project map.
February 16, 2022	Email	The Enbridge Gas representative emailed the COTTFN representative to provide a Project map.
April 8, 2022	Email	The Enbridge Gas representative emailed the COTTFN representative providing a letter and maps detailing a change in scope for the Project. The Enbridge Gas representative confirmed they would visit the COTTFN representative in-person on April 21, 2022.
April 21, 2022	In person Meeting	The Enbridge Gas representative met with COTTFN representatives to provide updates on current projects, including the Project and to receive training on NationsConnect: the data gathering software that COTTFN uses to keep track of the projects the community is involved with. COTTFN is facilitating Archaeological Monitor training the week of April 25, with 10 participants. Discussed how Enbridge could assist in future community capacity building initiatives.
Oneida Nation of the Thames (Oneida Nation)		
Date	**Method**	**Summary**
October 15, 2021	Email	The Enbridge Gas representative emailed the Oneida Nation representative providing a Project notification letter, notice of commencement of the Project and maps of the Project. The letter provided an overview of the Project, noted capacity funding would be available and requested a meeting to discuss the Project.
November 17, 2021	Email	The Enbridge Gas representative emailed the Oneida Nation representative providing them with a copy of the open house slides for the Project and a website link for the virtual open house.
December 9, 2021	Meeting	The Enbridge Gas representative met with the Oneida Nation representative regarding the Project. The Enbridge Gas representative provided the Oneida Nation representative with a copy of the virtual open house slides and a business information sheet to obtain a list of the Oneida Nation's businesses or affiliated businesses that could be added in Enbridge's Indigenous database. The Enbridge Gas representative advised they would arrange a follow up meeting with the Oneida Nation representative in January 2022.
December 14, 2021	Email	The Enbridge Gas representative emailed the Oneida Nation representative following up on their December 9, 2021 meeting and advised they were available for questions about the Project should any arise.
January 26, 2022	Email	The Enbridge Gas representative emailed the Oneida Nation representative providing a notice of a second virtual open house for the Project that would be available from February 14 to 28, 2022.
February 16, 2022	Email	The Enbridge Gas representative emailed the Oneida Nation representative providing them with a copy of the second virtual house presentation slides.

April 8, 2022	Email	The Enbridge Gas representative emailed the Oneida Nation representative providing a letter and maps detailing a change in scope for the Project. The Enbridge Gas representative advised they would be available for an in-person meeting between April 19 and 22, 2022.
Walpole Island First Nation (WIFN)		
Date	**Method**	**Summary**
February 17, 2021	Email	The Enbridge Gas representative emailed the WIFN representatives to provide an initial notification on Expression of Interest for the Project. The Enbridge Gas representative provided an overview of the Project. The Enbridge Gas representative provided a website link for additional information and suggested a meeting to discuss the Project.
July 9, 2021	Email	The Enbridge Gas representative emailed the WIFN representatives to provide an initial notification for the potential Project. The Enbridge Gas representative advised that Enbridge Gas would submit the Project notification to the Ministry of Energy, Northern Development and Mines and would follow up with the community once more details were known. The Enbridge Gas representative provided the WIFN representative with a study map for the Project.
July 23, 2021	Meeting	The Enbridge Gas representative had a conference call with the WIFN representative regarding the Project and other Enbridge Gas projects. Topics of discussion included a brief Project update.
November 10, 2021	Email	The WIFN representative emailed the Enbridge Gas representative requesting a virtual meeting to provide an update on the Project and other Enbridge Gas proposed projects. The parties decided to meet on November 15, 2021. The Enbridge Gas representative advised that they would forward the WIFN representative a presentation related to the Project prior to the meeting.
November 15, 2021	Meeting	The Enbridge Gas representative met with the WIFN representative to discuss the Project and other Enbridge Gas proposed projects. The Enbridge Gas representative reviewed a PowerPoint presentation that contained information and the scope of each project as well as a map. The WIFN representative advised that the area between Thames River and Jeanettes creek is very significant to WIFN and the Three Fires Confederacy. The WIFN representative advised they would like to have a copy of the slides from the Project open house to provide to a third party. The Enbridge Gas representative noted capacity funding would be available for the Project.
November 18, 2021	Email	The Enbridge Gas representative emailed the WIFN representative providing them with a copy of the Project open house slides and a website link for the virtual open house. The Enbridge Gas representative noted the virtual open house would be open for two weeks.
January 10, 2022	Email	An Enbridge Gas representative sent an email to the WIFN representative requesting a meeting to provide an update on the Project and additional proposed Enbridge Gas projects. The Enbridge representative requested the WIFN representative provide some dates that would work best to meet to discuss the projects.
January 26, 2022	Email	The Enbridge Gas representative emailed the WIFN representatives to provide a notice of a second virtual open house that would be available from February 14 to 28, 2022. The Enbridge Gas representative advised they would provide them with a copy of the presentation and indicated capacity funding was available for participation in the Project.
January 27, 2022	Meeting	The Enbridge Gas representative met with the WIFN representatives to review the Project and additional proposed Enbridge Gas Projects. The parties discussed ways that WIFN could be involved for cultural awareness on the Project including education sessions for Project staff. The Enbridge Gas representative emailed the WIFN representatives following up to the meeting to provide an updated presentation. The Enbridge Gas representative advised capacity funding was available for technical review of documents and requested a quote for services. The Enbridge Gas representative advised another Enbridge Gas representative would follow up with them regarding potential types of economic opportunities and the procurement process.
February 16, 2022	Email	The Enbridge Gas representative emailed the WIFN representatives providing them with a copy of the second virtual open house slides. The Enbridge Gas representative advised the virtual open house would be available from February 14, 2022 to February 28, 2022 and provided a website link.
April 11, 2022	Email	The Enbridge Gas representative emailed the WIFN representatives providing a letter and maps detailing a change in scope for the Project and noted the environmental report would likely be completed by the end of April 2022. The Enbridge Gas representative requested their availability for a Project update meeting in May 2022.
Delaware Nation at Moraviantown		
Date	**Method**	**Summary**
October 15, 2021	Email	The Enbridge Gas representative emailed the Delaware Nation representative providing a Project notification letter, notice of commencement and maps of the p Project. The letter provided an overview of the Project, noted capacity funding would be available and requested a meeting to discuss the Project.
November 18, 2021	Email	The Enbridge Gas representative emailed the Delaware Nation representative providing them with a copy of the presentation and a website link for the virtual open house. The Enbridge Gas representative noted the virtual open house would be open for two weeks.
January 26, 2022	Email	The Enbridge Gas representative emailed the Delaware Nation representative providing a notice of a second virtual open house that would be available from February 14 to 28, 2022. The Enbridge Gas representative advised they would provide them with a copy of the presentation and indicated capacity funding was available for participation in the Project.
February 16, 2022	Email	The Enbridge Gas representative emailed the Delaware Nation representative providing the second virtual open house presentation slides. The Enbridge Gas representative advised the virtual open house would be available from February 14, 2022 to February 28, 2022 and provided a website link.
April 11, 2022	Email	The Enbridge Gas representative emailed the Delaware Nation representative providing a letter and maps detailing a change in scope for the Project and noted the environmental report would likely be completed by the end of April 2022. The Enbridge Gas representative advised they were available to meet with the Delaware Nation representative to provide them with additional Project information. The Enbridge Gas representative noted capacity funding was available and requested a proposal if funding was needed.

Summary of Consultation Undertaken as part of the Panhandle Regional Expansion Project

Contact Name	Method and Date of Communication	Summary of Comments/Questions	Response
MP/MPP			
MP Dave Epp DAVE.EPP@PARL.GC.CA and MP Chris Lewis Chris.Lewis@parl.gc.ca and MPP Rick Nicholls RNicholls-CO@ola.org and MPP Taras Natyshak tnatyshak-qp@ndp.on.ca	Email on February 4, 2022	Nicole Gruythuyzen (Government Affairs Senior Advisor) of Enbridge Gas sent separate emails to the appropriate MP/MPP's within the project study area to notify them of the upcoming second virtual information session and to provide them with an overview of the project.	N/A
MP Dave Epp DAVE.EPP@PARL.GC.CA and MP Chris Lewis Chris.Lewis@parl.gc.ca and MPP Rick Nicholls RNicholls-CO@ola.org and MPP Taras Natyshak tnatyshak-qp@ndp.on.ca	Email on April 12, 2022	Nicole Gruythuyzen (Government Affairs Senior Advisor) of Enbridge Gas sent separate emails to the appropriate MP/MPP's within the project study area to provide them with an update on the project. The update included the selected preferred routes for the Panhandle Loop and Leamington Interconnect and noted that the proposed distribution lines (Wheatley Lateral Reinforcement, Talbot Road Reinforcement and Oak Street and Essex Road 33 Reinforcement) will no longer be considered as part of the Panhandle Regional Expansion Project.	N/A
Municipal/County			
Senior Leadership from the Municipality of Chatham-Kent	Phone call on August 11, 2021	Enbridge Gas Representatives met with senior leadership from the Municipality of Chatham-Kent to discuss the project details. The upcoming environmental report process was reviewed, and Enbridge Gas requested that the Municipality of Chatham-Kent participate and provide feedback as part of the process. Municipality of Chatham-Kent staff confirmed they will participate in the environmental report process and requested that other local utilities be contacted to participate in process as well. Enbridge Gas advised that they have subsequently contacted those utilities as well.	N/A
Senior Leadership from the Town of Kingsville	Phone call on August 11, 2021	Enbridge Gas Representatives met with senior leadership from the Town of Kingsville to discuss the project details. The upcoming environmental report process was reviewed, and Enbridge Gas requested that the Town of Kingsville participate and provide feedback	N/A

Summary of Consultation Undertaken as part of the Panhandle Regional Expansion Project

Contact Name	Method and Date of Communication	Summary of Comments/Questions	Response
		as part of the process. Town of Kingsville staff confirmed they will participate in the environmental report process.	
Senior Leadership from the County of Essex	Phone call on August 11, 2021	Enbridge Gas Representatives met with senior leadership from the County of Essex to discuss the project details. The upcoming environmental report process was reviewed, and Enbridge Gas requested that the County of Essex participate and provide feedback as part of the process. County of Essex staff confirmed they will participate in the environmental report process.	N/A
Senior Leadership from the Municipality of Leamington	Phone call on August 12, 2021	Enbridge Gas Representatives met with senior leadership from the Municipality of Leamington to discuss the project details. The upcoming environmental report process was reviewed, and Enbridge Gas requested that the Municipality of Leamington participate and provide feedback as part of the process. Municipality of Leamington staff confirmed they will participate in the environmental report process.	N/A
Bruce McAllister *General Manager of Community Development* *Municipality of Chatham-Kent* 519-360-1998 brucem@chatham-kent.ca and Ryan Jacques *Director, Planning Services* *Municipality of Chatham-Kent* 519-360-1998 ryanj@chatham-kent.ca and Mark McFadden *Manager, Engineering* *Municipality of Chatham-Kent* 519-360-1998 markmc@chatham-kent.ca and Gabriel Clarke *Manager, Growth and Sustainability* *Municipality of Chatham-Kent* 519-360-1998 gabrielc@chatham-kent.ca	Microsoft Teams meeting on September 22, 2021	Brian Lennie (Senior Advisor, Municipal and Stakeholder Engagement) of Enbridge Gas had a meeting with members from the Municipality of Chatham-Kent to discuss the need for the project, proposed project components, proposed pipeline options and gather initial feedback/comments.	N/A
Jerry Behl *County of Essex* JBehl@countyofessex.ca and Robert Ventura *Environmental Coordinator*	Microsoft Teams meeting on September 23, 2021	Brian Lennie (Senior Advisor, Municipal and Stakeholder Engagement) of Enbridge Gas had a meeting with members from the County of Essex to discuss the need for the project, proposed project components, proposed pipeline options and gather initial feedback/comments.	N/A

Summary of Consultation Undertaken as part of the Panhandle Regional Expansion Project

Contact Name	Method and Date of Communication	Summary of Comments/Questions	Response
County of Essex RVentura@countyofessex.ca			
Jerry Behl *County of Essex* JBehl@countyofessex.ca and Robert Ventura *Environmental Coordinator* *County of Essex* RVentura@countyofessex.ca	Email on September 24, 2021	Robert Ventura (Environmental Coordinator) of the County of Essex provided some initial thoughts regarding the proposed Wheatley Interconnect pipeline and advised that the county does have a few design and construction plans for culvert replacements and paving operations in the area. Robert advised that the culvert replacements occur within the county right-of-way and if construction of the natural gas pipeline is planned to occur in a private easement, then the two proposed works may not interfere. Robert advised they will provide more details and confirmation as it becomes available and asked when the next phase of engagement would be.	Brian Lennie (Senior Advisor, Municipal and Stakeholder Engagement) of Enbridge Gas advised that the next phase of engagement would be the project's virtual information session occurring at the end of October. Brian asked the County of Essex to provide further details on their proposed culvert and pavement works at that time or at any point to Enbridge Gas directly.
Paul Barnable *Director of Community and Development Services* *Municipality of Leamington* pbarnable@leamington.ca and Danielle Truax *Manager of Planning Services* *Municipality of Leamington* dtruax@leamington.ca and John Pilmer *Municipality of Leamington* jpilmer@leamington.ca	Microsoft Teams meeting on September 24, 2021	Brian Lennie (Senior Advisor, Municipal and Stakeholder Engagement) of Enbridge Gas had a meeting with members from the Municipality of Leamington to discuss the need for the project, proposed project components, proposed pipeline options and gather initial feedback/comments.	N/A
Krystal Kalbol *Director, Engineering and Infrastructure Services* *Municipality of Lakeshore* kkalbol@lakeshore.ca and Truper McBride *CAO* *Municipality of Lakeshore* tmcbride@lakeshore.ca and Jeff Wilson *Municipality of Lakeshore* jwilson@lakeshore.ca	Microsoft Teams meeting on September 29, 2021	Brian Lennie (Senior Advisor, Municipal and Stakeholder Engagement) of Enbridge Gas had a meeting with members from the Municipality of Lakeshore to discuss the need for the project, proposed project components, proposed pipeline options and gather initial feedback/comments.	N/A
Robert Brown *Manager of Planning & Development Services* *Town of Kingsville*	Microsoft Teams meeting on October 5, 2021	Brian Lennie (Senior Advisor, Municipal and Stakeholder Engagement) of Enbridge Gas had a meeting with members from the Town of	N/A

Summary of Consultation Undertaken as part of the Panhandle Regional Expansion Project

Contact Name	Method and Date of Communication	Summary of Comments/Questions	Response
rbrown@kingsville.ca and Andrew Plancke *Director of Municipal Services* *Town of Kingsville* aplancke@kingsville.ca and kbrcic@kingsville.ca		Kingsville to discuss the need for the project, proposed project components, proposed pipeline options and gather initial feedback/comments.	
Robert Ventura *Environmental Coordinator* *County of Essex* RVentura@countyofessex.ca and Jerry Behl *County of Essex* JBehl@countyofessex.ca	Email on October 21, 2021	Robert Ventura (Environmental Coordinator) of the County of Essex confirmed their receipt of AECOM's letter of project Commencement and virtual information session for the project and asked if the virtual information session will be pre-recorded or if it is a live event.	Mark Van der Woerd (AECOM) advised that the virtual information session will be pre-recorded, which will allow individuals to go through the material at their convenience.
Sydnee Rivest *Municipality of Lakeshore* srivest@lakeshore.ca Krystal Kalbol *Director, Engineering and Infrastructure Services* *Municipality of Lakeshore* kkalbol@lakeshore.ca	Email on December 3, 2021	Sydnee Rivest of the Municipality of Lakeshore provided comments from Krystal Kalbol (Director, Engineering and Infrastructure Services) on the information provided during the virtual information session. The Municipality of Lakeshore noted concerns of the Panhandle Loop being in close proximity to the Comber sanitary treatment lagoons and traffic/roadway conditions in the project area.	
Robert Ventura *Environmental Coordinator* *County of Essex* RVentura@countyofessex.ca and Jerry Behl *County of Essex* JBehl@countyofessex.ca	Email on December 3, 2021	Robert Ventura (Environmental Coordinator) of the County of Essex provided a formal response letter on behalf of the County regarding the project and the information presented during the virtual information session (Nov 17-Dec 3, 2021). The response noted concerns of the project using County Roads in terms of traffic impacts and identified that permits would be needed if these roads were affected. In addition, the response also mentioned two rehabilitation programs that the County is proposing that may be affected by the project.	Mark Van der Woerd (AECOM) confirmed receipt of the letter and advised that the letter would be reviewed, and a response would be prepared.
Robert Ventura *Environmental Coordinator* *County of Essex* RVentura@countyofessex.ca and Jerry Behl *County of Essex* JBehl@countyofessex.ca	Microsoft Teams meeting on January 5, 2022	Brian Lennie (Senior Advisor, Municipal and Stakeholder Engagement) of Enbridge Gas along with some other Enbridge Gas staff members had a meeting with Robert and Jerry from the County of Essex to further discuss the project, provide an update on the proposed project components and advise of a second virtual information session scheduled for February 2022.	N/A

Summary of Consultation Undertaken as part of the Panhandle Regional Expansion Project

Contact Name	Method and Date of Communication	Summary of Comments/Questions	Response
Robert Ventura *Environmental Coordinator* *County of Essex* RVentura@countyofessex.ca and Jerry Behl *County of Essex* JBehl@countyofessex.ca And Sumaiya Habiba *County of Essex* SHabiba@countyofessex.ca	Email chain from January 11-21, 2022	The County of Essex acknowledged some concerns regarding their planned culvert replacement in the area of the Leamington Interconnect preliminary preferred route along with County Wide Active Transportation System (CWATS) concerns with anticipated paved shoulders on County Road 8 and 31.	Brian Lennie (Senior Advisor, Municipal and Stakeholder Engagement) of Enbridge Gas advised that the information provided by the County of Essex will form part of the feedback gained through the second virtual information session and further discussion would follow.
Sumaiya Habiba *Environmental Coordinator* *County of Essex* SHabiba@countyofessex.ca and Jerry Behl *County of Essex* JBehl@countyofessex.ca	Microsoft Teams meeting on April 4, 2022	Brian Lennie (Senior Advisor, Municipal and Stakeholder Engagement) of Enbridge Gas along with some other Enbridge Gas staff members had a meeting with Sumaiya and Jerry from the County of Essex to discuss final project details and a future presentation to council. The County of Essex provided a map after the meeting that showed their roads rehabilitation program work for 2022-2026 and advised once they had further information about the proposed culvert projects on County Road 31 and County Road 8, those details would be shared as well.	N/A
Indigenous Communities			
Jennifer Mills *Consultation Staff Lead* *Chippewas of the Thames First Nation* jmills@cottfn.com	Email on November 29, 2021	Jennifer Mills (Consultation Staff Lead) of the Chippewas of the Thames First Nation emailed the Project Team requesting for spatial files to put into their consultation software to identify how the project intersects treaties, important sites, waterways, etc.	The Project Team provided Jennifer with the shape files for the Panhandle Loop, Leamington Interconnect and Wheatley Interconnect on December 6, 2021.
Conservation Authority			
Randall Van Wagner *Manager of Conservation Lands and Services* *Lower Thames Valley Conservation Authority* Randall.VanWagner@ltvca.ca	Email on November 2, 2021	Randall Van Wagner (Manager of Conservation Lands and Services) of the Lower Thames Valley Conservation Authority requested to sign up for the virtual information session regarding the project and advised that the project will impact two properties owned and managed by the conservation authority.	Mark Van der Woerd (AECOM) advised that the virtual information session will be available for review between November 17 to December 3, 2021 and that if a meeting is needed to discuss any of the material, one can be arranged afterwards.
Public			
[redacted] Landowner [redacted]	Phone call on February 9, 2022	[redacted] called Mark Van der Woerd (AECOM) to inform him of his concerns with the Wheatley Lateral Reinforcement Preferred Route. [redacted] had concerns about the crossing of Wheatley Line to Goodreau because of the utilities present and drainage tile in the area. [redacted] expressed that he did not want the pipeline on his property due to concerns related to topsoil impacts and past projects. He noted that if the pipeline had to be on his property then he would like additional information on mitigation measures and asked for more information on the construction footprint, trench size and installation methods (his preference is a drainage trencher or hydraulic trencher).	On February 24, 2022, Mark Van der Woerd of AECOM called [redacted] back and thanked him for his comments and noted that the construction installation methodology at this time was not known and his concerns/suggestions have been noted. [redacted] advised he also provided the same comments to the Municipality of Lakeshore but had not yet heard back from them. Mark noted that [redacted] would be added to the project contact list and further updates regarding the project would be provided as they became available.

Summary of Consultation Undertaken as part of the Panhandle Regional Expansion Project

Contact Name	Method and Date of Communication	Summary of Comments/Questions	Response
Bram Wilson *Project Manager* *Voltage Power* and Nalin Mistry *Voltage Power* and Steven Jeffery *Voltage Power*	Email on March 21, 2022 and follow up email on March 23, 2022	Bram Wilson (Voltage Power) sent an email to the Project Team email requesting shapefiles for the Panhandle Loop route and the existing 16' and 20' pipelines in order to evaluate their transmission line. A follow-up email was received on March 23, 2022 regarding the shape files.	On April 5, 2022, Mark Van der Woerd (AECOM) spoke with Bram Wilson on the phone and advised he would them the requested shapefiles.
Bram Wilson *Project Manager* *Voltage Power* and Nalin Mistry *Voltage Power* and Steven Jeffery *Voltage Power*	Email on April 8, 2022	Bram Wilson (Voltage Power) sent an email to the Project Team email requesting the shapefile for the existing Enbridge Gas 20 inch Panhandle pipeline.	
Other			
Aaron Coristine *Manager: Science, Regulatory Affairs and Government Relations* *Ontario Greenhouse Vegetable Growers* 519-564-4496 a.coristine@ogvg.com and Joe Sbrocchi *General Manager* *Ontario Greenhouse Vegetable Growers* 519-326-2604 ext. 201	Microsoft Teams meeting on March 5, 2021	Patrick Boyer (Account Manager, Key Accounts, Distribution Sales) of Enbridge Gas had a meeting with the Ontario Greenhouse Vegetable Growers (OGVG) to introduce the proposed Panhandle Regional Expansion Project and provide them with the expected capacity created the timing as to when the project might be completed and the Expression of Interest (EOI) process that their members would be taking part in.	N/A
Invest WindsorEssex	Phone call on August 12, 2021	Enbridge Gas Representatives met with staff from Invest WindsorEssex to discuss the project details. The upcoming environmental report process was reviewed, and Enbridge Gas requested that staff from Invest WindsorEssex participate and provide feedback as part of the process. Invest WindsorEssex staff confirmed they will participate in the environmental report process.	N/A
Aaron Coristine *Manager: Science, Regulatory Affairs and Government Relations* *Ontario Greenhouse Vegetable Growers*	Phone call on August 17, 2021	Patrick Boyer (Account Manager, Key Accounts, Distribution Sales) of Enbridge Gas had a phone call with OGVG regarding the 2024 Rate/Services integration. Patrick provided a high-level update as to the	N/A

Summary of Consultation Undertaken as part of the Panhandle Regional Expansion Project

Contact Name	Method and Date of Communication	Summary of Comments/Questions	Response
519-564-4496 a.coristine@ogvg.com and Joe Sbrocchi *General Manager* *Ontario Greenhouse Vegetable Growers* 519-326-2604 ext. 201		results of the EOI process and informed them that the response was very strong, and that the capacity requested was higher than Enbridge Gas had suggested in the EOI communication package.	

Indigenous Input

From: panhandle@virtualengagement.ca
Subject: Re: spatial files
Date: Mon, December 6, 2021 10:51 am
To: "Jennifer Mills" <jmills@cottfn.com>
Cc: evan.tomek@enbridge.com,kristan.washburn@aecom.com,sarah.schmied@aecom.com,jordan.witt1@aecom.com

---

Hi Jennifer,

Thank you for your inquiry on the Panhandle Regional Expansion Project. As requested, please find attached to this email a zip folder containing the shapefiles for the Panhandle Loop, Leamington Interconnect and Wheatley Interconnect routes.

Please let me know if you need anything else.

Thank you,
Panhandle Regional Expansion Project Team

Hi Mark
>
> I'm the Consultation staff lead at Chippewas of the Thames First Nation
> for the Panhandle project. We require spatial files to put into our
> consultation software to be able to identify how the project intersects
> with treaties, important sites, waterways, etc. I see from the Virtual
> Open House interactive map that those files are available.
>
> Are you able to send those files to me? We generally receive those in a
> compressed zip file.
>
> Let me know if you have any concerns.
>
> Thanks,
>
>
> [cid:image001.png@01D7E530.2BCCC530]
> Jennifer Mills
> Energy Sector Consultation Coordinator
> Chippewas of the Thames First Nation
> Email: jmills@cottfn.com
> Cell: 647-990-7897 | Admin Office: 519-289-5555 Ex: 236
> 320 Chippewa Road, Muncey, Ontario
> [facebook icon]<https://www.facebook.com/OfficialCottfn> [twitter icon]
> <https://twitter.com/OfficialCottfn> [linkedin icon]
> <https://www.linkedin.com/company/7025313> [instagram icon]
> <https://www.instagram.com/cottfncomms>
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>
> This communication is intended for the use of the recipient to whom it is
> addressed and may contain confidential and or privileged information. If
> you are not the intended recipient of this communication any information
> received should be deleted or destroyed.
>
>
>

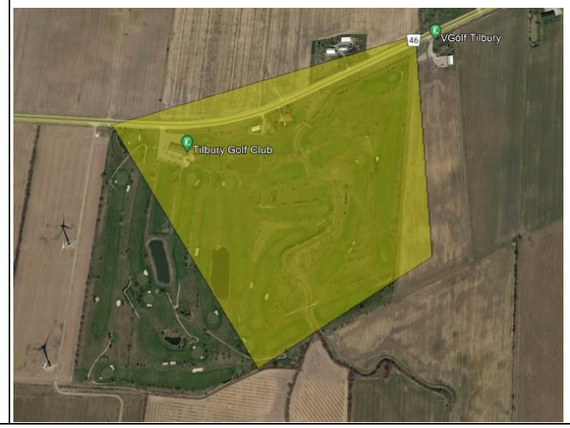
Attachments:

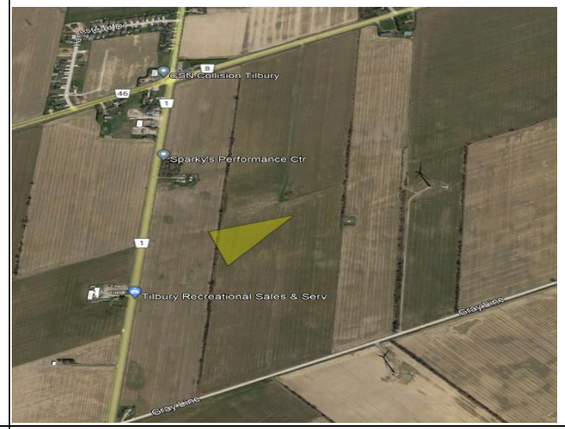
AECOM_PanhandleProject_RouteShps_20211117.zip	
Size:	18 k
Type:	application/x-zip-compressed

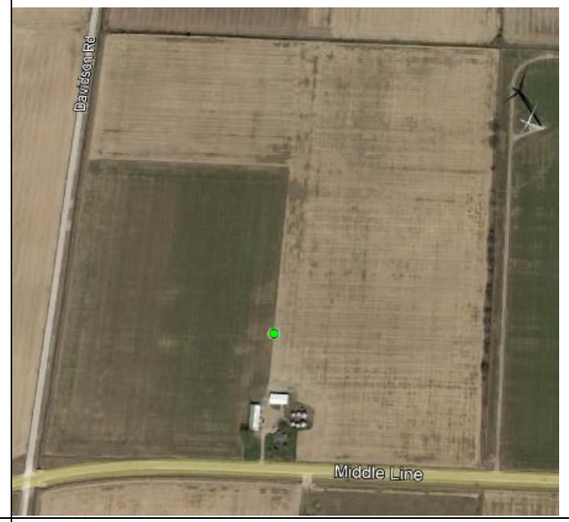
Public Input

Summary of Public Comments Received as a Result of the Virtual Information Sessions Comment Forms and Interactive Mapping Tool and Enbridge Gas Responses

Contact Name	Would like to Receive Further Project Info and How	Method and Date of Communication	Issue/Topic	Summary of Public Comments/Questions	Response Required?	Responses from Enbridge Gas
Comment Form Comments						
[redacted]	Yes, by regular mail	2021-11-17 Comment Form from VIS #1	Environmental and Agricultural Impacts – Wheatley Interconnect	Environmental impacts will be greater than the alternative route for the Wheatley Interconnect. The Alternative route is more direct and has less environmental impacts and destruction of agricultural property.	Yes	The Wheatley Interconnect portion of the project is no longer in scope and will not be constructed at this time.
[redacted]@mnsi.net	Yes, by email	2021-11-20 Comment Form from VIS #1	Project	Requesting to review the project in person with an Enbridge Representative.	Yes	An Enbridge lands agent was provided [redacted] information to connect with them to discuss the project.
[redacted]@hotmail.com	Yes, by email	2021-11-23 Comment Form from VIS #1	Construction	Not enough information noted on the width of construction site but supports the Panhandle Loop.	Yes	An Enbridge Lands agent was provided [redacted] information and additional information was discussed.
[redacted]@gmail.com	Yes, by regular mail	2021-11-30 Comment Form from VIS #1	Routing – Wheatley Interconnect	Concerns on the Wheatley Preliminary Preferred Route intersecting family agricultural property and disrupting farming practices. Suggested to use the Townline instead and that an in-person meeting would have been more helpful.	Yes	The Wheatley Interconnect portion of the project is no longer in scope and will not be constructed at this time.
[redacted]@wavedirect.net	Yes, by email	2022-02-15 Comment Form from VIS #2	Access to gas – Panhandle Loop	Landowner within the Panhandle Loop Study Area asked if the houses along County Road 8 would have access to gas and wondered if the pipeline travels along County Rd 8, which side of the road it will be on (north/south).		An Enbridge Lands agent was provided [redacted] information and additional information was discussed.
[redacted]@hotmail.com	Yes, by regular mail	2022-02-16 Comment Form from VIS #2	N/A	No concern. Is a landowner within the Talbot Road Reinforcement Preliminary Preferred Route Study Area.		The Talbot Road Reinforcement portion of the project is no longer in scope and will not be constructed at this time.
[redacted]@gmail.com	Yes, by regular mail	2022-02-17 Comment Form from VIS #2	Environmental – Wheatley Lateral Reinforcement Preferred Route and Wheatley Lateral Reinforcement Preliminary Preferred Route	Has concerns regarding the placement of the Wheatley Lateral Reinforcement Preferred and Preliminary Preferred Routes noting that construction would affect Goodreau Line road drainage and would cut into his field's main drainage. Advised that the route should be run along Kent Road 1 to mitigate environmental impacts as the road allowance is more than sufficient to accommodate the pipeline.		The Wheatley Lateral Reinforcement portion of the project is no longer in scope and will not be constructed at this time.
Interactive Mapping Tool Comments						
N/A	N/A	Interactive mapping tool (VIS #1)	Boralex Richardson Wind Farm Infrastructure	Boralex Richardson Windfarm has the following concerns with the Panhandle Loop: • Damage to buried power cables servicing turbines #2 and 3 • Maintaining the only access to turbine 2 • Proximity of excavations to turbine #3 foundation	N/A	Representatives from Enbridge Gas spoke to Stephen Courey of Boralex to discuss the project. Stephen advised that his concerns with their windmill infrastructure near the Tilbury Golf course will likely be satisfied through a few site visits/meetings.

					
N/A	N/A	Interactive mapping tool (VIS #1)	Condo Development	A condo development is planned for 2030 adjacent to the Project limits of the Panhandle Loop. 	Project limits for the Panhandle Loop fall outside of the proposed condo development area.

N/A	N/A	Interactive mapping tool (VIS #1)	Species at Risk Sighting	A Western Chorus Frog was sighted near the Project limits for the Panhandle Loop last summer. 	The ecology team has made note of this siting and will be sure to investigate during the 2022 field studies.
N/A	N/A	Interactive mapping tool (VIS #1)	Unmarked Grave	Landowner discovered an unmarked grave on their property near the Panhandle Loop Project limits. 	The project limits for the Panhandle Loop have changed since the first virtual information session and will now start at Enbridge Gas' Dover Transmission Station and will end at Richardson Side Road instead of ending at Enbridge Gas' Comber Transmission Station. The unmarked grave now lies outside of the project limits for the Panhandle Loop.

N/A	N/A	Interactive mapping tool (VIS #1)	Pool Infrastructure	A property owner near the Panhandle Loop Project limits is in the process of building a swimming pool. 	The project limits for the Panhandle Loop fall outside of the area noted for the swimming pool.
N/A	N/A	Interactive mapping tool (VIS #2)	Septic Tank	Concerns regarding a spetic tank that cannot be moved. 	The project limits for the Leamington Interconnect fall outside of the area noted for the septic tank.

Witt, Jordan

From: panhandle@virtualengagement.ca
Sent: April 4, 2022 9:17 AM
To: Van der Woerd, Mark
Cc: Witt, Jordan; Washburn, Kristan
Subject: [EXTERNAL] [Fwd: RE: Panhandle Regional Expansion]
Attachments: untitled-[2].html

Please see below two emails we received in our project email address inbox.

Jordan
---------- Original Message ----------
Subject: RE: Panhandle Regional Expansion
From: "Bram Wilson" <brawilson@aecon.com>
Date: Wed, March 23, 2022 6:57 pm
To: "panhandle@virtualengagement.ca" <panhandle@virtualengagement.ca>
Cc: "Nalin Mistry" <NMistry@voltagepower.ca>
"Steven Jeffery" <SJeffery@voltagepower.ca>

Good afternoon Mark,

Just following up to see if you needed any other information from our team for this request.

Regards,
Bram Wilson, P.Eng.
Project Manager
Mobile: 204.914.5830

VOLTAGE POWER
AN AECON COMPANY
#26, 1313 Border Street
Winnipeg, MB, R3H 0X4
voltagepower.ca

From: Bram Wilson
Sent: March 21, 2022 10:10 AM
To: panhandle@virtualengagement.ca
Cc: Nalin Mistry <NMistry@voltagepower.ca>; Steven Jeffery <SJeffery@voltagepower.ca>
Subject: Panhandle Regional Expansion

Good morning Mark,

Further to our conversation on Friday we would like to request the shape files for the Panhandle Expansion preferred route as well as the existing pipelines (both the 16" and 20" lines) to evaluate our transmission line.

Please let me know if there is any other information you require any other information.

Regards,

Bram Wilson, P.Eng.
Project Manager
Mobile: 204.914.5830

VOLTAGE POWER
AN AECON COMPANY
#26, 1313 Border Street
Winnipeg, MB, R3H 0X4
voltagepower.ca

Witt, Jordan

From: panhandle@virtualengagement.ca
Sent: April 22, 2022 8:18 AM
To: Witt, Jordan
Subject: [EXTERNAL] [Fwd: RE: Panhandle Regional Expansion]
Attachments: untitled-[1.2].html; MAP_60665521_Fig1-PanhandleLoop-Marked.pdf

---------- Original Message ----------
Subject: RE: Panhandle Regional Expansion
From: "Bram Wilson" <brawilson@aecon.com>
Date: Fri, April 8, 2022 5:17 pm
To: "panhandle@virtualengagement.ca" <panhandle@virtualengagement.ca>
Cc: "Nalin Mistry" <NMistry@voltagepower.ca>
"Steven Jeffery" <SJeffery@voltagepower.ca>

Good afternoon Mark,

Thank you again for sending over the files today. Do you happen to have the shape file for the existing 20" pipeline (see attached sketch for reference). If so could we please get a copy of it?

Regards,
Bram Wilson, P.Eng.
Project Manager
Mobile: 204.914.5830

VOLTAGE POWER
AN AECON COMPANY
#26, 1313 Border Street
Winnipeg, MB, R3H 0X4
voltagepower.ca

From: Bram Wilson
Sent: March 23, 2022 5:58 PM
To: panhandle@virtualengagement.ca
Cc: Nalin Mistry <NMistry@voltagepower.ca>; Steven Jeffery <SJeffery@voltagepower.ca>
Subject: RE: Panhandle Regional Expansion

Good afternoon Mark,

Just following up to see if you needed any other information from our team for this request.

Regards,
Bram Wilson, P.Eng.
Project Manager
Mobile: 204.914.5830

VOLTAGE POWER

AN AECON COMPANY
#26, 1313 Border Street
Winnipeg, MB, R3H 0X4
voltagepower.ca

From: Bram Wilson
Sent: March 21, 2022 10:10 AM
To: panhandle@virtualengagement.ca<mailto:panhandle@virtualengagement.ca>
Cc: Nalin Mistry
<NMistry@voltagepower.ca<mailto:NMistry@voltagepower.ca>>; Steven Jeffery
<SJeffery@voltagepower.ca<mailto:SJeffery@voltagepower.ca>>
Subject: Panhandle Regional Expansion

Good morning Mark,

Further to our conversation on Friday we would like to request the shape files for the Panhandle Expansion preferred route as well as the existing pipelines (both the 16" and 20" lines) to evaluate our transmission line.

Please let me know if there is any other information you require any other information.

Regards,
Bram Wilson, P.Eng.
Project Manager
Mobile: 204.914.5830

VOLTAGE POWER
AN AECON COMPANY
#26, 1313 Border Street
Winnipeg, MB, R3H 0X4
voltagepower.ca

Dover Transmission Station

Lake St. Clair

Provided.

Can we request Shapefile for this?

Proposed Station and Tie-in

Tilbury

Thames River

Jeannettes Creek

Big Creek

Tilbury Creek

Tremblay Creek

Baptiste Creek

MAPLE LINE
TOWN LINE RD
BRADLEY LINE
PAIN COURT LINE
JACOB RD
GRANDE RIVER LINE
RIVER VIEW LINE
DRAKE RD
MARJORY DR
DEWEY DR
BRUGE DR
TECUMSEH LINE
DAUPHIN RD
PUMP RD
MERLIN RD
ST CLAIR RD
TISDELLE DR
LAKESHORE ROAD 301
LAKESHORE ROAD 302
LAKESHORE ROAD 303
LAKESHORE ROAD 305
TECUMSEH RD
COUNTY RD 35
COUNTY RD 42
COUNTY RD 46
GRACEY SIDERD
RICHARDSON SIDERD
MORRIS RD
QUEEN ST N
BAPTISTE RD
MUNICIPALITY OF LAKESHORE
MUNICIPALITY OF CHATHAM-KENT
DASHWHEEL RD
WHEATLEY RD
FORBES LINE
SINCLAIR RD
MINT LINE
JEANNETTES CREEK RD
COUTTS LINE
QUEENS LINE
GLEESON LINE
MORRIS LINE
COOPER RD
FINN LINE
SLOAN RD
POLLARD LINE
MIDDLE LINE
OAK RD
PORT RD
KING & WHITTLE RD
HORNICK LINE
GRAY LINE
QUINN LINE
HERMAN LINE
KEMP LINE
McDOUGALL LINE
S MIDDLE RD
DESIMPEL RD
401
77

Lake St Clair
Detroit
Chatham
Leamington
Map Location

Legend

- Station
- Preferred Route
- Existing 16 Inch Panhandle Pipeline
- Existing 20 Inch Panhandle Pipeline
- Hydro Line
- Railway
- Constructed Drain
- Permanent Stream
- Waterbody
- ANSI, Life Science
- Wooded Area
- Municipal Boundary

Panhandle Regional Expansion Project

Panhandle Line Loop

0 2 4
Kilometers
DATUM: NAD 1983 UTM Zone 17N

January 2022	1:65,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
P#:60665521	V#:	

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Figure 1

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Map location: \\na.aecomnet.com\kit\AMER\Kitchener-CA\KCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\01_Reports\PC\MXD_60665521_Fig1-PanhandleLoop.mxd
Date Saved: 1/20/2022 12:23:47 PM User Name: clarkb

AECOM

Agency Input

AECOM

MECP

Witt, Jordan

From: Washburn, Kristan
Sent: March 21, 2022 12:54 PM
To: Witt, Jordan
Subject: FW: SARBBio_RE-03-14-2022: Enbridge Panhandle Pre-screening

---

From: Washburn, Kristan
Sent: March 21, 2022 12:48 PM
To: 'Zarkovich, Aide (MECP)' <Aide.Zarkovich@ontario.ca>
Subject: FW: SARBBio_RE-03-14-2022: Enbridge Panhandle Pre-screening

---

From: Zarkovich, Aide (MECP) <Aide.Zarkovich@ontario.ca>
Sent: March 14, 2022 12:21 PM
To: Van der Woerd, Mark <Mark.VanderWoerd@aecom.com>
Cc: Copeland, Todd (MECP) <Todd.Copeland@ontario.ca>; Washburn, Kristan <Kristan.Washburn@aecom.com>; Doug Schmidt <Doug.Schmidt@enbridge.com>; Evan Tomek <Evan.Tomek@enbridge.com>; Easterling, Katie <katie.easterling@aecom.com>
Subject: [EXTERNAL] SARBBio_RE-03-14-2022: Enbridge Panhandle Pre-screening

Hi Mark,

MECP SARB has reviewed the pre-screen submitted by EACOM for Enbridge Panhandle project.

Please find below comments on this submission:

1. More information is required for the temporary workspaces (including those located in private property). Will they be located out of potential SAR habitat?
2. How deep will the HDD be happening under the surface? Could HDD have a negative impact on overwintering turtles and snakes (vibrations)? Blanding's Turtle nests aren't very deep. Could HDD impact the eggs (vibrations causing yolk sac to detach from the egg)
3. Can you please describe the steps that would be taken in the event a frac out occurs in overwintering turtle habitat. Blanding's Turtle only partially burrow under the substrate so any spill could smother the turtles
4. Please submit frac out plan
5. It is recommended detailed habitat assessments be completed to determined nesting and overwintering sites of snakes and turtles. Features can be mapped and the potential for HDD be explored or otherwise explanation be provided as to the reason why trenchless technology cannot be used.
6. Could dewatering activities have an impact on nearby turtle habitat?
7. Will the listed mitigation measures take place on all suitable Bobolink and Eastern Meadowlark habitat areas regardless of whether birds were observed or not. What steps will the on-site workers take if a nest is encountered?
8. Does trenching occurring (Jun-Jul 2023) include HDD?

Regards,

Aide

Aide Zarkovich
A/Management Biologist - Permissions & Compliance
Species at Risk Branch
Land & Water Division
Ministry of the Environment, Conservation & Parks
aide.zarkovich@ontario.ca
T: 705-492-7452

From: Van der Woerd, Mark <Mark.VanderWoerd@aecom.com>
Sent: March 3, 2022 2:29 PM
To: Copeland, Todd (MECP) <Todd.Copeland@ontario.ca>; Zarkovich, Aide (MECP) <Aide.Zarkovich@ontario.ca>
Cc: Washburn, Kristan <Kristan.Washburn@aecom.com>; Doug Schmidt <Doug.Schmidt@enbridge.com>; Evan Tomek <Evan.Tomek@enbridge.com>; Easterling, Katie <katie.easterling@aecom.com>
Subject: RE: Enbridge Panhandle Pre-screening Meeting

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

Hi Todd,

Thanks again for making time today to discuss the Enbridge Panhandle project. As mentioned, please find a copy of the presentation attached. We will follow-up with Aide next week to see if there is a time that works for her to connect.

If any questions emerge, please don't hesitate to reach out directly to Kristan.

Have a great afternoon,
Mark

Mark van der Woerd
AECOM
mark.vanderwoerd@aecom.com
(289) 439-9803

AECOM

MHSTCI

Witt, Jordan

From: pastport <pastport@ontario.ca>
Sent: November 23, 2021 11:45 AM
To: Markham, Samantha
Cc: PastPort@ontario.ca
Subject: [EXTERNAL] PIF Number P438-0278-2021 has been issued / *

Dear Samantha Markham,

Your Project Information Form submitted for **Stage 1 Archaeological Assessment, Panhandle Loop, Leamington Interconnect, and Wheatley Interconnect, Panhandle Regional Expansion Project, Part of Multiple Lots and Concessions, Multiple Geographic Townships, Essex and Kent Counties, Ontario** on Nov 22, 2021 has been processed and PIF number **P438-0278-2021** has been assigned to your project.

Please keep this PIF number for your records and cite it on all reports and correspondence with the ministry about this project.

The report for this project must be filed with the ministry by **Nov 22, 2022**. Please take note of this date to ensure that you file your report on time. If you miss the deadline and the report becomes overdue you will not be eligible to begin new fieldwork projects.

Please note, a PIF number issued by the ministry does not mean the ministry approves your proposed fieldwork strategies. PIF numbers are used by the ministry to track archaeological fieldwork activity under your licence and to establish a due date by which you must file a report with the ministry that documents the archaeological fieldwork carried out as part of this project.

For more information about PIFs and report filing deadlines, see the ministry's guide to PIFs on our website: www.mtc.gov.on.ca/en/archaeology/PIF_Protocols_EN.pdf

If you have any questions email us at Archaeology@ontario.ca. Please do not reply directly to this email.

Thank you,

Archaeology Program Team

Witt, Jordan

From: pastport <pastport@ontario.ca>
Sent: March 21, 2022 8:30 AM
To: Markham, Samantha
Cc: PastPort@ontario.ca
Subject: [EXTERNAL] PIF Number P438-0283-2022 has been issued / *

Dear Samantha Markham,

Your Project Information Form submitted for **Stage 2 Archaeological Assessment, Panhandle Loop and Leamington Interconnect, Panhandle Regional Expansion Project, Part of Multiple Lots and Concessions, Multiple Geographic Townships, Essex and Kent Counties, Ontario** on Mar 17, 2022 has been processed and PIF number **P438-0283-2022** has been assigned to your project.

Please keep this PIF number for your records and cite it on all reports and correspondence with the ministry about this project.

The report for this project must be filed with the ministry by **Mar 17, 2023**. Please take note of this date to ensure that you file your report on time. If you miss the deadline and the report becomes overdue you will not be eligible to begin new fieldwork projects.

Please note, a PIF number issued by the ministry does not mean the ministry approves your proposed fieldwork strategies. PIF numbers are used by the ministry to track archaeological fieldwork activity under your licence and to establish a due date by which you must file a report with the ministry that documents the archaeological fieldwork carried out as part of this project.

For more information about PIFs and report filing deadlines, see the ministry's guide to PIFs on our website: www.mtc.gov.on.ca/en/archaeology/PIF_Protocols_EN.pdf

If you have any questions email us at Archaeology@ontario.ca. Please do not reply directly to this email.

Thank you,

Archaeology Program Team

Witt, Jordan

From: Jenkins, Tara
Sent: March 21, 2022 4:21 PM
To: Witt, Jordan
Subject: FW: MHSTCI Response: Request for Information - Panhandle Regional Expansion Project
Attachments: MAP_60665521_Fig2-Aerial.pdf

Fyi below.

Tara Jenkins MA.,GPCertCHS,CAHP

Cultural Planner V, IAP Practices
D +1-226-377-2838
tara.jenkins@aecom.com

AECOM
aecom.com

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From: Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca> **On Behalf Of** Registrar (MHSTCI)
Sent: Friday, December 31, 2021 12:19 PM
To: Harper, Jake <Jake.Harper@aecom.com>
Cc: Jenkins, Tara <tara.jenkins@aecom.com>; Registrar (MHSTCI) <Registrar@ontario.ca>
Subject: [EXTERNAL] MHSTCI Response: Request for Information - Panhandle Regional Expansion Project

MHSTCI File 0014829 - Panhandle Regional Expansion Project

Hi Jake,

Hope you had a nice holiday break and my apologies for this late response.

As you may know, the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) developed screening checklists to assist property owners, developers, consultants and others to identify known and potential cultural heritage resources:

- Criteria for Evaluating Archaeological Potential
- Criteria for Evaluating Marine Archaeological Potential
- Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes

I have used the document above (Built Heritage Resources and Cultural Heritage Landscapes) in order to respond to your question:

- Question 3a. i. Is the property (or project area) identified, designated or otherwise protected under the Ontario Heritage Act as being of cultural heritage value e.g. a property that is designated by order of the Minister of Heritage, Sport, Tourism and Culture Industries as being of cultural heritage value or interest of provincial significance [s.34.5]?
  MHSTCI Response: To date, no properties have been designated by the Minister.

- Question 3a.v. Is the property (or project area) identified, designated or otherwise protected under the Ontario Heritage Act as being of cultural heritage value included in the Ministry of Heritage, Sport, Tourism and Culture Industries' list of provincial heritage properties?
  MHSTCI Response: At this time, MHSTCI is not aware of any provincial heritage properties within or adjacent to the study area.

  Please note that if the subject lands or parts of the subject lands are owned or controlled by an Ontario Ministry or Prescribed Public Body (PPB) on behalf of the Crown (the list of PPBs is available as O. Reg. 157/10), a Ministry or PPB may have responsibilities under the Standards and Guidelines for Conservation of Provincial Heritage Properties.

MHSTCI would appreciate if any technical cultural heritage studies (e.g. Cultural Heritage Assessment Report, Cultural Heritage Evaluation Report, Heritage Impact Assessment) be sent for our review as part of the OEB process.

I hope this helps. Let me know if you have any questions.

Regards,
Karla

Karla Barboza MCIP, RPP, CAHP | (A) Team Lead, Heritage
Ministry of Heritage, Sport, Tourism and Culture Industries
Heritage, Tourism and Culture Division | Programs and Services Branch | Heritage Planning Unit
T. 416. 660.1027 | Email: karla.barboza@ontario.ca

From: Harper, Jake <Jake.Harper@aecom.com>
Sent: December-15-21 4:25 PM
To: Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca>
Cc: Jenkins, Tara <tara.jenkins@aecom.com>
Subject: Request for Information - Panhandle Regional Expansion Project

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

Good afternoon Karla,

I was hoping you might be able to assist me with a request.

AECOM is currently completing a Desktop Cultural Heritage Screening Memorandum as part of the Panhandle Regional Expansion Project. The Study Area for this project encompasses the preferred routes for two proposed pipelines: the Panhandle Loop and Leamington Interconnect. The Panhandle Loop is proposed to be approximately 19 kilometres in length and extend from the Dover Transmission Station, located in the Municipality of Chatham-Kent, to Richardson Side Road, situated in the Municipality of Lakeshore. Conversely, the Leamington Interconnect will be approximately 12 kilometres in length and connect the existing Leamington North Line to both the Leamington North Reinforcement Line and the Kingsville East Line. The preferred route extends from the Municipality of Leamington to the Municipality of Lakeshore.

I have attached a map of the Study Area—would you be able to review and confirm if there any known Provincial Heritage Properties, and/or Provincial Heritage Properties of Significance adjacent to the Study Area?

Any information you can provide me with would be greatly appreciated.

Kind regards,

AECOM

LTVCA

Witt, Jordan

From: Van der Woerd, Mark
Sent: November 2, 2021 9:29 AM
To: Randall Van Wagner
Cc: Washburn, Kristan; Evan Tomek
Subject: RE: virtual engagement

Hi Randall,

Thanks for reaching out about the Panhandle Regional Expansion Project virtual information session. It will be able for review online from November 17 until December 3, 2021. You will be able to access the information when convenient during this time using the following link: https://www.virtualengagement.ca/panhandle. If you feel it would be helpful to meet to discuss the Project after you have had a chance to review the materials, please don't hesitate to let me know.

In the meantime, if you have questions please feel free to reach out.

Best,
Mark

Mark van der Woerd
AECOM
mark.vanderwoerd@aecom.com
(289) 439-9803

From: Randall Van Wagner <Randall.VanWagner@ltvca.ca>
Sent: November 2, 2021 8:53 AM
To: Van der Woerd, Mark <Mark.VanderWoerd@aecom.com>
Subject: [EXTERNAL] virtual engagement

I would like to sign up for the information session regarding the pipeline expansion- as this will impact two properties we own and manage

Randall Van Wagner
Manager of Conservation Lands and Services
Lower Thames Valley Conservation Authority
(519) 354-7310 x 230





Please be advised that effective March 18th, 2020, the LTVCA Administration Office at 100 Thames St. in Chatham is closed to the public. All departments will continue to provide services to the public remotely. Conservation Authority staff will be working remotely during this time and members of the public are asked to communicate with employees by telephone or email.

Witt, Jordan

From: Neil Pothier <Neil.Pothier@ltvca.ca>
Sent: February 8, 2022 3:43 PM
To: Witt, Jordan
Subject: [EXTERNAL] RE: LTVCA Data Request - Enbridge Panhandle Regional Expansion Project
Attachments: LTVCA_RegulatedArea2017_AECOMEnbridgeClip_08Feb2022.zip

Hi Jordan,

Sorry for the delay. See attached for a larger clip of our regulated area.

Neil Pothier
GIS Technician
Lower Thames Valley Conservation Authority
100 Thames Street, Chatham ON N7L2Y8
519-354-7310 ext 236
Neil.Pothier@ltvca.ca
http://www.ltvca.ca





***COVID-19 Notice:
Please be advised that the LTVCA Administration Office at 100 Thames St. in Chatham is closed to the public until further notice. All departments will continue to provide services as Conservation Authority staff will be reporting to work or working remotely during this time, and members of the public are asked to communicate with employees by telephone or email. All planned face-to-face meetings will be rescheduled to a later date. LTVCA staff will continue to participate in meetings through alternative means including teleconference and webinar. We will advise when our office spaces reopen.
We sincerely apologize for the inconvenience this may cause however, the health and safety of staff and communities is of paramount importance.

From: Witt, Jordan <Jordan.Witt1@aecom.com>
Sent: January 20, 2022 10:46 AM
To: Neil Pothier <Neil.Pothier@ltvca.ca>
Subject: RE: LTVCA Data Request - Enbridge Panhandle Regional Expansion Project

Hi Neil,

Essentially I am looking for reg limits data in both Essex County and Chatham-Kent since the project crosses both municipalities. The alternative routes we are examining fall within the red box I have drawn below. Essentially it's from approx. Rochester Townline Road just west of Comber to Townline Road just east of St. Clair National Wildlife Area. Are you able to provide?



Thanks!

Jordan Witt, MES, EPt
Environmental Planner, Impact Assessment & Permitting, Ontario
M +1-519-897-3107
jordan.witt1@aecom.com

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45 Goderich Road, Suite 201
Hamilton, ON L8E 4W8, Canada

aecom.com

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From: Neil Pothier <Neil.Pothier@ltvca.ca>
Sent: January 20, 2022 10:32 AM
To: Witt, Jordan <Jordan.Witt1@aecom.com>
Subject: [EXTERNAL] RE: LTVCA Data Request - Enbridge Panhandle Regional Expansion Project

Hi Jordan,

Sorry for the delay. Did you want our regulated areas for all of Essex County now or Chatham-Kent as well? I haven't had the time to update those areas so I'm hesitant to share a large area that hasn't been updated since as recently as 2017.

Neil Pothier
GIS Technician
Lower Thames Valley Conservation Authority
100 Thames Street, Chatham ON N7L2Y8
519-354-7310 ext 236
Neil.Pothier@ltvca.ca
http://www.ltvca.ca



***COVID-19 Notice:
Please be advised that the LTVCA Administration Office at 100 Thames St. in Chatham is closed to the public until further notice. All departments will continue to provide services as Conservation Authority staff will be reporting to work or working remotely during this time, and members of the public are asked to communicate with employees by telephone or email. All planned face-to-face meetings will be rescheduled to a later date. LTVCA staff will continue to participate in meetings through alternative means including teleconference and webinar. We will advise when our office spaces reopen.
We sincerely apologize for the inconvenience this may cause however, the health and safety of staff and communities is of paramount importance.

From: Witt, Jordan <Jordan.Witt1@aecom.com>
Sent: January 14, 2022 2:12 PM
To: Neil Pothier <Neil.Pothier@ltvca.ca>
Subject: RE: LTVCA Data Request - Enbridge Panhandle Regional Expansion Project

Hi Neil,

Hope all is well. Just wanted to follow-up on my question/request below.

Thanks!

Jordan Witt, MES
Environmental Planner, Impact Assessment & Permitting
M +1-519-897-3107
jordan.witt1@aecom.com

AECOM

From: Witt, Jordan
Sent: January 4, 2022 12:58 PM
To: Neil Pothier <Neil.Pothier@ltvca.ca>
Cc: Washburn, Kristan <Kristan.Washburn@aecom.com>
Subject: RE: LTVCA Data Request - Enbridge Panhandle Regional Expansion Project

Hi Neil,

Happy New Year!

Just wanted to follow up on my question below now that we are past the holiday break.

Thanks!

Jordan Witt, MES
Environmental Planner, Impact Assessment & Permitting
M +1-519-897-3107
jordan.witt1@aecom.com

AECOM

From: Witt, Jordan
Sent: December 23, 2021 8:55 AM
To: Neil Pothier <Neil.Pothier@ltvca.ca>
Cc: Washburn, Kristan <Kristan.Washburn@aecom.com>
Subject: RE: LTVCA Data Request - Enbridge Panhandle Regional Expansion Project

Hi Neil,

We are taking a look at some alternative routes for the project and I was wondering if you could share the entire data set for the LTVCA regulated areas? Our GIS tech noted that the data you provide previously was clipped to the pipeline routes, but in order to examine some additional routing options, it would be beneficial to have the entire regulated area data set. Please let me know if this is something you can provide.

Thanks and happy holidays!

Jordan Witt, MES
Environmental Planner, Impact Assessment & Permitting
M +1-519-897-3107
jordan.witt1@aecom.com

AECOM

*Vacation Alert: I will be out of the office starting December 24, 2021 returning January 4, 2022

From: Neil Pothier <Neil.Pothier@ltvca.ca>
Sent: December 14, 2021 2:31 PM
To: Witt, Jordan <Jordan.Witt1@aecom.com>
Cc: Washburn, Kristan <Kristan.Washburn@aecom.com>
Subject: [EXTERNAL] RE: LTVCA Data Request - Enbridge Panhandle Regional Expansion Project

Hi Jordan,

The Leamington Routes layer (orange line) is entirely out of our watershed (dark green line) so I'll leave that one up to ERCA:



Attached is the requested regulated areas for the Wheatley Route, Panhandle Route, and our watershed boundary. Note that our Rowsom's Tilbury West Conservation Area property is a Provincially Significant Wetland.

Note that

Neil Pothier
GIS Technician
Lower Thames Valley Conservation Authority
100 Thames Street, Chatham ON N7L2Y8
519-354-7310 ext 236
Neil.Pothier@ltvca.ca
http://www.ltvca.ca

Lower Thames Conservation

From: Witt, Jordan <Jordan.Witt1@aecom.com>
Sent: December 14, 2021 12:19 PM
To: Neil Pothier <Neil.Pothier@ltvca.ca>

Cc: Washburn, Kristan <Kristan.Washburn@aecom.com>
Subject: RE: LTVCA Data Request - Enbridge Panhandle Regional Expansion Project

Hi Neil,

That would be great, thanks!

As for the data, please see attached an updated file I received from our GIS specialist.

Let me know if you need anything else.

Thanks!

Jordan Witt, MES
Environmental Planner, Impact Assessment & Permitting
M +1-519-897-3107
jordan.witt1@aecom.com

AECOM

*Vacation Alert: I will be out of the office starting December 24, 2021 returning January 4, 2022

From: Neil Pothier <Neil.Pothier@ltvca.ca>
Sent: December 14, 2021 9:51 AM
To: Witt, Jordan <Jordan.Witt1@aecom.com>
Cc: Washburn, Kristan <Kristan.Washburn@aecom.com>
Subject: [EXTERNAL] RE: LTVCA Data Request - Enbridge Panhandle Regional Expansion Project

Hi Jordan,

Thanks for sending that along I'll try to get you the data today or tomorrow. I noticed in the project area zip you sent along that there are two complete layers for the Wheatley route and the Panhandle Route, but there are only a .cpg and .dbf file for a Leamington routes layer as well. Are you able to send the entire file if that's also needed?

Thanks,
Neil

Neil Pothier
GIS Technician
Lower Thames Valley Conservation Authority
100 Thames Street, Chatham ON N7L2Y8
519-354-7310 ext 236
Neil.Pothier@ltvca.ca
http://www.ltvca.ca



From: Witt, Jordan <Jordan.Witt1@aecom.com>
Sent: December 14, 2021 8:46 AM
To: Neil Pothier <Neil.Pothier@ltvca.ca>
Cc: Washburn, Kristan <Kristan.Washburn@aecom.com>
Subject: RE: LTVCA Data Request - Enbridge Panhandle Regional Expansion Project

Hi Neil,

Please see attached the signed DLA.

Also, thanks for the heads up on the watershed boundary data. I will be sure to share this with our GIS specialist once we receive the data.

Thanks!

Jordan Witt, MES
Environmental Planner, Impact Assessment & Permitting
M +1-519-897-3107
jordan.witt1@aecom.com

AECOM

*Vacation Alert: I will be out of the office starting December 24, 2021 returning January 4, 2022

From: Neil Pothier <Neil.Pothier@ltvca.ca>
Sent: December 10, 2021 12:54 PM
To: Witt, Jordan <Jordan.Witt1@aecom.com>
Cc: Washburn, Kristan <Kristan.Washburn@aecom.com>
Subject: [EXTERNAL] RE: LTVCA Data Request - Enbridge Panhandle Regional Expansion Project

Hi Jordan,

See attached for the DLA to sign. I'll include our watershed boundary as well for reference as our layer extends a little bit into ERCA's watershed in the event a property inquiry is close to or is split across either border. Feel free to disregard what we have on the ERCA side as they have likely spent more time mapping that area more accurately than we have.

Neil Pothier
GIS Technician
Lower Thames Valley Conservation Authority
100 Thames Street, Chatham ON N7L2Y8
519-354-7310 ext 236
Neil.Pothier@ltvca.ca
http://www.ltvca.ca

From: Witt, Jordan <Jordan.Witt1@aecom.com>
Sent: December 10, 2021 8:55 AM
To: Neil Pothier <Neil.Pothier@ltvca.ca>
Cc: Washburn, Kristan <Kristan.Washburn@aecom.com>
Subject: RE: LTVCA Data Request - Enbridge Panhandle Regional Expansion Project

Hi Neil,

Yes, just the regulated areas data layer would be great. As for a buffer, lets go with 500m surrounding the infrastructure.

Thanks!

Jordan Witt, MES, EPt
Environmental Planner, Impact Assessment & Permitting, Ontario
M +1-519-897-3107
jordan.witt1@aecom.com

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*Vacation Alert: I will be out of the office starting December 24, 2021 returning January 4, 2022

From: Neil Pothier <Neil.Pothier@ltvca.ca>
Sent: December 9, 2021 3:36 PM
To: Witt, Jordan <Jordan.Witt1@aecom.com>
Cc: Washburn, Kristan <Kristan.Washburn@aecom.com>
Subject: [EXTERNAL] RE: LTVCA Data Request - Enbridge Panhandle Regional Expansion Project

Hi Jordan,

Do you only need our regulated areas layer for those study areas? If so, what sort of buffer would you need around those areas? I can send along a DLA once we've sorted this out.

Neil

Neil Pothier
GIS Technician
Lower Thames Valley Conservation Authority
100 Thames Street, Chatham ON N7L2Y8
519-354-7310 ext 236
Neil.Pothier@ltvca.ca

http://www.ltvca.ca

Lower Thames Conservation

From: Witt, Jordan <Jordan.Witt1@aecom.com>
Sent: December 9, 2021 2:25 PM
To: Neil Pothier <Neil.Pothier@ltvca.ca>
Cc: Washburn, Kristan <Kristan.Washburn@aecom.com>
Subject: LTVCA Data Request - Enbridge Panhandle Regional Expansion Project

Hello Neil,

I hope all is well. I collected your contact information from a co-worker who recently received some data from you (data package attached for reference) and I was wondering if it was possible to receive LTVCA regulated areas data for a project I am currently working on? The project is an Enbridge pipeline project within the jurisdictions of the LTVCA and we would like to map where the CA regulated areas are so we can complete a full assessment of the proposed pipeline routes. I have included a file that contains the shapefiles of the proposed routes that fall within LTVCA jurisdiction for reference.

Please let me know if you need any further details about the project or have any questions.

Thank you,

Jordan Witt, MES, EPt
Environmental Planner, Impact Assessment & Permitting, Ontario
M +1-519-897-3107
jordan.witt1@aecom.com

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Hamilton, ON L8E 4W8, Canada

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*Vacation Alert: I will be out of the office starting December 24, 2021 returning January 4, 2022

Witt, Jordan

From: Neil Pothier <Neil.Pothier@ltvca.ca>
Sent: March 21, 2022 2:08 PM
To: Witt, Jordan
Subject: [EXTERNAL] RE: LTVCA Data Request - Enbridge Panhandle Regional Expansion Project
Attachments: LTVCA_RegulatedAreas_FloodProneOnly_21Mar2022.zip

Hi Jordan,

See attached for just the flood prone area portion of our regulated areas dataset.

Neil

Neil Pothier
GIS Technician
Lower Thames Valley Conservation Authority
100 Thames Street, Chatham ON N7L2Y8
519-354-7310 ext 236
Neil.Pothier@ltvca.ca
http://www.ltvca.ca



***COVID-19 Notice:
Please be advised that the LTVCA Administration Office at 100 Thames St. in Chatham is closed to the public until further notice. All departments will continue to provide services as Conservation Authority staff will be reporting to work or working remotely during this time, and members of the public are asked to communicate with employees by telephone or email. All planned face-to-face meetings will be rescheduled to a later date. LTVCA staff will continue to participate in meetings through alternative means including teleconference and webinar. We will advise when our office spaces reopen.
We sincerely apologize for the inconvenience this may cause however, the health and safety of staff and communities is of paramount importance.

From: Witt, Jordan <Jordan.Witt1@aecom.com>
Sent: March 21, 2022 1:41 PM
To: Neil Pothier <Neil.Pothier@ltvca.ca>
Subject: Re: LTVCA Data Request - Enbridge Panhandle Regional Expansion Project

Hi Neil,

Wondering if we could get that floodplain data. We would like to include it in an environmental report we are developing for the project.

Thanks for your assistance.

Jordan

Jordan Witt, MES
Environmental Planner, Impact Assessment & Permitting
M +1-519-897-3107

Municipal Input

Witt, Jordan

From: Evan Tomek <Evan.Tomek@enbridge.com>
Sent: August 27, 2021 2:28 PM
To: van der Woerd, Mark; Washburn, Kristan
Subject: [EXTERNAL] FW: Call summaries - Panhandle

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Mark/Kristan,

Here are some call summaries that Brian Lennie has had with the Municipalities/County.

I will also follow up with Patrick Boyer on to see if he's had any conversations with the OGVG.

Thanks,

Evan

Evan Tomek, BES
Sr. Analyst, Environment
Enbridge Inc.
50 Keil Drive North | Chatham, ON N7M 5M1
Tel: 519.436.4600 ext 5003441
Cell: 226.229.9598
email: evan.tomek@enbridge.com
Safety. Integrity. Respect.

From: Brian Lennie <Brian.Lennie@enbridge.com>
Sent: Tuesday, August 17, 2021 12:06 PM
To: Doug Schmidt <Doug.Schmidt@enbridge.com>; Evan Tomek <Evan.Tomek@enbridge.com>
Cc: Cindy Mills <Cindy.Mills@enbridge.com>; Steven Jelich <Steven.Jelich@enbridge.com>; Brian Chauvin <Brian.Chauvin@enbridge.com>; Matt Thomas <Matt.Thomas@enbridge.com>; Lauren Whitwham <Lauren.Whitwham@enbridge.com>; Nicole Gruythuyzen <nicole.gruythuyzen@enbridge.com>
Subject: Call summaries - Panhandle

Hi Doug and Evan,

As requested – here are the call summaries from last week regarding Panhandle, for the ER report. I'm copying a few others on here who may have had similar discussions with their contacts last week:

- 1) Enbridge Gas representatives met with senior leadership from Municipality of Chatham-Kent on August 11.
    - Discussed proposed project details.
    - Reviewed upcoming environmental report process.
    - Enbridge asked Chatham-Kent to participate in upcoming Environmental Report process to provide feedback.
    - Chatham-Kent confirmed staff will participate in upcoming Environmental Report process.
    - Chatham-Kent requested that other local utilities be contacted to participate in Environmental Report process. Enbridge Gas subsequently made contact with those utilities.

- 2) Enbridge Gas representatives met with senior leadership from Town of Kingsville on August 11.
    - Discussed proposed project details.
    - Reviewed upcoming environmental report process.
    - Enbridge asked Kingsville to participate in upcoming Environmental Report process to provide feedback.
    - Kingsville confirmed staff will participate in upcoming Environmental Report process.

- 3) Enbridge Gas representatives met with senior leadership from County of Essex on August 11.
    - Discussed proposed project details.
    - Reviewed upcoming environmental report process.
    - Enbridge asked County of Essex to participate in upcoming Environmental Report process to provide feedback.
    - County of Essex confirmed staff will participate in upcoming Environmental Report process.

- 4) Enbridge Gas representatives met with senior leadership from Municipality of Leamington on August 12.
    - Discussed proposed project details.
    - Reviewed upcoming environmental report process.
    - Enbridge asked Leamington to participate in upcoming Environmental Report process to provide feedback.
    - Leamington confirmed staff will participate in upcoming Environmental Report process.

- 5) Enbridge Gas representatives met with staff from Invest WindsorEssex on August 12.
    - Discussed project proposed details.
    - Reviewed upcoming environmental report process.
    - Enbridge asked Invest WindsorEssex to participate in upcoming Environmental Report process to provide feedback.
    - Invest WindsorEssex confirmed staff will participate in upcoming Environmental Report process.

@Evan, you may want to check with Patrick Boyer as well to see if he's had any similar conversations with OGVG.

Thanks,
Brian

Brian Lennie
Senior Advisor, Municipal and Stakeholder Engagement – Ontario South/West

ENBRIDGE GAS INC.
OFFICE: 519-436-4527 | CELL: 226-229-2692 | EMAIL: brian.lennie@enbridge.com
50 Keil Drive North, Chatham, ON N7M5M1
enbridge.com
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AECOM

Essex County

Witt, Jordan

From: Evan Tomek <Evan.Tomek@enbridge.com>
Sent: September 23, 2021 1:49 PM
To: Witt, Jordan; van der Woerd, Mark; Washburn, Kristan
Subject: [EXTERNAL] FW: County of Essex/Enbridge Gas discussion - Panhandle Regional Expansion Project
Attachments: EGI - Panhandle Regional Expansion Project September 2021.pdf; MAP_RoutingOptions_PanhandleLoop.pdf; MAP_RoutingOptions_WheatleyReinforcement.pdf; MAP_RoutingOptions_LeamingtonLateral.pdf

Hi All,

FYI – Brian Lennie's meeting with the County of Essex.

Thanks,

Evan

Evan Tomek, BES
Sr. Analyst, Environment
Enbridge Inc.
50 Keil Drive North | Chatham, ON N7M 5M1
Tel: 519.436.4600 ext 5003441
Cell: 226.229.9598
email: evan.tomek@enbridge.com
Safety. Integrity. Respect.

From: Brian Lennie <Brian.Lennie@enbridge.com>
Sent: Thursday, September 23, 2021 11:59 AM
To: Jerry Behl <JBehl@countyofessex.ca>; Robert Ventura <RVentura@countyofessex.ca>
Cc: Sean Sutton <Sean.Sutton@Enbridge.com>; Bobby Pilutti <Bobby.Pilutti@enbridge.com>; Ryan Langan <Ryan.Langan@enbridge.com>; Alicja Pagaduan <Alicja.Pagaduan@enbridge.com>; Evan Tomek <Evan.Tomek@enbridge.com>
Subject: RE: County of Essex/Enbridge Gas discussion - Panhandle Regional Expansion Project

Good Morning,

Thank you everyone for the call. Looking forward to further discussions as this project continues to be planned. As discussed:

- Attached the presentation PDF.
- Attached the 3 relevant maps 'Panhandle Loop', 'Leamington Lateral' and 'Wheatley Reinforcement'. In all cases, routing is TBD at this time.

AECOM will be sending you all notices the week of October 4, to invite you to attend the virtual open house process.

For any permitting-related questions or comments: please reach out to Alicja Pagaduan (cc'ed).

For any construction-technical questions or comments: please reach out to Ryan, Bobby, Sean (cc'ed). Ryan would be your go-to for anything related to the project construction specifically, and Bobby and Sean can handle local area related comments/questions.

Thanks,
Brian

Brian Lennie
Senior Advisor, Municipal and Stakeholder Engagement – Ontario South/West

ENBRIDGE GAS INC.
OFFICE: 519-436-4527 | CELL: 226-229-2692 | EMAIL: brian.lennie@enbridge.com
50 Keil Drive North, Chatham, ON N7M5M1

enbridge.com
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Enbridge Gas
2023 Panhandle Regional Expansion Project

2021

ENBRIDGE

2023 Panhandle Regional Expansion Project

Context

- Over the past several years there has been strong economic growth in Windsor, Essex County, and Chatham-Kent, in particular in the greenhouse sector.
- As a result, Enbridge Gas is examining multiple methods to meet the energy needs of the local area, and furthermore, economic growth into the future.
- We are continuing to evaluate alternatives and have not finalized our ‘Preferred Alternative’ at this time.
- One alternative we would like to discuss with you today is the potential pipeline options.

2023 Panhandle Regional Expansion Project

Purpose

- Pipeline options:
  - To serve additional demand for energy, Enbridge Gas is proposing to increase the capacity of our Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse, and power generation customers in the municipalities of Chatham-Kent, Windsor, County of Essex, Lakeshore, Leamington, Kingsville, Essex, Amherstburg, LaSalle, and Tecumseh.
  - Due to the scope of the project, Ontario Energy Board (OEB) approval of the project is required prior to construction start.

2023 Panhandle Regional Expansion Project

Project details

- **The proposed pipeline options include 3 main components at this time:**
- 1) Construction of a new 36-inch natural gas transmission pipeline, approx. 19 km in length.
  - Will ‘loop’ (add another pipeline to) the existing Panhandle pipeline system between the Enbridge Gas Dover Transmission Station in Chatham-Kent and a TBD point south of Tilbury.
  - At this time, Enbridge Gas is also evaluating the need to further extend this new pipeline from south of Tilbury to west of Comber.
  - This section of the project will be primarily in private easement (with the need for road crossings).
- 2) Construction of a new 16-inch natural gas transmission pipeline east-west from Kingsville to Leamington, approx. 12 km in length.
  - Will connect four existing north-south natural gas transmission pipelines.
  - At this time, routing for this section is TBD and subject to feedback from Municipalities and local landowners and stakeholders.
- 3) Construction of a new 6-to-12 inch natural gas pipeline north-south from TBD point in Tilbury to a TBD point near Goodreau Line in either Lakeshore or Chatham-Kent, approx. 5km in length.
  - At this time, routing for this section is TBD and subject to feedback from Municipalities and local landowners and stakeholders.

2023 Panhandle Regional Expansion Project

Project details cont'd

- Will meet the current and future economic development and growth needs of the local area.
- Estimated pipeline project cost at this time is near $200M.
- If pipeline option chosen, OEB project application will be submitted in Q2 2022.
- Construction timeline (if pipeline option chosen): Environmental/Archaeological fieldwork and other pre-construction field work in 2022. Construction from early 2023 to end of 2023 (all sections).

2023 Panhandle Regional Expansion Project

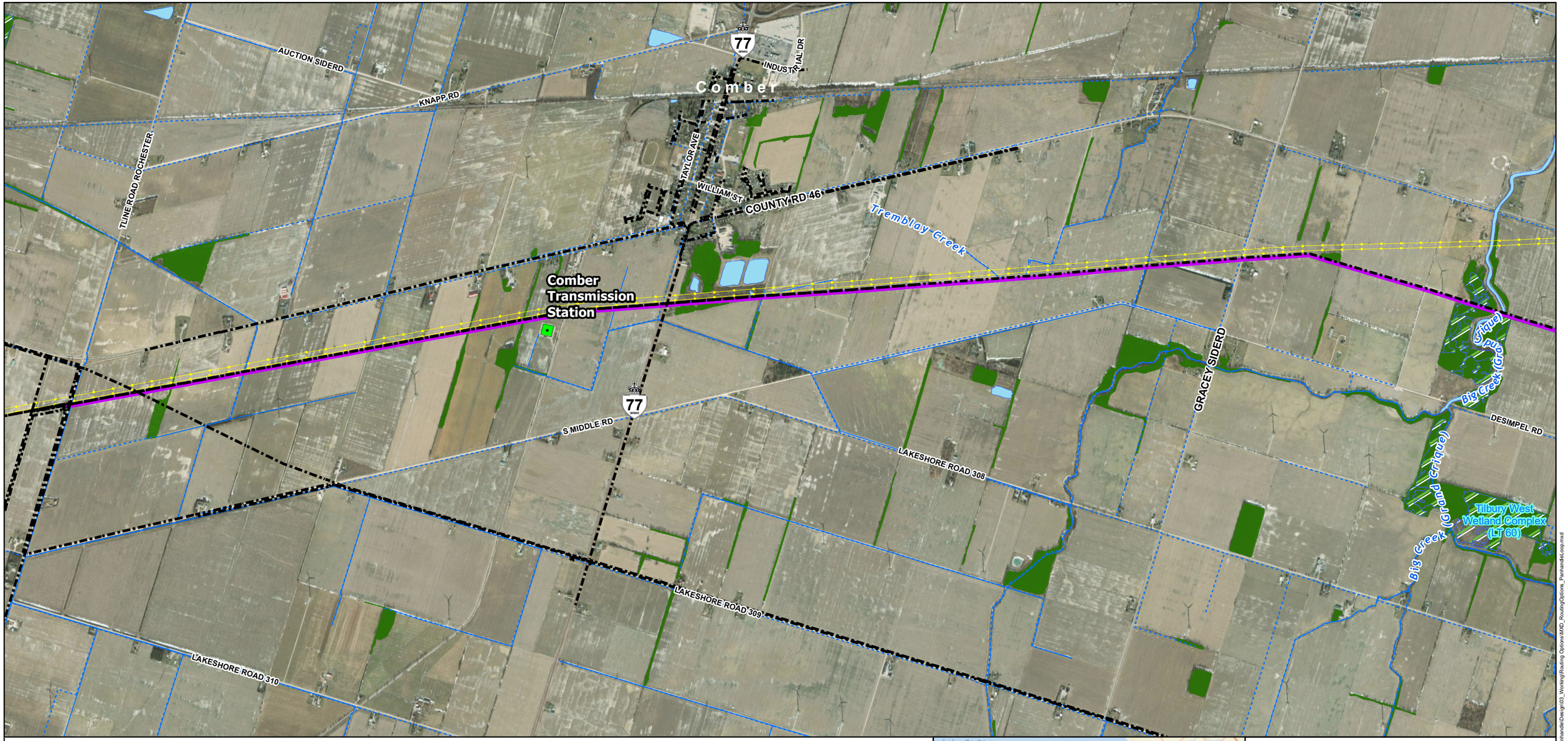
Project route mapping

- Project route mapping review

2023 Panhandle Regional Expansion Project

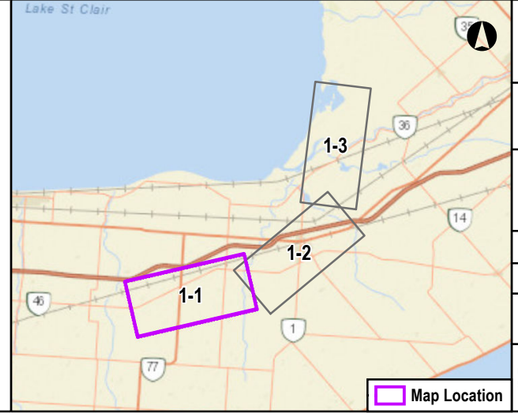
We want your feedback

- **Enbridge Gas wants your feedback on the pipeline options for this project. We need to know your questions, comments, and concerns – they are part of the planning process which will help inform the preferred route, if the pipeline option is chosen.**
- For the planning process, here are some items Enbridge Gas would like to know:
  - Any comments on pipeline routing in road allowance?
  - Any comments about pipeline road crossings?
  - Any major construction planned along/near the proposed routes?
  - Any concerns regarding road / lane closures during the project?
  - Any comments on drainage or drains?



Legend

- Panhandle Loop
- Existing Enbridge Gas Pipeline
- Comber Transmission Station
- Hydro Line
- Railway
- Constructed Drain
- Permanent Stream
- Waterbody
- Provincially Significant Wetland
- Wooded Area
- ANSI, Life Science
- Municipal Boundary



Panhandle Regional Expansion Project

Panhandle Line Loop

0 125 250 500 750 1,000 1,250 1,500 1,750

Meters

DATUM: NAD 1983 UTM Zone 17N

September 2021	1:25,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
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Figure 1-1

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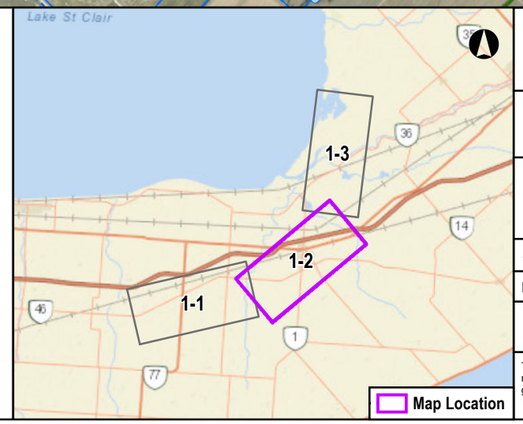
Map location: \\na.aecomnet.com\ca\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\03_Working\Routing Options\MXD_RoutingOptions_PanhandleLoop.mxd
Date Saved: 9/17/2021 11:50:32 AM User Name: clarkb

Big Creek (Grand Crique)
Tilbury West Wetland Complex (LT 60)
COUNTY RD 42
Tilbury Creek
CON RD 3
BAPTISTE RD
ROGERS ST
MINT LINE
DASHWHEEL RD
MILL ST W
LYON AVE N
MASS DR
QUEEN ST N
AZAR AVE
401
INDUSTRIAL PARK RD
MONTPETIT RD
Baptiste Creek
MORRIS RD
COUNTY RD 46
CANAL ST W
Tilbury
MILL ST E
CRAWFORD AVE
CANAL ST E
TILBURY ST
WHEELER LINE
COUTTS LINE
SERVICE CENTRE
BOND AVE
FORT ST
DUPUIS AVE
JEFFREY ST W
QUEEN ST S
STEWART AVE
CANAL ST E
ROSE AVE
PARK LANE
ELLA ST S
HOMESTEADS DR
LAURENTIA DR
BOLOHAN DR
QUEENS LINE
Tilbury Creek
RICHARDSON SIDERD
DESIMPEL RD
TOWN OF LAKESHORE
MUNICIPALITY OF CHATHAM-KENT
MIDDLE LINE
BONNEAU LINE
KING & WHITTLE RD
DAVIDSON RD
WHEATLEY RD
COATSWORTH RD
GRAY LINE
POLLARD LINE
LAKESHORE ROAD 309
Baptiste Creek

Legend

- Panhandle Loop
- Existing Enbridge Gas Pipeline
- Hydro Line
- Railway
- Constructed Drain
- Permanent Stream
- Waterbody
- Provincially Significant Wetland
- Wooded Area
- ANSI, Life Science
- Municipal Boundary



Panhandle Regional Expansion Project

Panhandle Line Loop

0 125 250 500 750 1,000 1,250 1,500 1,750
Meters
DATUM: NAD 1983 UTM Zone 17N

September 2021	1:25,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
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Figure 1-2

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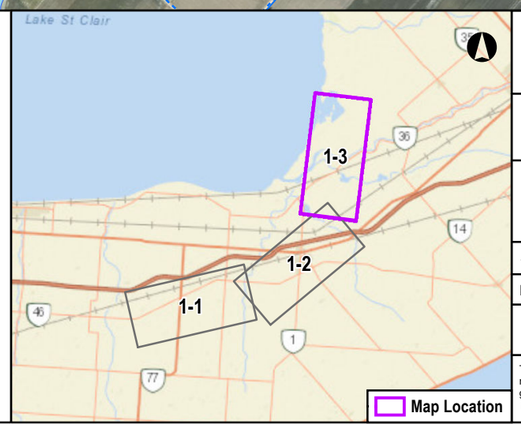
Date Saved: 9/17/2021 11:50:32 AM User Name: clarkb

TOWN OF LAKESHORE
MUNICIPALITY OF CHATHAM-KENT
BAPTISTE RD
Martindale Marsh (LT 43)
Baptiste Creek
DASHWHEEL RD
DEWEY DR
MARJORY DR
BRUCE DR
Thames River Mouth Complex (LT 33)
POPPE RD
Thames River (rivière Thames)
MUNICIPALITY OF CHATHAM-KENT
MUNICIPALITY OF CHATHAM-KENT
Lake St. Clair (lac Sainte-Claire)
St. Clair Marsh Complex
BALMORAL LINE
Dover Transmission Station
JEANNETTES CREEK RD
FORBES LINE
TECUMSEH LINE
BUCHANAN LINE
BRADLEY LINE
PAIN COURT LINE
Jeannettes Creek
SINCLAIR RD
MINT LINE
KANTOR LINE
DAUPHIN RD
TOWNLINE RD
MAPLE LINE
COUTTS LINE

Legend

- Panhandle Loop
- Existing Enbridge Gas Pipeline
- Dover Transmission Station
- Hydro Line
- Railway
- Constructed Drain
- Permanent Stream
- Waterbody
- Provincially Significant Wetland
- Wooded Area
- ANSI, Life Science
- Municipal Boundary



Panhandle Regional Expansion Project

Panhandle Line Loop

0 125 250 500 750 1,000 1,250 1,500 1,750
Meters
DATUM: NAD 1983 UTM Zone 17N

September 2021	1:25,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
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Figure 1-3

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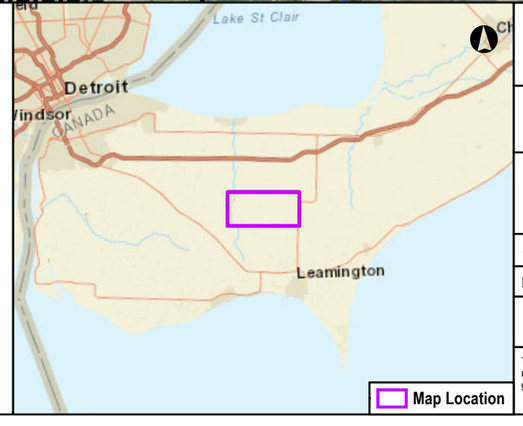
Date Saved: 9/17/2021 11:50:32 AM User Name: clark

COUNTY RD 27
LAKESHORE ROAD 225
LAKESHORE ROAD 229
LAKESHORE ROAD 233
LAKESHORE ROAD 235
Ruscom River (rivière Rus.com)
LAKESHORE ROAD 245
TUNE ROAD ROCHESTER
LAKESHORE ROAD 311
COUNTY RD 8
RD 11
MERSEA ROAD 11
COUNTY RD 27 E
GRAHAM SIDERD
COUNTY RD 31
RD 10
MERSEA ROAD 10
77
Belle River (Belle Rivière)
COUNTY RD 14

Legend

- Preliminary Preferred Alternative
- Alternative 1
- Alternative 2
- Existing Enbridge Gas Pipeline
- Constructed Drain
- Permanent Stream
- Intermittent Stream
- Waterbody
- Wooded Area
- Municipal Boundary



Panhandle Regional Expansion Project

Leamington Interconnect

0 150 300 600 900 1,200 1,500 1,800 2,100
Meters
DATUM: NAD 1983 UTM Zone 17N

September 2021	1:28,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
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Figure 1

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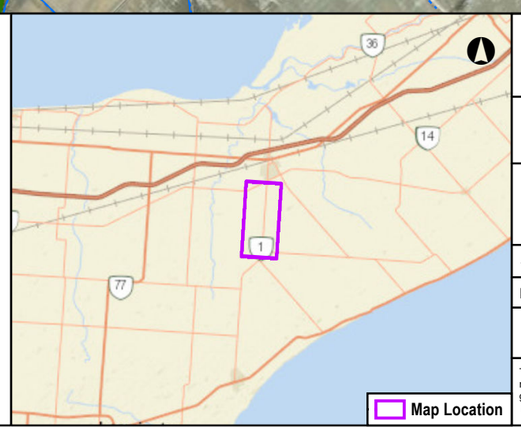
Date Saved: 9/17/2021 11:55:09 AM User Name: clarkb

TILBURY WEST & ROMNEY RD
MUNICIPALITY OF CHATHAM-KENT
TOWN OF LAKESHORE
CAMPBELL RD
GOODREAU LINE
LAKESHORE ROAD 309
LAKESHORE ROAD 308
DESIMPEL RD
COUNTY RD 46
Tilbury Creek
GRAY LINE
WHEATLEY RD
CARLESS RD
HORNICK LINE
ROSEDALE LINE
COATSWORTH RD
46
1
4

Legend

- Alternative 1
- Alternative 2
- Existing Enbridge Gas Pipeline
- Constructed Drain
- Permanent Stream
- Wooded Area
- Municipal Boundary



Panhandle Regional Expansion Project

Wheatley Interconnect

0 75 150 300 450 600 750 900 1,050
Meters
DATUM: NAD 1983 UTM Zone 17N

September 2021	1:15,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
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Figure 1

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Date Saved: 9/17/2021 11:50:32 AM User Name: clarkb

Witt, Jordan

From: Evan Tomek <Evan.Tomek@enbridge.com>
Sent: September 24, 2021 3:39 PM
To: van der Woerd, Mark; Witt, Jordan; Washburn, Kristan
Subject: [EXTERNAL] FW: County of Essex/Enbridge Gas discussion - Panhandle Regional Expansion Project

FYI - more correspondence with County of Essex.

Thanks,

Evan

Evan Tomek, BES
Sr. Analyst, Environment
Enbridge Inc.
50 Keil Drive North | Chatham, ON N7M 5M1
Tel: 519.436.4600 ext 5003441
Cell: 226.229.9598
email: evan.tomek@enbridge.com
Safety. Integrity. Respect.

From: Brian Lennie <Brian.Lennie@enbridge.com>
Sent: Friday, September 24, 2021 3:33 PM
To: Robert Ventura <RVentura@countyofessex.ca>; Jerry Behl <JBehl@countyofessex.ca>
Cc: Sean Sutton <Sean.Sutton@Enbridge.com>; Bobby Pilutti <Bobby.Pilutti@enbridge.com>; Ryan Langan <Ryan.Langan@enbridge.com>; Alicja Pagaduan <Alicja.Pagaduan@enbridge.com>; Evan Tomek <Evan.Tomek@enbridge.com>
Subject: RE: County of Essex/Enbridge Gas discussion - Panhandle Regional Expansion Project

Hi Rob,

Thanks for this detail.

The next phase of engagement for the project will be the AECOM open house process. You will be sent information to participate in that process the week of October 4, with the virtual open house opening at the end of October.

If you have any further details at that time on your plans, please provide them in that process. If not available then, you can send them through at any point to all of us from Enbridge on this email.

Thanks,
Brian

Brian Lennie
Senior Advisor, Municipal and Stakeholder Engagement – Ontario South/West

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From: Robert Ventura <RVentura@countyofessex.ca>
Sent: Friday, September 24, 2021 3:08 PM
To: Brian Lennie <Brian.Lennie@enbridge.com>; Jerry Behl <JBehl@countyofessex.ca>
Cc: Sean Sutton <Sean.Sutton@Enbridge.com>; Bobby Pilutti <Bobby.Pilutti@enbridge.com>; Ryan Langan <Ryan.Langan@enbridge.com>; Alicja Pagaduan <Alicja.Pagaduan@enbridge.com>; Evan Tomek <Evan.Tomek@enbridge.com>
Subject: [External] RE: County of Essex/Enbridge Gas discussion - Panhandle Regional Expansion Project

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Hi Brian,

Thank you for the initial presentation and materials you provided. Just from an initial review of the preferred option on the Wheatley Reinforcement map, we do have a few design and construction plans of culvert replacements in the next coming years (CR 8 & CR 31) as well as some paving operations along 8. I can't share full details yet as we need to get Council approval before proceeding.

With regards to our culvert replacements, we work within the County right-of-way (ROW), so if the construction of the new 36-inch natural gas transmission pipeline will be in private easement then I don't see how they will interfere (we can discuss this further during the next consultation).

We should have more details and confirmation in October on upcoming plans. We will definitely be able to share some mapping materials too that will be helpful in this process.

Can you advise on when the next phase of engagement for the project will take place?

Please continue to keep Jerry and myself engaged along the way.

Best,
Rob

County of Essex

Robert Ventura
Environmental Coordinator
County of Essex
360 Fairview Ave. W. Suite 315|Essex, ON|N8M 1Y6
P: 519-776-6441 ext. 1385
F: 519-776-4455
TTY: 1-877-624-4832

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From: Brian Lennie <Brian.Lennie@enbridge.com>
Sent: September 23, 2021 11:59 AM
To: Jerry Behl <JBehl@countyofessex.ca>; Robert Ventura <RVentura@countyofessex.ca>

Cc: Sean Sutton <Sean.Sutton@Enbridge.com>; Bobby Pilutti <Bobby.Pilutti@enbridge.com>; Ryan Langan <Ryan.Langan@enbridge.com>; Alicja Pagaduan <Alicja.Pagaduan@enbridge.com>; Evan Tomek <Evan.Tomek@enbridge.com>
Subject: RE: County of Essex/Enbridge Gas discussion - Panhandle Regional Expansion Project

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Good Morning,

Thank you everyone for the call. Looking forward to further discussions as this project continues to be planned. As discussed:

- Attached the presentation PDF.
- Attached the 3 relevant maps 'Panhandle Loop', 'Leamington Lateral' and 'Wheatley Reinforcement'. In all cases, routing is TBD at this time.

AECOM will be sending you all notices the week of October 4, to invite you to attend the virtual open house process.

For any permitting-related questions or comments: please reach out to Alicja Pagaduan (cc'ed).

For any construction-technical questions or comments: please reach out to Ryan, Bobby, Sean (cc'ed). Ryan would be your go-to for anything related to the project construction specifically, and Bobby and Sean can handle local area related comments/questions.

Thanks,
Brian

Brian Lennie
Senior Advisor, Municipal and Stakeholder Engagement – Ontario South/West

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Witt, Jordan

From: Van der Woerd, Mark
Sent: October 26, 2021 10:02 AM
To: Robert Ventura
Cc: Jerry Behl; Witt, Jordan; Evan Tomek; Washburn, Kristan
Subject: RE: Panhandle Regional Expansion Project - Virtual Info Session Notice

Hi Robert,

Nice to hear from you. Yes, the open house will be a pre-recorded style which will allow you to go through the materials at your convenience. Please let us know if you have any other questions.

Best,
Mark

Mark van der Woerd
AECOM
mark.vanderwoerd@aecom.com
(289) 439-9803

From: Robert Ventura <RVentura@countyofessex.ca>
Sent: October 21, 2021 3:21 PM
To: Van der Woerd, Mark <Mark.VanderWoerd@aecom.com>
Cc: Jerry Behl <JBehl@countyofessex.ca>
Subject: [EXTERNAL] Panhandle Regional Expansion Project - Virtual Info Session Notice

Good afternoon Mark,

The County has received AECOM's Letter of Project Commencement and Virtual Info Session for the **Panhandle Regional Expansion Project**. The letter notes that the virtual PIC materials will be available at 5pm on November 17th and comments will be accepted until December 3rd.

Can you advise if this will be a pre-recorded PIC or if it will be a live event starting at 5 pm on November 17th?

Thank you,
Rob

Robert Ventura
Environmental Coordinator
County of Essex
360 Fairview Ave. W. Suite 315|Essex, ON|N8M 1Y6
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F: 519-776-4455
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Witt, Jordan

From: Washburn, Kristan
Sent: December 3, 2021 11:39 AM
To: Witt, Jordan; Schmied, Sarah
Subject: FW: Essex Letter - Panhandle Regional Expansion Project - VIS Comments
Attachments: Panhandle Regional Expansion Project_County Comments.pdf

Kristan Washburn, MES
Senior Terrestrial Ecologist, Manager, Impact Assessment & Permitting
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From: Van der Woerd, Mark <Mark.VanderWoerd@aecom.com>
Sent: Friday, December 3, 2021 10:38 AM
To: Washburn, Kristan <Kristan.Washburn@aecom.com>; Evan Tomek <Evan.Tomek@enbridge.com>; Doug Schmidt <Doug.Schmidt@enbridge.com>
Cc: Brian Lennie <Brian.Lennie@enbridge.com>
Subject: Essex Letter - Panhandle Regional Expansion Project - VIS Comments

Hi team,

See below and attached from Essex. AECOM can start working on a draft response – maybe we can discuss this on our call this afternoon.

Mark

Mark van der Woerd
AECOM
mark.vanderwoerd@aecom.com
(289) 439-9803

From: Van der Woerd, Mark
Sent: December 3, 2021 10:36 AM
To: Robert Ventura <RVentura@countyofessex.ca>
Cc: Jerry Behl <JBehl@countyofessex.ca>; Brian Lennie <Brian.Lennie@enbridge.com>
Subject: RE: Panhandle Regional Expansion Project - VIS Comments

Hi Rob,

Thank you very much. I am confirming receipt. We will review the letter and provide a response per your request.

Best,
Mark

Mark van der Woerd
AECOM
mark.vanderwoerd@aecom.com
(289) 439-9803

From: Robert Ventura <RVentura@countyofessex.ca>
Sent: December 3, 2021 10:19 AM
To: Van der Woerd, Mark <Mark.VanderWoerd@aecom.com>
Cc: Jerry Behl <JBehl@countyofessex.ca>; Brian Lennie <Brian.Lennie@enbridge.com>
Subject: [EXTERNAL] Panhandle Regional Expansion Project - VIS Comments

Good morning Mark,

Please see attached for a formal response as it relates to the project updates for the Panhandle Regional Expansion Project.

We look forward to your response.

Kind regards,
Rob

Robert Ventura
Environmental Coordinator
County of Essex
360 Fairview Ave. W. Suite 315|Essex, ON|N8M 1Y6
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F: 519-776-4455
TTY: 1-877-624-4832

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December 3, 2021

Mark Van der Woerd
Environmental Planning Lead
201 – 45 Goderich Road
Hamilton, ON L8E 4W8

Dear Mr. Van der Woerd,

Re: Panhandle Regional Expansion Project – County Comments

The County has completed a review of the proposed pipeline options as one of the alternatives to the Panhandle Regional Expansion Project scheduled for 2023. Preliminary comments are provided for your consideration.

Permitting & Road Closures
The proposed options impact the following County Roads: 37 (Panhandle Loop), 31 and 8 (Leamington Lateral), and 1 (Wheatley Reinforcement). Dependent on the type of crossing for the Panhandle Loop Option, it will need to be further reviewed and permits will be required. The County would like the Project Team to advise as to why local roads were not considered as route options for the project. County Roads have a primary function of the transportation of goods and services. Looking at traffic volumes for County Roads, the proposed options would have significant impacts and are not preferred.

2023 Rehabilitation Program
The proposed options have been identified as having impacts to the design and construction of the following culvert replacements:

- **Cameron Curry Drain (RC-08-335)**
  - CR 8 and CR 31 (Kingsville, ON)
- **Wiper Drain (C-37-289)**
  - CR 37, north of CR 34 (Leamington, ON)

At this point the County has not been engaged in any other stakeholder meetings aside from the initial discussion in September of this year. The County would like to request a meeting with the Project Team to better understand the project and to have further discussions as it relates to County infrastructure prior to finalizing the preferred alternative.

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Should you require further information, please contact me by email at rventura@countyofessex.ca or by phone at extension 1385.

Regards,



Rob Ventura, BES.
Environmental Coordinator

cc. J. Behl, P.Eng. Manager, Transportation Planning & Development

Enclosures:

1) 2023 Rehabilitation Program Mapping

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United States of America
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LAKE ERIE
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3
77
Municipality of Chatham-Kent
Rehabilitation Program
2023
County of Essex
Municipal Roads
County Roads
Kings Highways
Greenway
Railway
County Boundary
November 2021
N
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0 2 4
KM

Witt, Jordan

From: Washburn, Kristan
Sent: January 5, 2022 10:57 AM
To: Witt, Jordan
Cc: Schmied, Sarah
Subject: FW: Follow-up: County of Essex/Enbridge Gas January 5, 2022 meeting
Attachments: County of Essex-Enbridge Gas January 2021.pdf

FYI

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From: Evan Tomek <Evan.Tomek@enbridge.com>
Sent: Wednesday, January 5, 2022 10:56 AM
To: Doug Schmidt <Doug.Schmidt@enbridge.com>; Van der Woerd, Mark <Mark.VanderWoerd@aecom.com>; Washburn, Kristan <Kristan.Washburn@aecom.com>
Subject: [EXTERNAL] FW: Follow-up: County of Essex/Enbridge Gas January 5, 2022 meeting

Hi All,

FYI – notes below from today's meeting with Essex County.
Overall a very good meeting – they really didn't have any concerns other than those noted in their original letter, which we addressed.

Thanks,

Evan

Evan Tomek, BES
Sr. Analyst, Environment
Enbridge Inc.
50 Keil Drive North | Chatham, ON N7M 5M1
Tel: 519.436.4600 ext 5003441
Cell: 226.229.9598
email: evan.tomek@enbridge.com

From: Brian Lennie <Brian.Lennie@enbridge.com>
Sent: Wednesday, January 5, 2022 10:13 AM
To: Jerry Behl <JBehl@countyofessex.ca>; Robert Ventura <RVentura@countyofessex.ca>
Cc: Tammy Mungar <Tammy.Mungar@enbridge.com>; Brian Chauvin <Brian.Chauvin@enbridge.com>; Evan Tomek <Evan.Tomek@enbridge.com>; Allison Chong <allison.chong@enbridge.com>
Subject: Follow-up: County of Essex/Enbridge Gas January 5, 2022 meeting

Hi Jerry and Rob,

Thank you again for the meeting this morning. I believe we covered a lot of ground on the Panhandle Regional Expansion Project.

My summary is below, please let me know of any edits/comments.

All attendees are copied on this email for individual outreach outlined below.

I have also attached the presentation given today.

1) Next round of information sessions:
- There will be a new round of information session in February.
- This round of information session will be the same as the previous: virtual and recorded.
- It will present detailed routing for the initial 3 routes (listed below) and also specific pipeline inch diameters.
- It will also present 4 small-in-scope distribution projects that are required as part of this project and must be filed with the OEB.
- There will be other, smaller distribution projects not part of the information session. We will send the details on those to you separately for comment.
- You will be contacted in late January or early February with all details on the information session by AECOM.

2) Panhandle Interconnect:
- In the next round of information session, the length of the pipeline will be finalized and the diameter.
- The goal remains a pipeline project that is cross country on private land adjacent to an existing pipeline corridor.
- Will require road crossings.

3) Leamington Interconnect:
- Enbridge's goals are:
    - Pursue a private easement with local landowners on the north side of County Road 8, near the road allowance.
    - Pursue a private easement with local landowners on the east side of County Road 31, near the road allowance.
- Action items:
    - Jerry to send Tammy any road widening plans for CR 8 or CR 31 in this area.
    - Rob to send Tammy: 1) CWATS (County Wide Active Transportation System) plans in this area; 2) Information on Cameron Curry Drain plans in this area.

4) Wheatley Interconnect:
- Enbridge's goal is: to pursue a private easement with local landowners somewhere west of CR1.

Thanks,

Brian

Brian Lennie
Senior Advisor, Municipal and Stakeholder Engagement – Ontario South/West

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Enbridge Gas
2023 Panhandle Regional Expansion Project

January 2021

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2023 Panhandle Regional Expansion Project

Purpose

- To serve this increased demand for energy, Enbridge Gas is proposing to increase the capacity of our Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse and power generation customers in Chatham-Kent, Windsor and all of Essex County.
- **Current project status:** In the consultation phase and seeking public feedback.
- Due to the scope of the project, the Ontario Energy Board (OEB) approval of the project is required prior to beginning construction.
- OEB application to be filed Q2 of 2022.
- If approved by the OEB, construction would begin in early 2023 and be complete by the end of 2023.
- Estimated project cost at this time is approx. $200M.
  - Creating hundreds of temporary local construction jobs over the next two years.

2023 Panhandle Regional Expansion Project

Project details

- **The project includes three main components:**

1. Panhandle Reinforcement: Construction of a new natural gas transmission pipeline, up to 42 inches in diameter, approx. 23 km in length, to loop our existing Panhandle Transmission System.

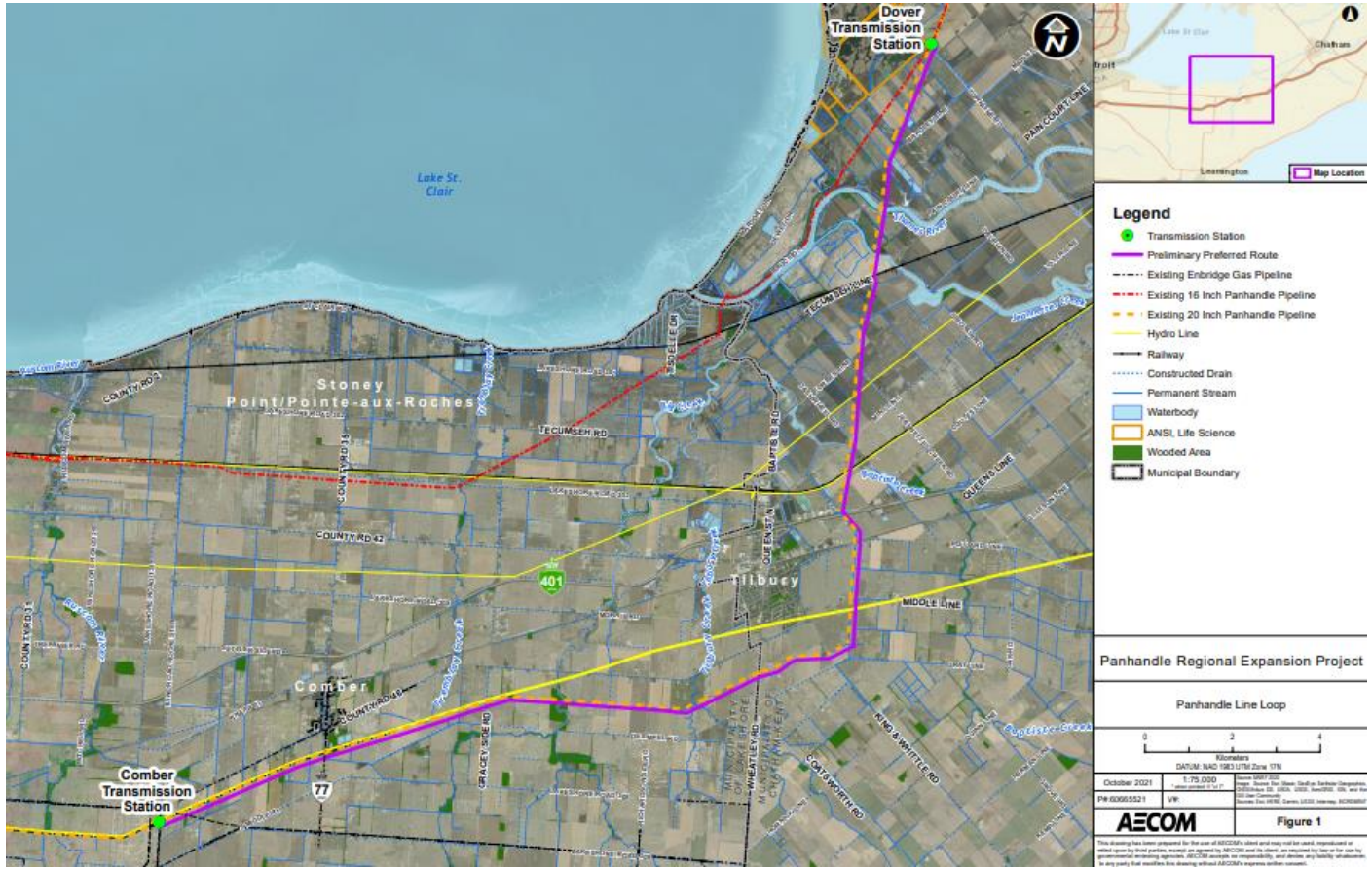
2. Leamington Interconnect: Construction of a new natural gas transmission pipeline, up to 16 inches in diameter, east-west from Kingsville to Leamington, approx. 12 km in length.

3. Wheatley Interconnect: Construction of a new natural gas pipeline, up to 16 inches in diameter, north-south from south of Tilbury to near Goodreau Line, approx. 6 km in length.

2023 Panhandle Regional Expansion Project

Panhandle Reinforcement

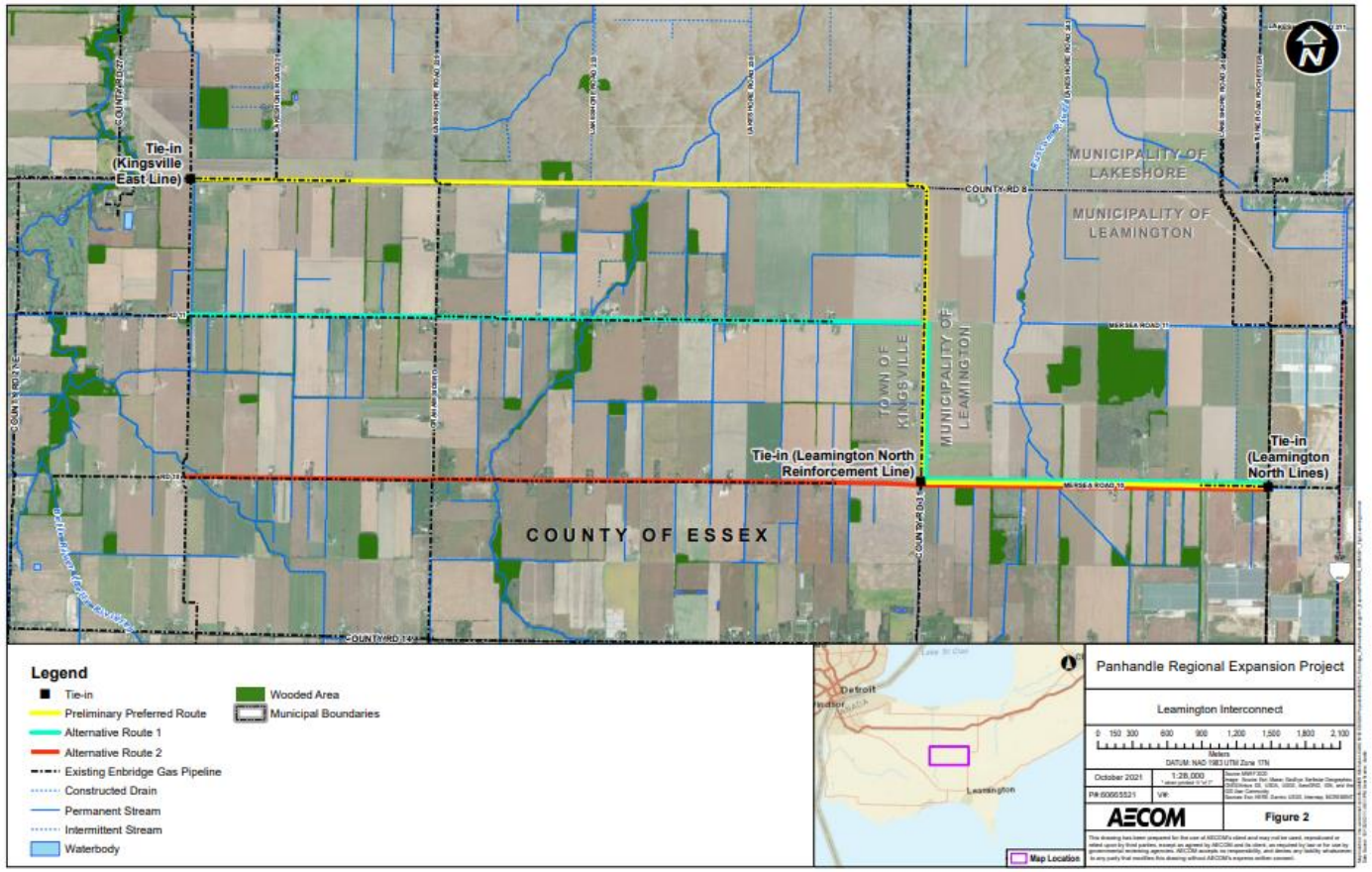
- Construction of approximately 23 km of new pipeline, looping the existing 20-inch Panhandle Pipeline.
- The new pipeline will be up to 42 inches in diameter and located adjacent to an existing pipeline corridor between the Comber Transmission Station, which is in Lakeshore south of County Road 46 on Rochester Townline Road, and the Dover Transmission Station, located at Balmoral Line and Town Line Road in the Municipality of Chatham-Kent.



2023 Panhandle Regional Expansion Project

Leamington Interconnect

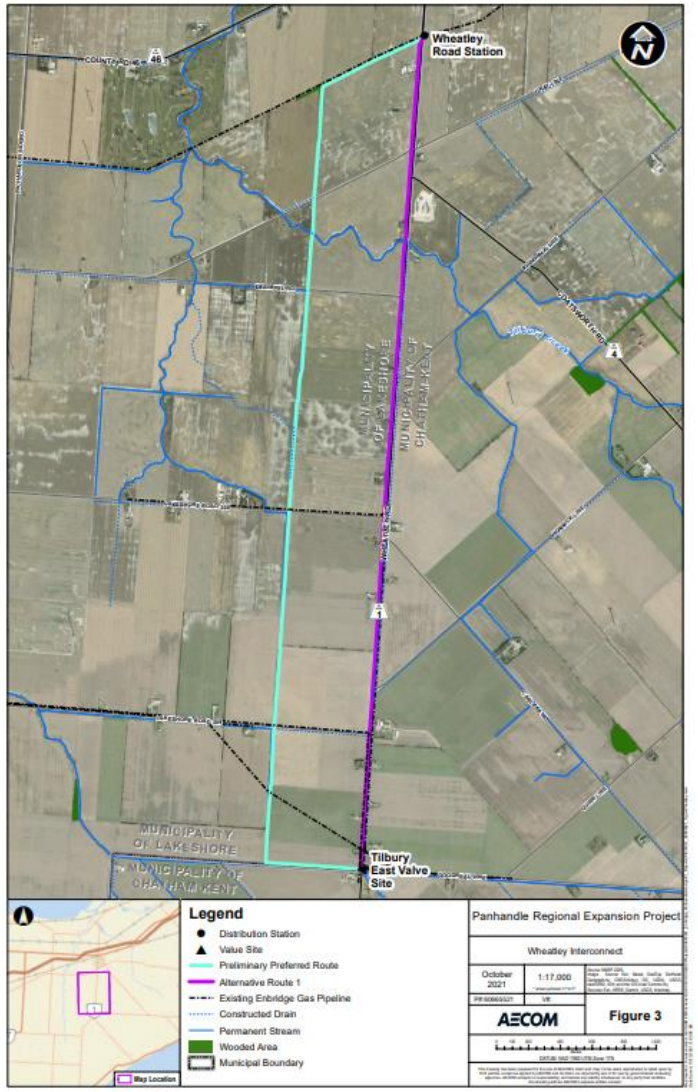
- Construction of a new pipeline, up to 16 inches in diameter, adjacent to or within existing road rights-of way, on public or private property.
- This will connect the existing Leamington North Line to both the existing Kingsville East Line and Leamington North Reinforcement Line and be approximately 12 km in length.
- Red, yellow, green lines are potential route options.



2023 Panhandle Regional Expansion Project

Wheatley Interconnect

- Construction of a new pipeline, up to 16 inches in diameter, to connect the Tilbury East Valve Site to the Wheatley Road Station, on public and private property, adjacent to or within existing road rights-of-way.
- The pipeline will be approximately 6 km in length.



2023 Panhandle Regional Expansion Project

Additional components

- In addition to the three outlined proposed projects, Enbridge Gas will also be bringing forward several small-in-scope distribution pipeline projects as part of the overall 2023 Panhandle Regional Expansion Project. They will connect the three larger projects to our current distribution system.
- These smaller projects are in the early planning stages, and details are expected to be available in January or February 2022.
- When the details are available, they will be communicated to Council and Staff for comment.

Thank You

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Witt, Jordan

From: Washburn, Kristan
Sent: January 21, 2022 2:00 PM
To: Schmied, Sarah; Witt, Jordan
Subject: Fwd: Follow-up: County of Essex/Enbridge Gas January 5, 2022 meeting

---

From: Evan Tomek <Evan.Tomek@enbridge.com>
Sent: Friday, January 21, 2022 1:59:37 PM
To: Van der Woerd, Mark <Mark.VanderWoerd@aecom.com>; Washburn, Kristan <Kristan.Washburn@aecom.com>
Cc: Doug Schmidt <Doug.Schmidt@enbridge.com>
Subject: [EXTERNAL] FW: Follow-up: County of Essex/Enbridge Gas January 5, 2022 meeting

FYI – please see some back and forth between Enbridge and the County of Essex.

They prefer the re-route on Leamington as identified below due to their culvert replacement.

CWATS (County Wide Active Transportation System) – Looks like they've identified that they want to pave the shoulders on County Road 8 and 31, so they prefer the alternatives. However, after the next round of letters are sent out we should be able to let them know that the pipeline won't be in the road shoulder, which should clear that up.

Thanks,

Evan

Evan Tomek, BES
Sr. Analyst, Environment
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From: Brian Lennie <Brian.Lennie@enbridge.com>
Sent: Friday, January 21, 2022 12:41 PM
To: Robert Ventura <RVentura@countyofessex.ca>
Cc: Jerry Behl <JBehl@countyofessex.ca>; Sumaiya Habiba <SHabiba@countyofessex.ca>; Evan Tomek <Evan.Tomek@enbridge.com>; Tammy Mungar <Tammy.Mungar@enbridge.com>
Subject: RE: Follow-up: County of Essex/Enbridge Gas January 5, 2022 meeting

Hi Rob,

Thank you for this information. We will take it away as part of the next round of information sessions. Tammy and/or Evan will be in contact should there be any further technical questions.

Thanks,
Brian

Brian Lennie
Senior Advisor, Municipal and Stakeholder Engagement – Ontario South/West

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From: Robert Ventura <RVentura@countyofessex.ca>
Sent: Monday, January 17, 2022 3:07 PM
To: Tammy Mungar <Tammy.Mungar@enbridge.com>; Brian Lennie <Brian.Lennie@enbridge.com>
Cc: Jerry Behl <JBehl@countyofessex.ca>; Sumaiya Habiba <SHabiba@countyofessex.ca>; Evan Tomek <Evan.Tomek@enbridge.com>
Subject: [External] RE: Follow-up: County of Essex/Enbridge Gas January 5, 2022 meeting

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Good afternoon Tammy and Brian,

Please see below for our comments as they relate to each section.

Culvert Replacements:
Please note that there was an error in my original email. The Irwin Drain (C-31-137) culvert on CR 31 (depicted in the photo you provided) is scheduled for engineering this year and construction in 2023 (likely July or August 2023).

At this time we do not have any details. We can anticipate the concrete box culvert will likely be extended to the east. Possibly 60% drawings would be available in September 2022 and we can provide more information at that time. The recommendation is for Enbridge to design their proposed gas main on the farmland (easement) on the east side of the CR 31 drain.

CWATS:

1. Panhandle Loop (Construction of a new 36 inch natural gas transmission pipeline, approx. 19 km in length.):
    - Note there is an existing off-road multi use path (greenway) that is an active transportation corridor running parallel to Hwy 77 (north-south) from Comber to Leamington. We would expect any construction and operations to not impact this AT corridor.

2. Leamington Interconnect (Construction of a new 16 inch natural gas transmission pipeline east west from Kingsville to Leamington, approx. 12 km in length):
    - CWATS has identified paved shoulders to be implemented on CR 8 and CR 31 along the preliminary preferred alternative (Yellow line on map). Given anticipated impacts to the active transportation network, CWATS would prefer either Alternative 1 or 2.

3. Construction of a new 6 to 12 inch natural gas pipeline north south from TBD point in Tilbury to a TBD point near Goodreau Line in either Lakeshore or Chatham Kent, approx. 5km in length.
    - No impacts anticipated to the CWATS network

Road Widening Projects:

- There are no incoming road widening projects for CR 31 or CR 8 in this area

We will wait for Enbridge to release more information on the discussed several small-in-scope distribution pipeline projects as part of the overall Panhandle Regional Expansion Project before submitting any additional comments for the PIC#2.

Please let us know if you have any further questions.

Regards,
Rob

Robert Ventura
Environmental Coordinator
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From: Tammy Mungar [mailto:Tammy.Mungar@enbridge.com]
Sent: Tuesday, January 11, 2022 10:29 PM
To: Brian Lennie <Brian.Lennie@enbridge.com>; Robert Ventura <RVentura@countyofessex.ca>
Cc: Jerry Behl <JBehl@countyofessex.ca>; Sumaiya Habiba <SHabiba@countyofessex.ca>; Evan Tomek <Evan.Tomek@enbridge.com>
Subject: RE: Follow-up: County of Essex/Enbridge Gas January 5, 2022 meeting

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Thanks as well for the virtual meet. Our interest is in the overall plan and timing for your known culvert replacement at the intersection noted in the yellow circle below.

There is an existing gas main that comes south on 31, east on #8 and also heads down south again on 31 that we recognize will pose challenges to the intended new running line and perhaps your culvert work.

On the intersection map below the **black** line represents the draft route to take on the interconnect and the **red** line is an option for a preferred deferral from that intersection noted in yellow.
We believe it to be of benefit to avoid both the culvert and existing gas main at the intersection if at all possible with this new line given its' size (all contingent upon positive landowner consent that is still outstanding).
Looking to understand intended road closure/traffic plans and their subsequent timing windows, distance from the culvert for clearance of activities to avoid any logistical issues.

Information as it develops on your side will help identify options to adjust the schedule of work for this area and potentially mitigate our impact on both traffic and the landowners in this area.

Hopefully this makes sense looking for synergies wherever possible and avoiding conflicts through our communication of the planned culvert work here. Appreciate your time and looking forward to more discussions.



Tammy Mungar
Construction Supervisor
Project Operations Management

ENBRIDGE
CELL: 519-365-1158 | Tammy.Mungar@enbridge.com

enbridge.com
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From: Brian Lennie <Brian.Lennie@enbridge.com>
Sent: Tuesday, January 11, 2022 3:43 PM
To: Robert Ventura <RVentura@countyofessex.ca>; Tammy Mungar <Tammy.Mungar@enbridge.com>
Cc: Jerry Behl <JBehl@countyofessex.ca>; Sumaiya Habiba <SHabiba@countyofessex.ca>; Evan Tomek <Evan.Tomek@enbridge.com>
Subject: RE: Follow-up: County of Essex/Enbridge Gas January 5, 2022 meeting

Hi Rob,

Thank you, and nice to virtually meet you Sumaiya.

I will defer to Tammy and/or Evan on what information the construction team needs on the culvert replacements.

Thanks,
Brian

Brian Lennie
Senior Advisor, Municipal and Stakeholder Engagement – Ontario South/West

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50 Keil Drive North, Chatham, ON N7M5M1
enbridge.com
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From: Robert Ventura <RVentura@countyofessex.ca>
Sent: Tuesday, January 11, 2022 11:08 AM
To: Tammy Mungar <Tammy.Mungar@enbridge.com>; Brian Lennie <Brian.Lennie@enbridge.com>
Cc: Jerry Behl <JBehl@countyofessex.ca>; Sumaiya Habiba <SHabiba@countyofessex.ca>
Subject: [External] RE: Follow-up: County of Essex/Enbridge Gas January 5, 2022 meeting

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Hi Tammy and Brian,

Thank you for the email, we are working on our response. Can you give more specific information on what is requested of the culvert replacements?

As highlighted in the initial comments, two culverts scheduled for 2023 construction (Cameron Curry Drain and Wiper Drain) will be impacted by the Panhandle Regional Expansion. Normally we wouldn't have a full understanding on the scope of project for both of these (e.g. type of structure being replaced, working days, etc.) until later on in the year. We can give the specific locations of the culverts and an anticipated construction start date but that would be all at this time.

Additionally, I'd like to e-introduce you to Sumaiya (cc'd) who I have been covering for while she has been on maternity leave. She is now back, and will be working with Jerry closely on this project and any other developments as they impact the County. Please include her on all emails moving forward.

Kind regards,
Rob

Robert Ventura
Environmental Coordinator
County of Essex
360 Fairview Ave. W. Suite 315|Essex, ON|N8M 1Y6
P: 519-776-6441 ext. 1385
F: 519-776-4455
TTY: 1-877-624-4832

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From: Brian Lennie <Brian.Lennie@enbridge.com>
Sent: Wednesday, January 5, 2022 10:13 AM

To: Jerry Behl <JBehl@countyofessex.ca>; Robert Ventura <RVentura@countyofessex.ca>
Cc: Tammy Mungar <Tammy.Mungar@enbridge.com>; Brian Chauvin <Brian.Chauvin@enbridge.com>; Evan Tomek <Evan.Tomek@enbridge.com>; Allison Chong <allison.chong@enbridge.com>
Subject: Follow-up: County of Essex/Enbridge Gas January 5, 2022 meeting

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Hi Jerry and Rob,

Thank you again for the meeting this morning. I believe we covered a lot of ground on the Panhandle Regional Expansion Project.

My summary is below, please let me know of any edits/comments.

All attendees are copied on this email for individual outreach outlined below.

I have also attached the presentation given today.

1) Next round of information sessions:
- There will be a new round of information session in February.
- This round of information session will be the same as the previous: virtual and recorded.
- It will present detailed routing for the initial 3 routes (listed below) and also specific pipeline inch diameters.
- It will also present 4 small-in-scope distribution projects that are required as part of this project and must be filed with the OEB.
- There will be other, smaller distribution projects not part of the information session. We will send the details on those to you separately for comment.
- You will be contacted in late January or early February with all details on the information session by AECOM.

2) Panhandle Interconnect:
- In the next round of information session, the length of the pipeline will be finalized and the diameter.
- The goal remains a pipeline project that is cross country on private land adjacent to an existing pipeline corridor.
- Will require road crossings.

3) Leamington Interconnect:
- Enbridge's goals are:
  - Pursue a private easement with local landowners on the north side of County Road 8, near the road allowance.
  - Pursue a private easement with local landowners on the east side of County Road 31, near the road allowance.
- Action items:
  - Jerry to send Tammy any road widening plans for CR 8 or CR 31 in this area.
  - Rob to send Tammy: 1) CWATS (County Wide Active Transportation System) plans in this area; 2) Information on Cameron Curry Drain plans in this area.

4) Wheatley Interconnect:
- Enbridge's goal is: to pursue a private easement with local landowners somewhere west of CR1.

Thanks,
Brian

Brian Lennie
Senior Advisor, Municipal and Stakeholder Engagement – Ontario South/West

ENBRIDGE GAS INC.
OFFICE: 519-436-4527 | CELL: 226-229-2692 | EMAIL: brian.lennie@enbridge.com
50 Keil Drive North, Chatham, ON N7M5M1

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Witt, Jordan

From: Washburn, Kristan
Sent: April 4, 2022 7:14 PM
To: Witt, Jordan; Pal, Sarah
Subject: Fwd: Follow-up: County of Essex/Enbridge Gas January 5, 2022 meeting
Attachments: 5YearRehab_8.5x11_2022_2026_upd.pdf

FYI

From: Evan Tomek <Evan.Tomek@enbridge.com>
Sent: Monday, April 4, 2022 7:04:12 PM
To: Van der Woerd, Mark <Mark.VanderWoerd@aecom.com>; Washburn, Kristan <Kristan.Washburn@aecom.com>
Cc: Doug Schmidt <Doug.Schmidt@enbridge.com>
Subject: [EXTERNAL] FW: Follow-up: County of Essex/Enbridge Gas January 5, 2022 meeting

Hi Mark/Kristan,

FYI – had another meeting with the County of Essex today. It was to update the County on final project details and to discuss a future Council presentation. The County also provided the attached map showing the Roads program work for 2022-26.

Thanks,

Evan

Evan Tomek, BES
Sr. Analyst, Environment
Enbridge Inc.
50 Keil Drive North | Chatham, ON N7M 5M1
Tel: 519.436.4600 ext 5003441
Cell: 226.229.9598
email: evan.tomek@enbridge.com
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From: Brian Lennie <Brian.Lennie@enbridge.com>
Sent: Monday, April 4, 2022 3:18 PM
To: Tammy Mungar <Tammy.Mungar@enbridge.com>; Evan Tomek <Evan.Tomek@enbridge.com>; Sean Sutton <Sean.Sutton@Enbridge.com>; Alicja Pagaduan <Alicja.Pagaduan@enbridge.com>; Allison Chong <allison.chong@enbridge.com>
Cc: Rob Marson <Rob.Marson@enbridge.com>
Subject: FW: Follow-up: County of Essex/Enbridge Gas January 5, 2022 meeting

Thanks all for joining the call this afternoon, I thought it went great – especially to get the confirm they are good with us proceeding to Council. Sumaiya has already sent through their roads program map for 2022-26, attached, and has noted she will be following up shortly with info on the 2 drain projects mentioned.

From: Sumaiya Habiba <SHabiba@countyofessex.ca>
Sent: Monday, April 4, 2022 3:04 PM

To: Brian Lennie <Brian.Lennie@enbridge.com>
Cc: Jerry Behl <JBehl@countyofessex.ca>
Subject: [External] RE: Follow-up: County of Essex/Enbridge Gas January 5, 2022 meeting

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Were you expecting this email? TAKE A CLOSER LOOK. Is the sender legitimate?
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Hi Brian,

Thank you for the meeting – very informative.

As discussed, please find attached the County's Rehabilitation Program map for 2022-2026 that shows road rehabilitation (lines) and bridge and culvert projects (dots). Once I receive information on the Cameron Curry culvert and Irwin drain culvert projects on County Road 31 and County Road 8, I will forward them to you.

In the meantime, should there be any other information you need from the County, please do not hesitate to email or call.

Thanks very much,
Sumaiya

Sumaiya Habiba
Environmental Coordinator
County of Essex
360 Fairview Ave. W. Suite 315|Essex, ON|N8M 1Y6
P: 519-776-6441 ext. 1385
F: 519-776-4455
TTY: 1-877-624-4832

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From: Brian Lennie <Brian.Lennie@enbridge.com>
Sent: March 23, 2022 11:37 AM
To: Sumaiya Habiba <SHabiba@countyofessex.ca>
Subject: RE: Follow-up: County of Essex/Enbridge Gas January 5, 2022 meeting

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Thank you. Just sent you and Jerry an invite.

From: Sumaiya Habiba <SHabiba@countyofessex.ca>
Sent: Wednesday, March 23, 2022 8:47 AM

To: Brian Lennie <Brian.Lennie@enbridge.com>
Subject: [External] RE: Follow-up: County of Essex/Enbridge Gas January 5, 2022 meeting

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This email originated from outside Enbridge and could be a phish. Criminals can pretend to be anyone. Do not interact with the email unless you are 100% certain it is legitimate. Report any suspicious emails.

Good morning Brian,

April 4th morning or afternoon works for me and I believe Jerry is available as well. If you could please send a meeting request, that would be greatly appreciated.

Thanks very much,
Sumaiya

Sumaiya Habiba
Environmental Coordinator
County of Essex
360 Fairview Ave. W. Suite 315|Essex, ON|N8M 1Y6
P: 519-776-6441 ext. 1385
F: 519-776-4455
TTY: 1-877-624-4832

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From: Brian Lennie <Brian.Lennie@enbridge.com>
Sent: March 22, 2022 4:25 PM
To: Sumaiya Habiba <SHabiba@countyofessex.ca>
Subject: RE: Follow-up: County of Essex/Enbridge Gas January 5, 2022 meeting

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Hi Sumaiya,

Thanks for reaching out. End of next week, I will be on the road. Would you have availability on April 4? I'm pretty free all day except 3pm.

Thanks,
Brian

Brian Lennie
Senior Advisor, Municipal and Stakeholder Engagement – Ontario South/West
ENBRIDGE GAS INC.

OFFICE: 519-436-4527 | CELL: 226-229-2692 | EMAIL: brian.lennie@enbridge.com
50 Keil Drive North, Chatham, ON N7M5M1
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From: Sumaiya Habiba <SHabiba@countyofessex.ca>
Sent: Tuesday, March 22, 2022 3:10 PM
To: Brian Lennie <Brian.Lennie@enbridge.com>
Subject: [External] RE: Follow-up: County of Essex/Enbridge Gas January 5, 2022 meeting

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Good afternoon Brian,

I apologize for the delay in my response. I think it will be helpful to set up a brief meeting to discuss the project and the Council presentation. Do you have any availability at the end of next week?

Also, please note that Rob is no longer with the County.

Thanks very much,
Sumaiya

Sumaiya Habiba
Environmental Coordinator
County of Essex
360 Fairview Ave. W. Suite 315 | Essex, ON | N8M 1Y6
P: 519-776-6441 ext. 1385
F: 519-776-4455
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From: Brian Lennie <Brian.Lennie@enbridge.com>
Sent: March 9, 2022 4:48 PM
To: Robert Ventura <RVentura@countyofessex.ca>; Jerry Behl <JBehl@countyofessex.ca>; Sumaiya Habiba <SHabiba@countyofessex.ca>
Cc: Tammy Mungar <Tammy.Mungar@enbridge.com>
Subject: RE: Follow-up: County of Essex/Enbridge Gas January 5, 2022 meeting

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Rob, Jerry, and Sumaiya,

I hope all is well.

Now that the Panhandle Regional Expansion Project information session process has concluded, I would like to schedule a time to present the final project to Council – ideally sometime between late April and late May.

I would only do so if you were comfortable with it, because my goal would be to: 1) present the final project details; 2) request Council's consideration for a letter of support for the project which would be included in the upcoming OEB application process.

Please let me know your thoughts. If you would like a meeting to discuss the project further before I proceed to request a Council presentation, I'm happy to arrange.

Thanks,
Brian

Brian Lennie
Senior Advisor, Municipal and Stakeholder Engagement – Ontario South/West

ENBRIDGE GAS INC.
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50 Keil Drive North, Chatham, ON N7M5M1

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From: Brian Lennie
Sent: Friday, January 21, 2022 12:41 PM
To: 'Robert Ventura' <RVentura@countyofessex.ca>
Cc: Jerry Behl <JBehl@countyofessex.ca>; Sumaiya Habiba <SHabiba@countyofessex.ca>; Evan Tomek <Evan.Tomek@enbridge.com>; Tammy Mungar <Tammy.Mungar@enbridge.com>
Subject: RE: Follow-up: County of Essex/Enbridge Gas January 5, 2022 meeting

Hi Rob,

Thank you for this information. We will take it away as part of the next round of information sessions. Tammy and/or Evan will be in contact should there be any further technical questions.

Thanks,
Brian

Brian Lennie
Senior Advisor, Municipal and Stakeholder Engagement – Ontario South/West

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50 Keil Drive North, Chatham, ON N7M5M1

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From: Robert Ventura <RVentura@countyofessex.ca>
Sent: Monday, January 17, 2022 3:07 PM

To: Tammy Mungar <Tammy.Mungar@enbridge.com>; Brian Lennie <Brian.Lennie@enbridge.com>
Cc: Jerry Behl <JBehl@countyofessex.ca>; Sumaiya Habiba <SHabiba@countyofessex.ca>; Evan Tomek <Evan.Tomek@enbridge.com>
Subject: [External] RE: Follow-up: County of Essex/Enbridge Gas January 5, 2022 meeting

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Good afternoon Tammy and Brian,

Please see below for our comments as they relate to each section.

Culvert Replacements:
Please note that there was an error in my original email. The Irwin Drain (C-31-137) culvert on CR 31 (depicted in the photo you provided) is scheduled for engineering this year and construction in 2023 (likely July or August 2023).

At this time we do not have any details. We can anticipate the concrete box culvert will likely be extended to the east. Possibly 60% drawings would be available in September 2022 and we can provide more information at that time. The recommendation is for Enbridge to design their proposed gas main on the farmland (easement) on the east side of the CR 31 drain.

CWATS:

1. Panhandle Loop (Construction of a new 36 inch natural gas transmission pipeline, approx. 19 km in length.):
    - Note there is an existing off-road multi use path (greenway) that is an active transportation corridor running parallel to Hwy 77 (north-south) from Comber to Leamington. We would expect any construction and operations to not impact this AT corridor.

2. Leamington Interconnect (Construction of a new 16 inch natural gas transmission pipeline east west from Kingsville to Leamington, approx. 12 km in length):
    - CWATS has identified paved shoulders to be implemented on CR 8 and CR 31 along the preliminary preferred alternative (Yellow line on map). Given anticipated impacts to the active transportation network, CWATS would prefer either Alternative 1 or 2.

3. Construction of a new 6 to 12 inch natural gas pipeline north south from TBD point in Tilbury to a TBD point near Goodreau Line in either Lakeshore or Chatham Kent, approx. 5km in length.
    - No impacts anticipated to the CWATS network

Road Widening Projects:

- There are no incoming road widening projects for CR 31 or CR 8 in this area

We will wait for Enbridge to release more information on the discussed several small-in-scope distribution pipeline projects as part of the overall Panhandle Regional Expansion Project before submitting any additional comments for the PIC#2.

Please let us know if you have any further questions.

Regards,
Rob

Robert Ventura
Environmental Coordinator
County of Essex
360 Fairview Ave. W. Suite 315|Essex, ON|N8M 1Y6
P: 519-776-6441 ext. 1385
F: 519-776-4455
TTY: 1-877-624-4832

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From: Tammy Mungar [mailto:Tammy.Mungar@enbridge.com]
Sent: Tuesday, January 11, 2022 10:29 PM
To: Brian Lennie <Brian.Lennie@enbridge.com>; Robert Ventura <RVentura@countyofessex.ca>
Cc: Jerry Behl <JBehl@countyofessex.ca>; Sumaiya Habiba <SHabiba@countyofessex.ca>; Evan Tomek <Evan.Tomek@enbridge.com>
Subject: RE: Follow-up: County of Essex/Enbridge Gas January 5, 2022 meeting

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Thanks as well for the virtual meet. Our interest is in the overall plan and timing for your known culvert replacement at the intersection noted in the yellow circle below.

There is an existing gas main that comes south on 31, east on #8 and also heads down south again on 31 that we recognize will pose challenges to the intended new running line and perhaps your culvert work.

On the intersection map below the **black** line represents the draft route to take on the interconnect and the **red** line is an option for a preferred deferral from that intersection noted in yellow.
We believe it to be of benefit to avoid both the culvert and existing gas main at the intersection if at all possible with this new line given its' size (all contingent upon positive landowner consent that is still outstanding).
Looking to understand intended road closure/traffic plans and their subsequent timing windows, distance from the culvert for clearance of activities to avoid any logistical issues.

Information as it develops on your side will help identify options to adjust the schedule of work for this area and potentially mitigate our impact on both traffic and the landowners in this area.
Hopefully this makes sense looking for synergies wherever possible and avoiding conflicts through our communication of the planned culvert work here. Appreciate your time and looking forward to more discussions.



Tammy Mungar
Construction Supervisor
Project Operations Management

ENBRIDGE
CELL: 519-365-1158 | Tammy.Mungar@enbridge.com

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From: Brian Lennie <Brian.Lennie@enbridge.com>
Sent: Tuesday, January 11, 2022 3:43 PM
To: Robert Ventura <RVentura@countyofessex.ca>; Tammy Mungar <Tammy.Mungar@enbridge.com>
Cc: Jerry Behl <JBehl@countyofessex.ca>; Sumaiya Habiba <SHabiba@countyofessex.ca>; Evan Tomek <Evan.Tomek@enbridge.com>
Subject: RE: Follow-up: County of Essex/Enbridge Gas January 5, 2022 meeting

Hi Rob,

Thank you, and nice to virtually meet you Sumaiya.

I will defer to Tammy and/or Evan on what information the construction team needs on the culvert replacements.

Thanks,
Brian

Brian Lennie
Senior Advisor, Municipal and Stakeholder Engagement – Ontario South/West

ENBRIDGE GAS INC.
OFFICE: 519-436-4527 | CELL: 226-229-2692 | EMAIL: brian.lennie@enbridge.com
50 Keil Drive North, Chatham, ON N7M5M1

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Cc: Jerry Behl <JBehl@countyofessex.ca>; Sumaiya Habiba <SHabiba@countyofessex.ca>
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Kind regards,
Rob

Robert Ventura
Environmental Coordinator
County of Essex
360 Fairview Ave. W. Suite 315|Essex, ON|N8M 1Y6
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From: Brian Lennie <Brian.Lennie@enbridge.com>
Sent: Wednesday, January 5, 2022 10:13 AM
To: Jerry Behl <JBehl@countyofessex.ca>; Robert Ventura <RVentura@countyofessex.ca>
Cc: Tammy Mungar <Tammy.Mungar@enbridge.com>; Brian Chauvin <Brian.Chauvin@enbridge.com>; Evan Tomek

<Evan.Tomek@enbridge.com>; Allison Chong <allison.chong@enbridge.com>
Subject: Follow-up: County of Essex/Enbridge Gas January 5, 2022 meeting

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Hi Jerry and Rob,

Thank you again for the meeting this morning. I believe we covered a lot of ground on the Panhandle Regional Expansion Project.

My summary is below, please let me know of any edits/comments.

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I have also attached the presentation given today.

1) Next round of information sessions:

- There will be a new round of information session in February.
- This round of information session will be the same as the previous: virtual and recorded.
- It will present detailed routing for the initial 3 routes (listed below) and also specific pipeline inch diameters.
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- There will be other, smaller distribution projects not part of the information session. We will send the details on those to you separately for comment.
- You will be contacted in late January or early February with all details on the information session by AECOM.

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- In the next round of information session, the length of the pipeline will be finalized and the diameter.
- The goal remains a pipeline project that is cross country on private land adjacent to an existing pipeline corridor.
- Will require road crossings.

3) Leamington Interconnect:

- Enbridge's goals are:
  - Pursue a private easement with local landowners on the north side of County Road 8, near the road allowance.
  - Pursue a private easement with local landowners on the east side of County Road 31, near the road allowance.
- Action items:
  - Jerry to send Tammy any road widening plans for CR 8 or CR 31 in this area.
  - Rob to send Tammy: 1) CWATS (County Wide Active Transportation System) plans in this area; 2) Information on Cameron Curry Drain plans in this area.

4) Wheatley Interconnect:

- Enbridge's goal is: to pursue a private easement with local landowners somewhere west of CR1.

Thanks,
Brian

Brian Lennie
Senior Advisor, Municipal and Stakeholder Engagement – Ontario South/West

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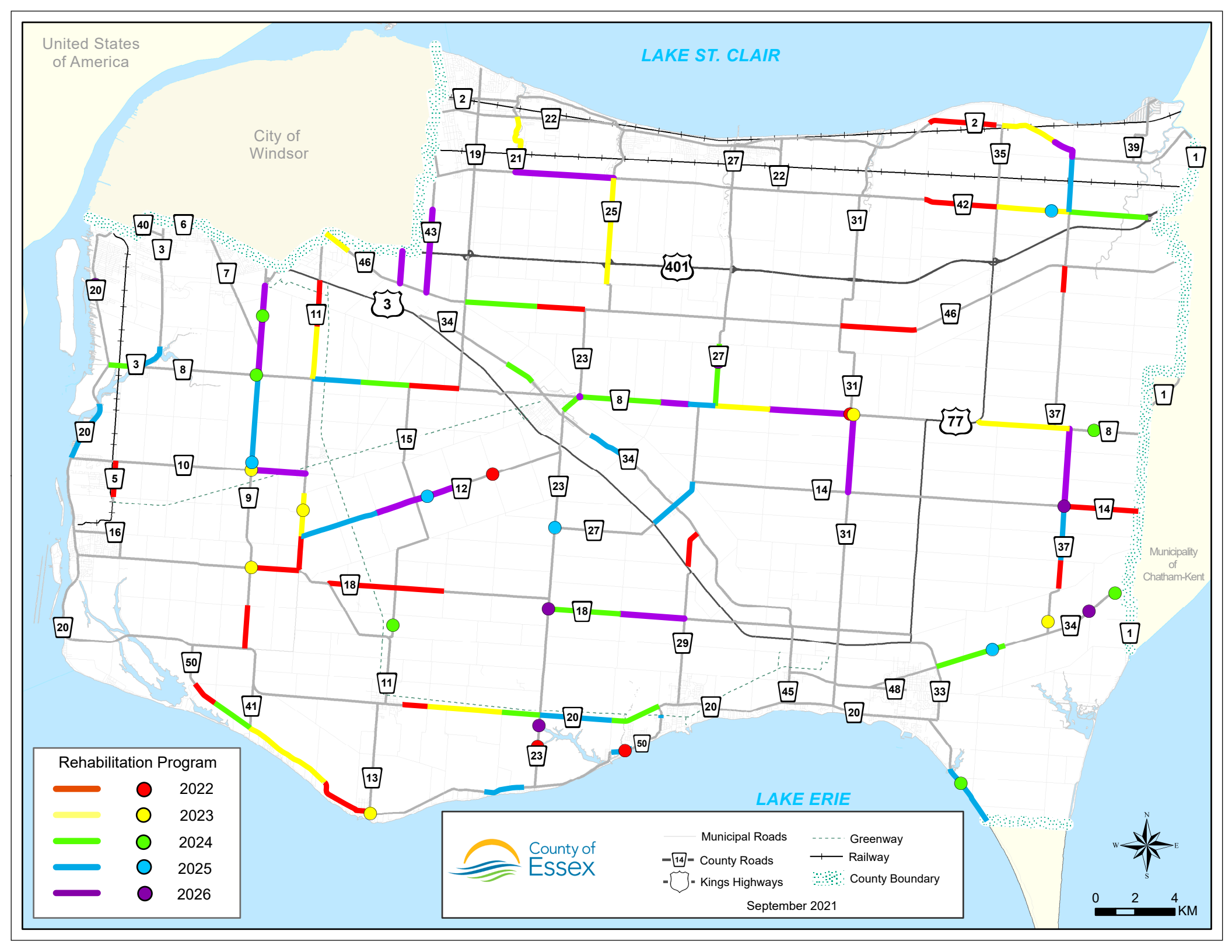
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Municipality of Chatham-Kent
LAKE ERIE
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County of Essex
Municipal Roads
County Roads
Kings Highways
Greenway
Railway
County Boundary
September 2021
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AECOM

Municipality of Chatham-Kent

Witt, Jordan

From: Evan Tomek <Evan.Tomek@enbridge.com>
Sent: September 22, 2021 4:34 PM
To: van der Woerd, Mark; Witt, Jordan; Washburn, Kristan
Subject: [EXTERNAL] FW: Chatham-Kent/Enbridge Gas discussion - Panhandle Regional Expansion Project
Attachments: EGI - Panhandle Regional Expansion Project September 2021.pdf; MAP_RoutingOptions_PanhandleLoop.pdf; MAP_RoutingOptions_WheatleyReinforcement.pdf

Hi All,

FYI – Brian's meeting with Chatham-Kent today.

Thanks,

Evan

Evan Tomek, BES
Sr. Analyst, Environment
Enbridge Inc.
50 Keil Drive North | Chatham, ON N7M 5M1
Tel: 519.436.4600 ext 5003441
Cell: 226.229.9598
email: evan.tomek@enbridge.com
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From: Brian Lennie <Brian.Lennie@enbridge.com>
Sent: Wednesday, September 22, 2021 4:13 PM
To: Bruce McAllister <brucem@chatham-kent.ca>; ryanj@chatham-kent.ca; markmc@chatham-kent.ca; Gabriel Clarke <gabrielc@chatham-kent.ca>
Cc: Evan Tomek <Evan.Tomek@enbridge.com>; Ryan Langan <Ryan.Langan@enbridge.com>; Sean Sutton <Sean.Sutton@Enbridge.com>; Bobby Pilutti <Bobby.Pilutti@enbridge.com>; Alicja Pagaduan <Alicja.Pagaduan@enbridge.com>; Patrick Finniss <Patrick.Finniss@enbridge.com>
Subject: RE: Chatham-Kent/Enbridge Gas discussion - Panhandle Regional Expansion Project

Good Afternoon,

Thank you everyone for the call. Looking forward to further discussions as this project continues to be planned. As discussed:

- Attached the presentation PDF.
- Attached the 2 relevant maps 'Panhandle Loop' and 'Wheatley Reinforcement'. In both cases, routing is TBD at this time, in particular the Wheatley Reinforcement.

AECOM will be sending you all notices the week of October 4, to invite you to attend the virtual open house process.

For any permitting-related questions or comments: please reach out to Alicja Pagaduan (cc'ed).

For any construction-technical questions or comments: please reach out to Ryan, Bobby, Sean, Patrick (cc'ed). Ryan would be your go-to for anything related to the project construction specifically, and Bobby, Sean, and Patrick can handle local area related comments/questions.

Thanks,
Brian

Brian Lennie
Senior Advisor, Municipal and Stakeholder Engagement – Ontario South/West

ENBRIDGE GAS INC.
OFFICE: 519-436-4527 | CELL: 226-229-2692 | EMAIL: brian.lennie@enbridge.com
50 Keil Drive North, Chatham, ON N7M5M1

enbridge.com
Safety. Integrity. Respect. Inclusion.

-----Original Appointment-----
From: Brian Lennie
Sent: Thursday, September 16, 2021 2:09 PM
To: Brian Lennie; Bruce McAllister; ryanj@chatham-kent.ca; markmc@chatham-kent.ca; Ryan Langan; Sean Sutton; Bobby Pilutti; Alicja Pagaduan
Cc: Gabriel Clarke; Patrick Finniss
Subject: Chatham-Kent/Enbridge Gas discussion - Panhandle Regional Expansion Project
When: Wednesday, September 22, 2021 3:30 PM-4:30 PM (UTC-05:00) Eastern Time (US & Canada).
Where: Microsoft Teams Meeting

Microsoft Teams meeting

Join on your computer or mobile app
Click here to join the meeting

Or call in (audio only)
+1 343-803-4926,,431561247# Canada, Ottawa-Hull
Phone Conference ID: 431 561 247#
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Enbridge Gas
2023 Panhandle Regional Expansion Project

2021

ENBRIDGE

2023 Panhandle Regional Expansion Project

Context

- Over the past several years there has been strong economic growth in Windsor, Essex County, and Chatham-Kent, in particular in the greenhouse sector.
- As a result, Enbridge Gas is examining multiple methods to meet the energy needs of the local area, and furthermore, economic growth into the future.
- We are continuing to evaluate alternatives and have not finalized our ‘Preferred Alternative’ at this time.
- One alternative we would like to discuss with you today is the potential pipeline options.

2023 Panhandle Regional Expansion Project

Purpose

- Pipeline options:
  - To serve additional demand for energy, Enbridge Gas is proposing to increase the capacity of our Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse, and power generation customers in the municipalities of Chatham-Kent, Windsor, County of Essex, Lakeshore, Leamington, Kingsville, Essex, Amherstburg, LaSalle, and Tecumseh.
  - Due to the scope of the project, Ontario Energy Board (OEB) approval of the project is required prior to construction start.

2023 Panhandle Regional Expansion Project

Project details

- **The proposed pipeline options include 3 main components at this time:**
- 1) Construction of a new 36-inch natural gas transmission pipeline, approx. 19 km in length.
  - Will ‘loop’ (add another pipeline to) the existing Panhandle pipeline system between the Enbridge Gas Dover Transmission Station in Chatham-Kent and a TBD point south of Tilbury.
  - At this time, Enbridge Gas is also evaluating the need to further extend this new pipeline from south of Tilbury to west of Comber.
  - This section of the project will be primarily in private easement (with the need for road crossings).
- 2) Construction of a new 16-inch natural gas transmission pipeline east-west from Kingsville to Leamington, approx. 12 km in length.
  - Will connect four existing north-south natural gas transmission pipelines.
  - At this time, routing for this section is TBD and subject to feedback from Municipalities and local landowners and stakeholders.
- 3) Construction of a new 6-to-12 inch natural gas pipeline north-south from TBD point in Tilbury to a TBD point near Goodreau Line in either Lakeshore or Chatham-Kent, approx. 5km in length.
  - At this time, routing for this section is TBD and subject to feedback from Municipalities and local landowners and stakeholders.

2023 Panhandle Regional Expansion Project

Project details cont'd

- Will meet the current and future economic development and growth needs of the local area.
- Estimated pipeline project cost at this time is near $200M.
- If pipeline option chosen, OEB project application will be submitted in Q2 2022.
- Construction timeline (if pipeline option chosen): Environmental/Archaeological fieldwork and other pre-construction field work in 2022. Construction from early 2023 to end of 2023 (all sections).

2023 Panhandle Regional Expansion Project

Project route mapping

- Project route mapping review

2023 Panhandle Regional Expansion Project

We want your feedback

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  - Any comments on pipeline routing in road allowance?
  - Any comments about pipeline road crossings?
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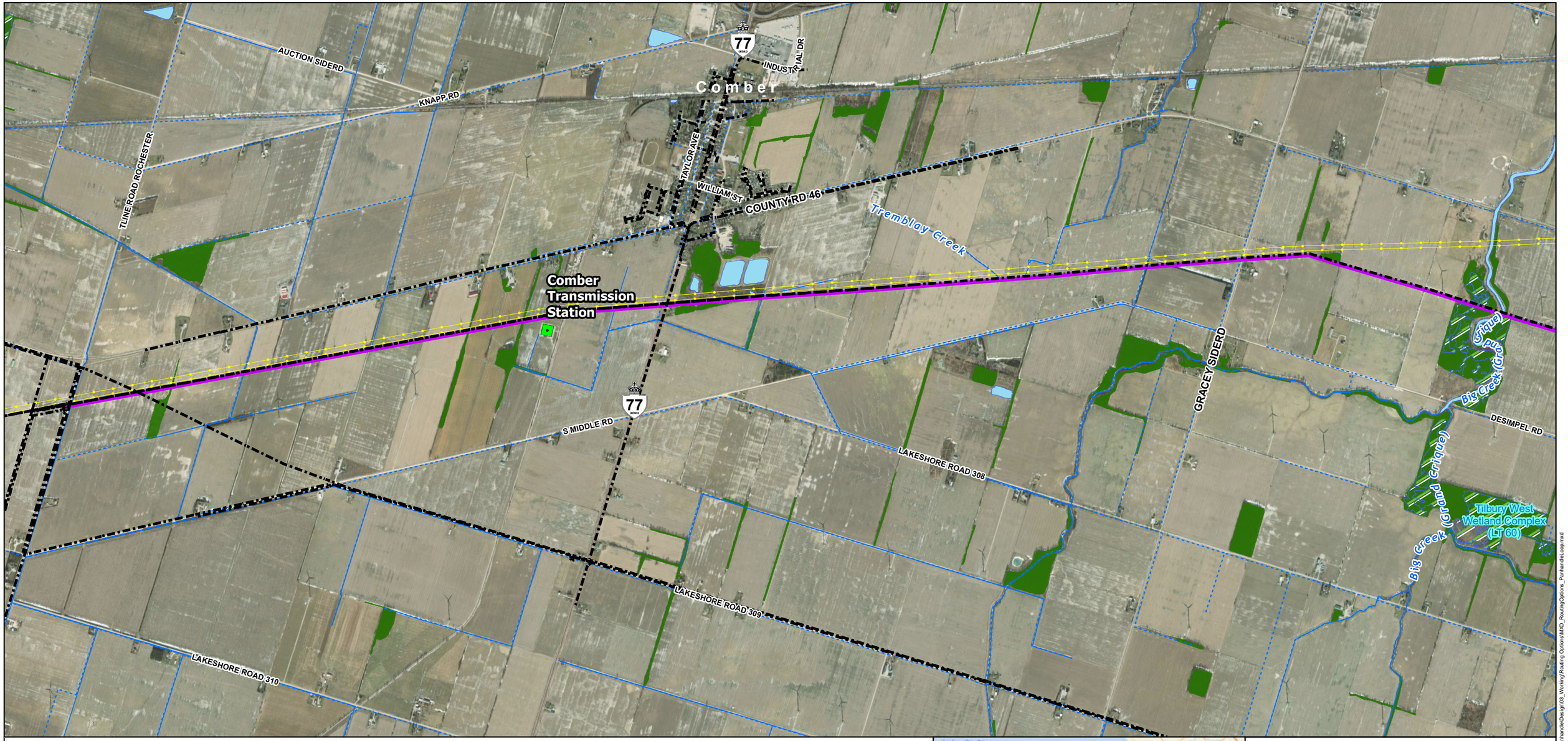
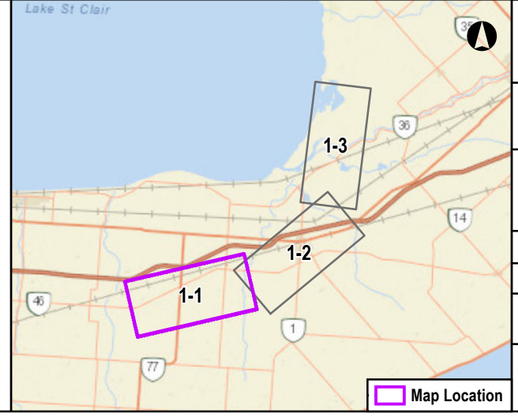
  - Any concerns regarding road / lane closures during the project?
  - Any comments on drainage or drains?



Legend

- Panhandle Loop
- Existing Enbridge Gas Pipeline
- Comber Transmission Station
- Hydro Line
- Railway
- Constructed Drain
- Permanent Stream
- Waterbody
- Provincially Significant Wetland
- Wooded Area
- ANSI, Life Science
- Municipal Boundary



Panhandle Regional Expansion Project

Panhandle Line Loop

0 125 250 500 750 1,000 1,250 1,500 1,750

Meters

DATUM: NAD 1983 UTM Zone 17N

September 2021	1:25,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
P#:60665521	V#:	

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Figure 1-1

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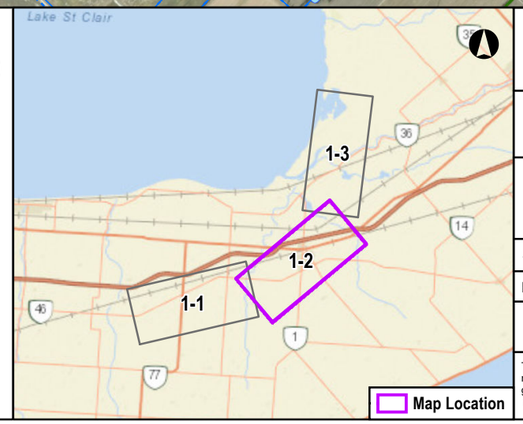
Map location: \\na.aecomnet.com\ca\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\03_Working\Routing Options\MXD_RoutingOptions_PanhandleLoop.mxd
Date Saved: 9/17/2021 11:50:32 AM User Name: clarkb

Big Creek (Grand Crique)
Tilbury West Wetland Complex (LT 60)
COUNTY RD 42
Tilbury Creek
CON RD 3
BAPTISTE RD
ROGERS ST
MINT LINE
DASHWHEEL RD
MILL ST W
LYON AVE N
MASS DR
QUEEN ST N
AZAR AVE
401
INDUSTRIAL PARK RD
MONTPETIT RD
Baptiste Creek
MORRIS RD
COUNTY RD 46
CANAL ST W
Tilbury
MILL ST E
CRAWFORD AVE
CANAL ST E
TILBURY ST
WHEELER LINE
COUTTS LINE
SERVICE CENTRE
BOND AVE
FORT ST
DUPUIS AVE
JEFFREY ST W
QUEEN ST S
STEWART AVE
CANAL ST E
ROSE AVE
PARK LANE
ELLA ST S
HOMESTEADS DR
LAURENTIA DR
BOLOHAN DR
QUEENS LINE
Tilbury Creek
RICHARDSON SIDERD
DESIMPEL RD
TOWN OF LAKESHORE
MUNICIPALITY OF CHATHAM-KENT
MIDDLE LINE
BONNEAU LINE
KING & WHITTLE RD
DAVIDSON RD
WHEATLEY RD
COATSWORTH RD
GRAY LINE
POLLARD LINE
LAKESHORE ROAD 309
Baptiste Creek

Legend

- Panhandle Loop
- Existing Enbridge Gas Pipeline
- Hydro Line
- Railway
- Constructed Drain
- Permanent Stream
- Waterbody
- Provincially Significant Wetland
- Wooded Area
- ANSI, Life Science
- Municipal Boundary



Panhandle Regional Expansion Project

Panhandle Line Loop

0 125 250 500 750 1,000 1,250 1,500 1,750
Meters
DATUM: NAD 1983 UTM Zone 17N

September 2021	1:25,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
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Figure 1-2

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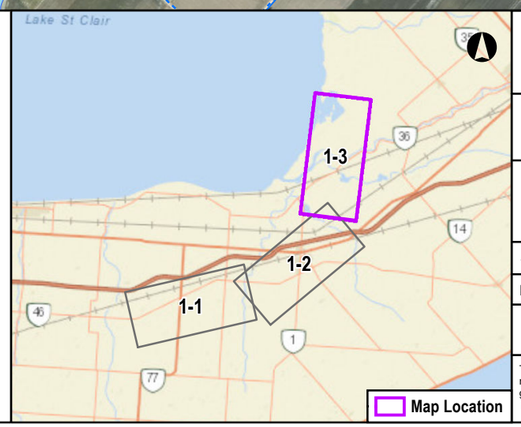
Date Saved: 9/17/2021 11:50:32 AM User Name: clarkb

TOWN OF LAKESHORE
MUNICIPALITY OF CHATHAM-KENT
BAPTISTE RD
Martindale Marsh (LT 43)
Baptiste Creek
DASHWHEEL RD
DEWEY DR
MARJORY DR
BRUCE DR
Thames River Mouth Complex (LT 33)
POPPE RD
Thames River (rivière Thames)
MUNICIPALITY OF CHATHAM-KENT
MUNICIPALITY OF CHATHAM-KENT
Lake St. Clair (lac Sainte-Claire)
St. Clair Marsh Complex
BALMORAL LINE
Dover Transmission Station
JEANNETTES CREEK RD
FORBES LINE
TECUMSEH LINE
BUCHANAN LINE
BRADLEY LINE
PAIN COURT LINE
Jeannettes Creek
SINCLAIR RD
MINT LINE
KANTOR LINE
DAUPHIN RD
TOWNLINE RD
MAPLE LINE
COUTTS LINE

Legend

- Panhandle Loop
- Existing Enbridge Gas Pipeline
- Dover Transmission Station
- Hydro Line
- Railway
- Constructed Drain
- Permanent Stream
- Waterbody
- Provincially Significant Wetland
- Wooded Area
- ANSI, Life Science
- Municipal Boundary



Panhandle Regional Expansion Project

Panhandle Line Loop

0 125 250 500 750 1,000 1,250 1,500 1,750
Meters
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September 2021	1:25,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
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Figure 1-3

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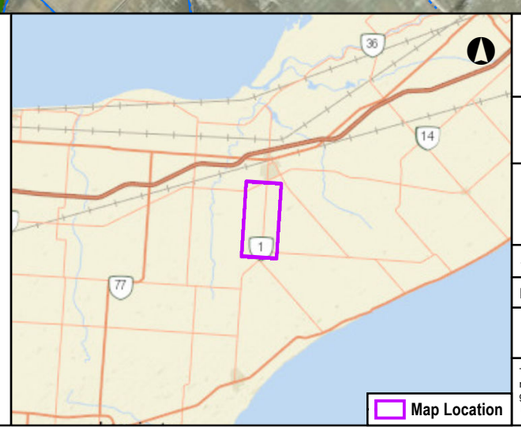
Date Saved: 9/17/2021 11:50:32 AM User Name: clark

TILBURY WEST & ROMNEY RD
MUNICIPALITY OF CHATHAM-KENT
TOWN OF LAKESHORE
CAMPBELL RD
GOODREAU LINE
LAKESHORE ROAD 309
LAKESHORE ROAD 308
DESIMPEL RD
COUNTY RD 46
Tilbury Creek
GRAY LINE
WHEATLEY RD
CARLESS RD
HORNICK LINE
ROSEDALE LINE
COATSWORTH RD
46
1
4

Legend

- Alternative 1
- Alternative 2
- Existing Enbridge Gas Pipeline
- Constructed Drain
- Permanent Stream
- Wooded Area
- Municipal Boundary



Panhandle Regional Expansion Project

Wheatley Interconnect

0 75 150 300 450 600 750 900 1,050
Meters
DATUM: NAD 1983 UTM Zone 17N

September 2021	1:15,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
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Figure 1

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Date Saved: 9/17/2021 11:50:32 AM User Name: clarkb

AECOM

Municipality of Lakeshore

Witt, Jordan

From: Evan Tomek <Evan.Tomek@enbridge.com>
Sent: October 1, 2021 11:08 AM
To: van der Woerd, Mark; Witt, Jordan; Washburn, Kristan
Cc: Doug Schmidt
Subject: [EXTERNAL] FW: Lakeshore/Enbridge Gas discussion - Panhandle Regional Expansion Project
Attachments: EGI - Panhandle Regional Expansion Project September 2021.pdf; MAP_RoutingOptions_PanhandleLoop.pdf; MAP_RoutingOptions_WheatleyReinforcement.pdf; MAP_RoutingOptions_LeamingtonLateral.pdf

Hi All,

FYI – Brian's meeting with Lakeshore.

Thanks,

Evan

Evan Tomek, BES
Sr. Analyst, Environment
Enbridge Inc.
50 Keil Drive North | Chatham, ON N7M 5M1
Tel: 519.436.4600 ext 5003441
Cell: 226.229.9598
email: evan.tomek@enbridge.com
Safety. Integrity. Respect.

From: Brian Lennie <Brian.Lennie@enbridge.com>
Sent: Wednesday, September 29, 2021 4:52 PM
To: tmcbride@lakeshore.ca; KKalbol@lakeshore.ca; jwilson@lakeshore.ca
Cc: Sean Sutton <Sean.Sutton@Enbridge.com>; Bobby Pilutti <Bobby.Pilutti@enbridge.com>; Ryan Langan <Ryan.Langan@enbridge.com>; Alicja Pagaduan <Alicja.Pagaduan@enbridge.com>; Evan Tomek <Evan.Tomek@enbridge.com>; Tammy Mungar <Tammy.Mungar@enbridge.com>
Subject: Lakeshore/Enbridge Gas discussion - Panhandle Regional Expansion Project

Good Afternoon,

Thank you everyone for the call. Looking forward to further discussions as this project continues to be planned. As discussed:

- Attached the presentation PDF.
- Attached the 3 relevant maps 'Panhandle Loop', 'Leamington Lateral' and 'Wheatley Reinforcement'. In all cases, routing is TBD at this time.

AECOM will be sending you all notices the week of October 4, to invite you to attend the virtual open house process.

For any permitting-related questions or comments: please reach out to Alicja Pagaduan (cc'ed).

For any construction-technical questions or comments: please reach out to Tammy, Ryan, Bobby, Sean (cc'ed). Tammy and Ryan would be your go-to for anything related to the project construction specifically, and Bobby and Sean can handle local area related comments/questions.

Krystal, please let us know if Council would like a presentation on this as discussed, happy to do so.

Thanks,
Brian

Brian Lennie
Senior Advisor, Municipal and Stakeholder Engagement – Ontario South/West

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Enbridge Gas
2023 Panhandle Regional Expansion Project

2021

ENBRIDGE

2023 Panhandle Regional Expansion Project

Context

- Over the past several years there has been strong economic growth in Windsor, Essex County, and Chatham-Kent, in particular in the greenhouse sector.
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2023 Panhandle Regional Expansion Project

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2023 Panhandle Regional Expansion Project

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2023 Panhandle Regional Expansion Project

Project details cont'd

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2023 Panhandle Regional Expansion Project

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2023 Panhandle Regional Expansion Project

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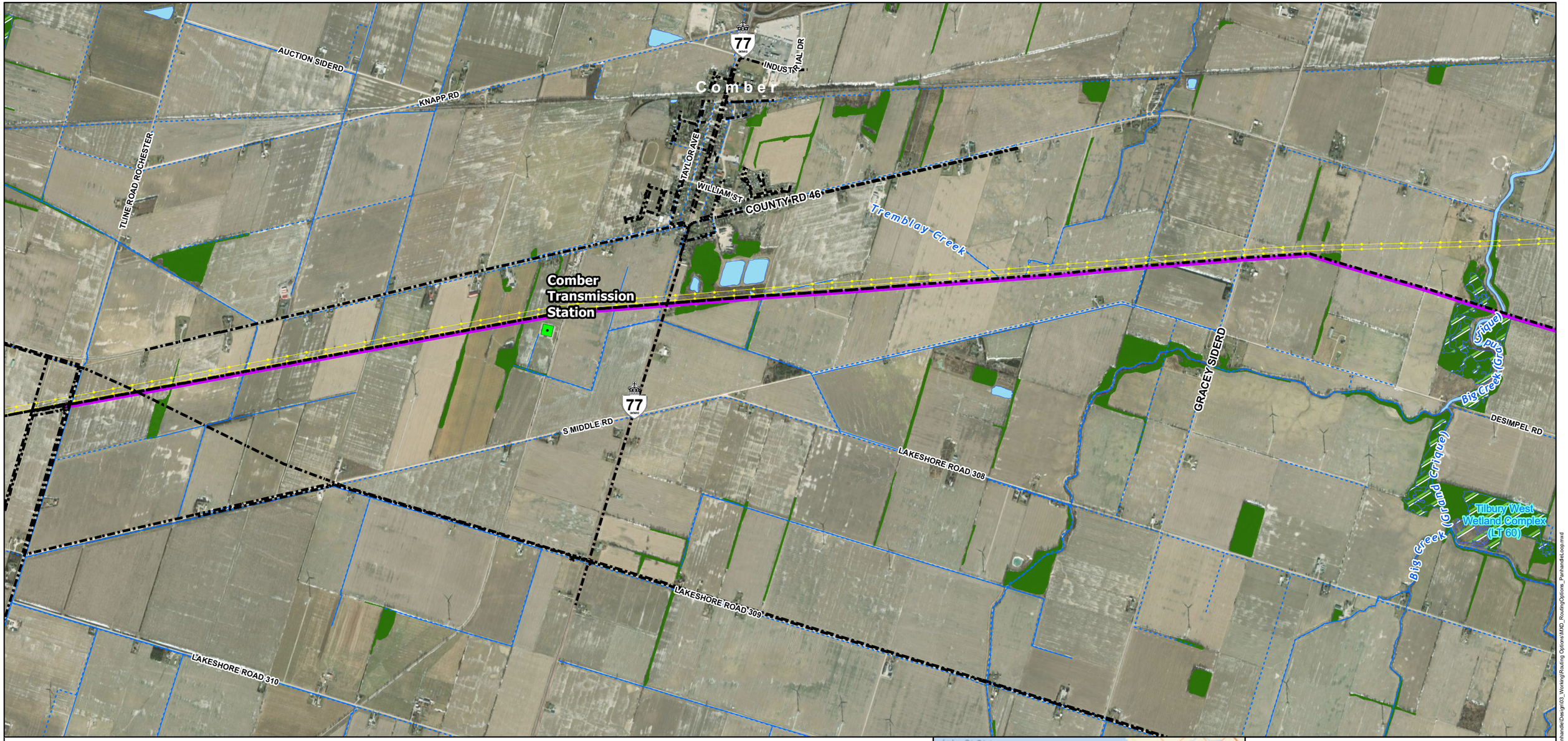

Legend

- Panhandle Loop
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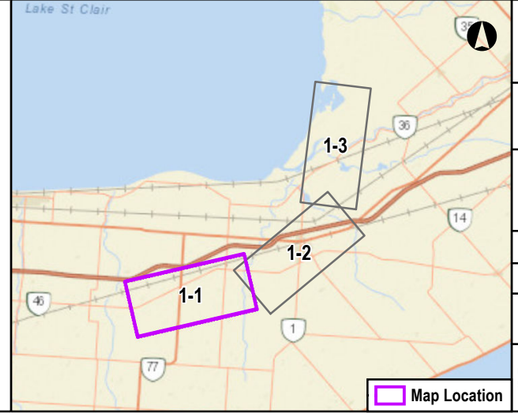

Panhandle Regional Expansion Project

Panhandle Line Loop

0 125 250 500 750 1,000 1,250 1,500 1,750

Meters

DATUM: NAD 1983 UTM Zone 17N

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Figure 1-1

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Tilbury West Wetland Complex (LT 60)
COUNTY RD 42
Tilbury Creek
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LYON AVE N
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MONTPETIT RD
Baptiste Creek
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COUNTY RD 46
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CRAWFORD AVE
CANAL ST E
TILBURY ST
WHEELER LINE
COUTTS LINE
SERVICE CENTRE
BOND AVE
FORT ST
DUPUIS AVE
JEFFREY ST W
QUEEN ST S
STEWART AVE
CANAL ST E
ROSE AVE
PARK LANE
ELLA ST S
HOMESTEADS DR
LAURENTIA DR
BOLOHAN DR
QUEENS LINE
Tilbury Creek
RICHARDSON SIDERD
DESIMPEL RD
TOWN OF LAKESHORE
MUNICIPALITY OF CHATHAM-KENT
MIDDLE LINE
BONNEAU LINE
KING & WHITTLE RD
DAVIDSON RD
WHEATLEY RD
COATSWORTH RD
GRAY LINE
POLLARD LINE
LAKESHORE ROAD 309
Baptiste Creek

Legend

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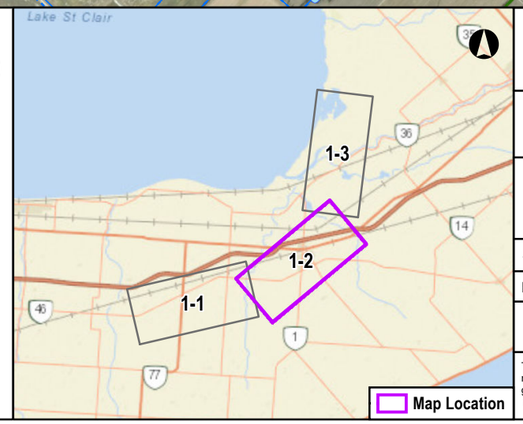

Panhandle Regional Expansion Project

Panhandle Line Loop

0 125 250 500 750 1,000 1,250 1,500 1,750
Meters
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MUNICIPALITY OF CHATHAM-KENT
BAPTISTE RD
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Baptiste Creek
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MARJORY DR
BRUCE DR
Thames River Mouth Complex (LT 33)
POPPE RD
Thames River (rivière Thames)
MUNICIPALITY OF CHATHAM-KENT
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Lake St. Clair (lac Sainte-Claire)
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BALMORAL LINE
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JEANNETTES CREEK RD
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TECUMSEH LINE
BUCHANAN LINE
BRADLEY LINE
PAIN COURT LINE
Jeannettes Creek
SINCLAIR RD
MINT LINE
KANTOR LINE
DAUPHIN RD
TOWNLINE RD
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COUTTS LINE

Legend

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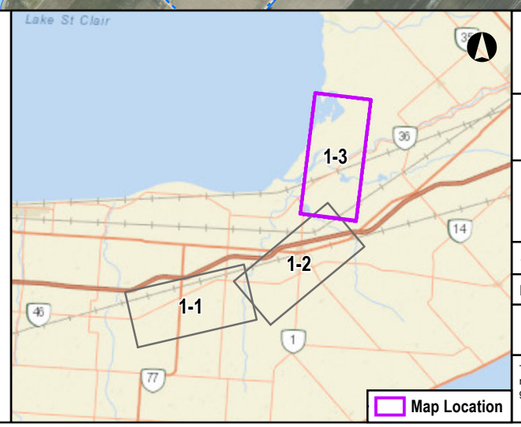
- ANSI, Life Science
- Municipal Boundary



Panhandle Regional Expansion Project

Panhandle Line Loop

0 125 250 500 750 1,000 1,250 1,500 1,750
Meters
DATUM: NAD 1983 UTM Zone 17N

September 2021	1:25,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
P#:60665521	V#:	

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Figure 1-3

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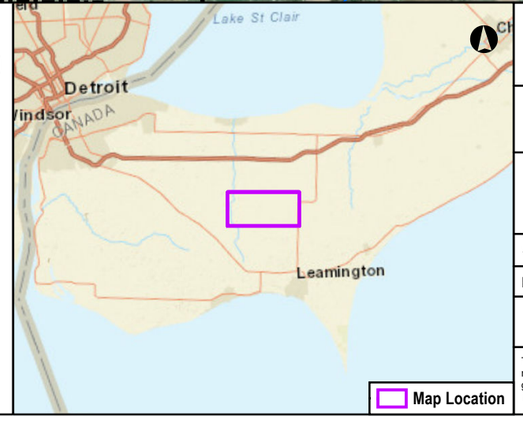
Map location: \\na.aecomnet.com\ifs\AMER\Kitchener-CA\CN1\DCS\GIS\Projects\60666521_Enbridge_Panhandle\Design\03_Working\Routing Options\MXD_RoutingOptions_PanhandleLoop.mxd
Date Saved: 9/17/2021 11:50:32 AM User Name: clark

COUNTY RD 27
LAKESHORE ROAD 225
LAKESHORE ROAD 229
LAKESHORE ROAD 233
LAKESHORE ROAD 235
Ruscom River (rivière Rus.com)
LAKESHORE ROAD 245
TUNE ROAD ROCHESTER
LAKESHORE ROAD 311
COUNTY RD 8
RD 11
MERSEA ROAD 11
COUNTY RD 27 E
GRAHAM SIDERD
COUNTY RD 31
RD 10
MERSEA ROAD 10
77
Belle River (Belle Rivière)
COUNTY RD 14

Legend

- Preliminary Preferred Alternative
- Alternative 1
- Alternative 2
- Existing Enbridge Gas Pipeline
- Constructed Drain
- Permanent Stream
- Intermittent Stream
- Waterbody
- Wooded Area
- Municipal Boundary



Panhandle Regional Expansion Project

Leamington Interconnect

0 150 300 600 900 1,200 1,500 1,800 2,100
Meters
DATUM: NAD 1983 UTM Zone 17N

September 2021	1:28,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
P#:60665521	V#:	

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Figure 1

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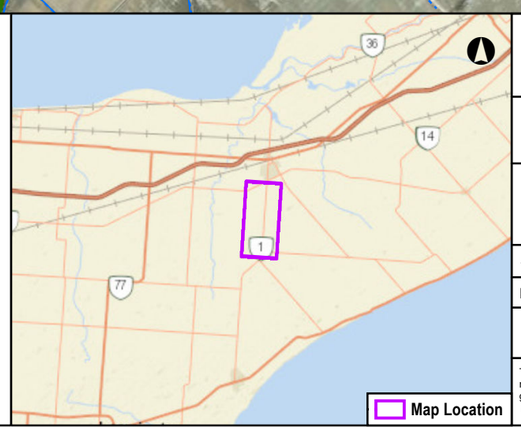
Map location: \\na.aecomnet.com\f6\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\03_Working\Routing Options\MXD_RoutingOptions_LeamingtonLateral.mxd
Date Saved: 9/17/2021 11:55:09 AM User Name: clarkb

TILBURY WEST & ROMNEY RD
MUNICIPALITY OF CHATHAM-KENT
TOWN OF LAKESHORE
CAMPBELL RD
GOODREAU LINE
LAKESHORE ROAD 309
LAKESHORE ROAD 308
DESIMPEL RD
COUNTY RD 46
Tilbury Creek
GRAY LINE
WHEATLEY RD
CARLESS RD
HORNICK LINE
ROSEDALE LINE
COATSWORTH RD
46
1
4

Legend

- Alternative 1
- Alternative 2
- Existing Enbridge Gas Pipeline
- Constructed Drain
- Permanent Stream
- Wooded Area
- Municipal Boundary



Panhandle Regional Expansion Project

Wheatley Interconnect

0 75 150 300 450 600 750 900 1,050
Meters
DATUM: NAD 1983 UTM Zone 17N

September 2021	1:15,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
P#:60665521	V#:	

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Figure 1

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Map location: \\na.aecomnet.com\ca\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\03_Working\Routing Options\MXD_RoutingOptions_WheatleyReinforcement.mxd
Date Saved: 9/17/2021 11:50:32 AM User Name: clarkb

From: "Sydnee Rivest" <srivest@lakeshore.ca>
Subject: Comments from Municipality of Lakeshore
Date: Fri, December 3, 2021 2:51 pm
To: "panhandle@virtualengagement.ca" <panhandle@virtualengagement.ca>
Cc: "Krystal Kalbol" <kkalbol@lakeshore.ca>

Good afternoon,

Please see the attached comments from the Municipality of Lakeshore.

Any questions, let me know.
Thanks!

Attachments:

untitled-[1.2].html	
Size:	2.3 k
Type:	text/html

Enbridge Panhandle 2021_Lakeshore Comments .pdf	
Size:	91 k
Type:	application/pdf
Info:	Enbridge Panhandle 2021_Lakeshore Comments .pdf

MEMORANDUM

Date: December 2, 2021

To: Enbridge Gas Panhandle Regional Expansion Project

From: Krystal Kalbol, Corporate Leader – Operations, Municipality of Lakeshore

Re: Panhandle Regional Expansion Project – Enbridge
Virtual Information Session Comments

The Municipality of Lakeshore has reviewed the information provided through public outreach and have outlined our comments below:

1. The Municipality Lakeshore has concerns regarding the proximity of the pipeline to the Comber sanitary treatment lagoons, as shown in Alternative #1. Confirmation will be required prior to finalizing alignment whether the new pipeline is proposed be installed within the existing Enbridge easement or if extension of the easement is required.

2. The Municipality of Lakeshore has concerns with the adjacent roadway conditions related to the construction traffic. Lakeshore will require approval of construction/haul routes for this project for review and approval.

   Note: The Municipality of Lakeshore will not allow construction traffic onto Lakeshore owned roads unless a Road User Agreement is entered into.

3. If road closures are required within the Municipality of Lakeshore to accommodate construction, all truck traffic is required to be detoured onto County of Essex or MTO roads. Road closures and detours are required to be submitted for approval.

The preferred alternative for the Municipality of Lakeshore is alternative #2 (Leamington) or #3 (Wheatley) as these alternatives have the least direct impact as noted in the public outreach package.

If you have any questions or require additional information, please contact the undersigned.

Krystal Kalbol

Krystal Kalbol
Corporate Leader - Operations, Municipality of Lakeshore

AECOM

Municipality of Leamington

Witt, Jordan

From: Evan Tomek <Evan.Tomek@enbridge.com>
Sent: September 24, 2021 11:11 AM
To: van der Woerd, Mark; Washburn, Kristan; Witt, Jordan
Subject: [EXTERNAL] FW: Leamington/Enbridge Gas discussion - Panhandle Regional Expansion Project
Attachments: EGI - Panhandle Regional Expansion Project September 2021.pdf; MAP_RoutingOptions_LeamingtonLateral.pdf

Hi All,

FYI – Brian's meeting with Leamington.

Thanks,

Evan

Evan Tomek, BES
Sr. Analyst, Environment
Enbridge Inc.
50 Keil Drive North | Chatham, ON N7M 5M1
Tel: 519.436.4600 ext 5003441
Cell: 226.229.9598
email: evan.tomek@enbridge.com
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From: Brian Lennie <Brian.Lennie@enbridge.com>
Sent: Friday, September 24, 2021 11:06 AM
To: Paul Barnable <pbarnable@leamington.ca>; Danielle Truax <dtruax@leamington.ca>; John Pilmer <jpilmer@leamington.ca>
Cc: Sean Sutton <Sean.Sutton@Enbridge.com>; Bobby Pilutti <Bobby.Pilutti@enbridge.com>; Ryan Langan <Ryan.Langan@enbridge.com>; Alicja Pagaduan <Alicja.Pagaduan@enbridge.com>; Evan Tomek <Evan.Tomek@enbridge.com>
Subject: RE: Leamington/Enbridge Gas discussion - Panhandle Regional Expansion Project

Good Morning,

Thank you everyone for the call. Looking forward to further discussions as this project continues to be planned. As discussed:

- Attached the presentation PDF.
- Attached the relevant map 'Leamington Lateral'. As mentioned, routing is TBD at this time and we would like your feedback on road allowance/what is/is not possible.

AECOM will be sending you all notices the week of October 4, to invite you to attend the virtual open house process.

For any permitting-related questions or comments: please reach out to Alicja Pagaduan (cc'ed).

For any construction-technical questions or comments: please reach out to Ryan, Bobby, Sean (cc'ed). Ryan would be your go-to for anything related to this project construction specifically, and Bobby and Sean can handle local area related comments/questions.

Thanks,
Brian

Brian Lennie
Senior Advisor, Municipal and Stakeholder Engagement – Ontario South/West

ENBRIDGE GAS INC.
OFFICE: 519-436-4527 | CELL: 226-229-2692 | EMAIL: brian.lennie@enbridge.com
50 Keil Drive North, Chatham, ON N7M5M1

enbridge.com
Safety. Integrity. Respect. Inclusion.

Enbridge Gas
2023 Panhandle Regional Expansion Project

2021

ENBRIDGE

2023 Panhandle Regional Expansion Project

Context

- Over the past several years there has been strong economic growth in Windsor, Essex County, and Chatham-Kent, in particular in the greenhouse sector.
- As a result, Enbridge Gas is examining multiple methods to meet the energy needs of the local area, and furthermore, economic growth into the future.
- We are continuing to evaluate alternatives and have not finalized our ‘Preferred Alternative’ at this time.
- One alternative we would like to discuss with you today is the potential pipeline options.

2023 Panhandle Regional Expansion Project

Purpose

- Pipeline options:
  - To serve additional demand for energy, Enbridge Gas is proposing to increase the capacity of our Panhandle Transmission System, which serves residential, commercial, industrial, greenhouse, and power generation customers in the municipalities of Chatham-Kent, Windsor, County of Essex, Lakeshore, Leamington, Kingsville, Essex, Amherstburg, LaSalle, and Tecumseh.
  - Due to the scope of the project, Ontario Energy Board (OEB) approval of the project is required prior to construction start.

2023 Panhandle Regional Expansion Project

Project details

- **The proposed pipeline options include 3 main components at this time:**
- 1) Construction of a new 36-inch natural gas transmission pipeline, approx. 19 km in length.
  - Will ‘loop’ (add another pipeline to) the existing Panhandle pipeline system between the Enbridge Gas Dover Transmission Station in Chatham-Kent and a TBD point south of Tilbury.
  - At this time, Enbridge Gas is also evaluating the need to further extend this new pipeline from south of Tilbury to west of Comber.
  - This section of the project will be primarily in private easement (with the need for road crossings).
- 2) Construction of a new 16-inch natural gas transmission pipeline east-west from Kingsville to Leamington, approx. 12 km in length.
  - Will connect four existing north-south natural gas transmission pipelines.
  - At this time, routing for this section is TBD and subject to feedback from Municipalities and local landowners and stakeholders.
- 3) Construction of a new 6-to-12 inch natural gas pipeline north-south from TBD point in Tilbury to a TBD point near Goodreau Line in either Lakeshore or Chatham-Kent, approx. 5km in length.
  - At this time, routing for this section is TBD and subject to feedback from Municipalities and local landowners and stakeholders.

2023 Panhandle Regional Expansion Project

Project details cont'd

- Will meet the current and future economic development and growth needs of the local area.
- Estimated pipeline project cost at this time is near $200M.
- If pipeline option chosen, OEB project application will be submitted in Q2 2022.
- Construction timeline (if pipeline option chosen): Environmental/Archaeological fieldwork and other pre-construction field work in 2022. Construction from early 2023 to end of 2023 (all sections).

2023 Panhandle Regional Expansion Project

Project route mapping

- Project route mapping review

2023 Panhandle Regional Expansion Project

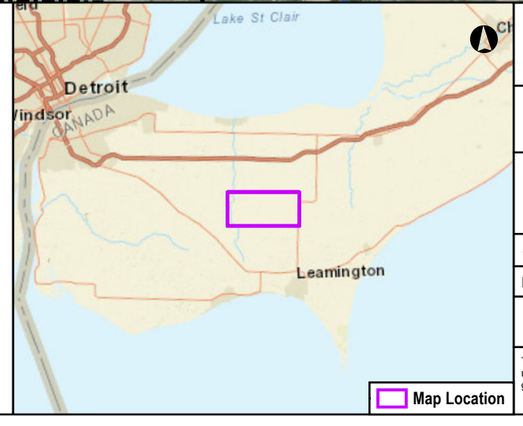
We want your feedback

- **Enbridge Gas wants your feedback on the pipeline options for this project. We need to know your questions, comments, and concerns – they are part of the planning process which will help inform the preferred route, if the pipeline option is chosen.**
- For the planning process, here are some items Enbridge Gas would like to know:
  - Any comments on pipeline routing in road allowance?
  - Any comments about pipeline road crossings?
  - Any major construction planned along/near the proposed routes?
  - Any concerns regarding road / lane closures during the project?
  - Any comments on drainage or drains?

COUNTY RD 27
LAKESHORE ROAD 225
LAKESHORE ROAD 229
LAKESHORE ROAD 233
LAKESHORE ROAD 235
Ruscom River (rivière Rus.com)
LAKESHORE ROAD 245
TUNE ROAD ROCHESTER
LAKESHORE ROAD 311
COUNTY RD 8
RD 11
MERSEA ROAD 11
COUNTY RD 27 E
GRAHAM SIDERD
COUNTY RD 31
RD 10
MERSEA ROAD 10
77
Belle River (Belle Rivière)
COUNTY RD 14

Legend

- Preliminary Preferred Alternative
- Alternative 1
- Alternative 2
- Existing Enbridge Gas Pipeline
- Constructed Drain
- Permanent Stream
- Intermittent Stream
- Waterbody
- Wooded Area
- Municipal Boundary



Panhandle Regional Expansion Project

Leamington Interconnect

0 150 300 600 900 1,200 1,500 1,800 2,100
Meters
DATUM: NAD 1983 UTM Zone 17N

September 2021	1:28,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
P#:60665521	V#:	

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Figure 1

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Map location: \\na.aecomnet.com\f6\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\03_Working\Routing Options\MXD_RoutingOptions_LeamingtonLateral.mxd
Date Saved: 9/17/2021 11:55:09 AM User Name: clarkb

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Town of Kingsville

Witt, Jordan

From: Evan Tomek <Evan.Tomek@enbridge.com>
Sent: October 5, 2021 3:42 PM
To: van der Woerd, Mark; Witt, Jordan; Washburn, Kristan
Cc: Doug Schmidt
Subject: [EXTERNAL] FW: Kingsville/Enbridge Gas discussion - Panhandle Regional Expansion Project
Attachments: EGI - Panhandle Regional Expansion Project September 2021.pdf; MAP_RoutingOptions_LeamingtonLateral.pdf

FYI – Brian's discussion with Kingsville.

Thanks,

Evan

Evan Tomek, BES
Sr. Analyst, Environment
Enbridge Inc.
50 Keil Drive North | Chatham, ON N7M 5M1
Tel: 519.436.4600 ext 5003441
Cell: 226.229.9598
email: evan.tomek@enbridge.com
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From: Brian Lennie <Brian.Lennie@enbridge.com>
Sent: Tuesday, October 5, 2021 3:33 PM
To: kbrcic@kingsville.ca; Robert Brown <rbrown@kingsville.ca>; aplancke@kingsville.ca
Cc: Sean Sutton <Sean.Sutton@Enbridge.com>; Bobby Pilutti <Bobby.Pilutti@enbridge.com>; Ryan Langan <Ryan.Langan@enbridge.com>; Alicja Pagaduan <Alicja.Pagaduan@enbridge.com>; Evan Tomek <Evan.Tomek@enbridge.com>; Tammy Mungar <Tammy.Mungar@enbridge.com>
Subject: Kingsville/Enbridge Gas discussion - Panhandle Regional Expansion Project

Hi Kristina,

Thank you for the call. Looking forward to further discussions as this project continues to be planned. As discussed:

- Attached the presentation PDF.
- Attached the relevant map 'Leamington Lateral'. As mentioned, routing is TBD at this time and we would like your feedback on road allowance/what is/is not possible.

AECOM will be sending notices in the next week or so, to invite you to attend the virtual open house process.

For any permitting-related questions or comments: please reach out to Alicja Pagaduan (cc'ed).

For any construction-technical questions or comments: please reach out to Ryan, Bobby, Sean, Tammy (cc'ed). Ryan and Tammy would be your go-to for anything related to this project construction specifically, and Bobby and Sean can handle local area related comments/questions.

Thanks,

Brian

Brian Lennie
Senior Advisor, Municipal and Stakeholder Engagement – Ontario South/West

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OFFICE: 519-436-4527 | CELL: 226-229-2692 | EMAIL: brian.lennie@enbridge.com
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Enbridge Gas
2023 Panhandle Regional Expansion Project

2021

ENBRIDGE

2023 Panhandle Regional Expansion Project

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- 3) Construction of a new 6-to-12 inch natural gas pipeline north-south from TBD point in Tilbury to a TBD point near Goodreau Line in either Lakeshore or Chatham-Kent, approx. 5km in length.
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2023 Panhandle Regional Expansion Project

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2023 Panhandle Regional Expansion Project

Project route mapping

- Project route mapping review

2023 Panhandle Regional Expansion Project

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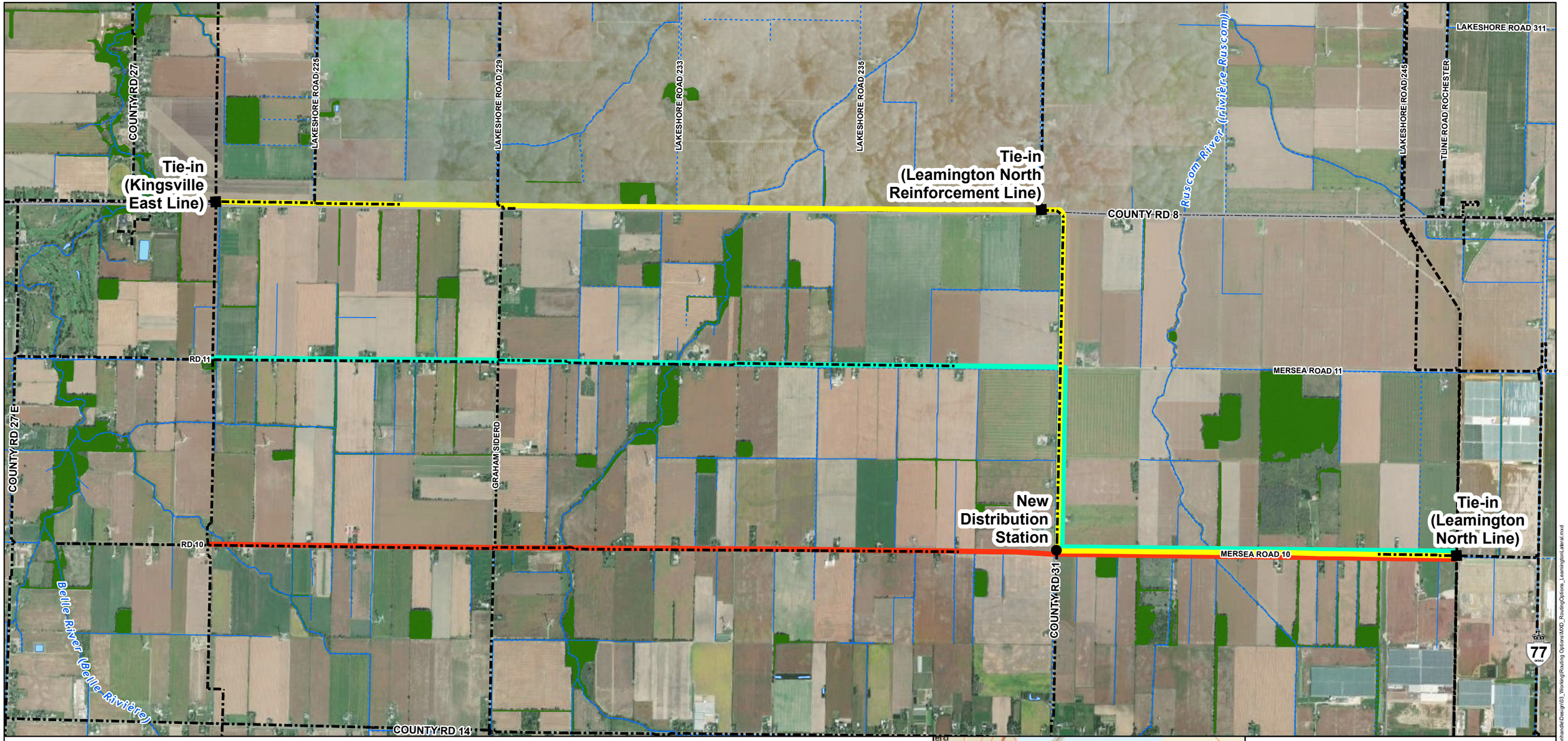
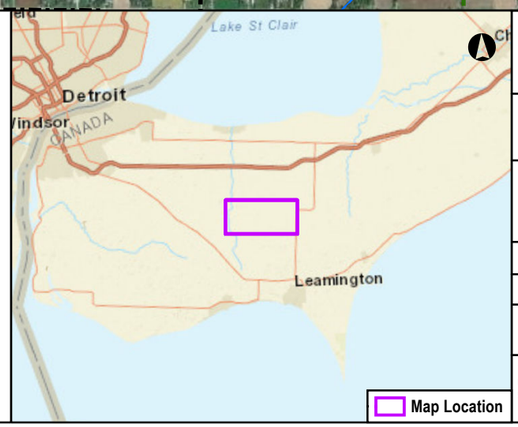


Legend

- Distribution Station
- Tie-in
- Preliminary Preferred Alternative
- Alternative 1
- Alternative 2
- Existing Enbridge Gas Pipeline
- Constructed Drain
- Permanent Stream
- Intermittent Stream
- Waterbody
- Wooded Area
- Municipal Boundary



Panhandle Regional Expansion Project

Leamington Interconnect

0 150 300 600 900 1,200 1,500 1,800 2,100
Meters
DATUM: NAD 1983 UTM Zone 17N

October 2021	1:28,000 * when printed 11"x17"	Source: MNRF 2020 Image: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT
P#:60665521	V#:	

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Figure 1

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Map location: \\na.aecomnet.com\fs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Design\03_Working\Routing Options\MXD_RoutingOptions_LeamingtonLateral.mxd
Date Saved: 10/7/2021 9:29:21 AM User Name: clark0

Interest Group Input

Witt, Jordan

From: Evan Tomek <Evan.Tomek@enbridge.com>
Sent: September 9, 2021 4:10 PM
To: Witt, Jordan; Doug Schmidt
Cc: van der Woerd, Mark; Washburn, Kristan
Subject: [EXTERNAL] RE: Panhandle Regional Expansion Project - Draft Contact List

Thanks Jordan.

I will have a closer look and get back to you, but in the meantime I have the following contacts from the Ontario Greenhouse Vegetable Growers to be added:

Contacts
Aaron Coristine
Manager: Science | Regulatory Affairs | Government Relations
mobile: 519 564 4496
email: a.coristine@ogvg.com

Joe Sbrocchi
General Manager
519-326-2604 ext 201

The following is a summary of the communication between Patrick Boyer (Account Manager, Key Accounts, Distribution Sales) of Enbridge and the above contacts from OGVG:

We had an MS Team meeting with OGVG on March 5, 2021. This meeting was to introduce the proposed Panhandle project to OGVG and provide them with the expected capacity created, the timing as to when the project might be completed and the Expression of Interest process that there members would be taking part in.

As part of another call regarding the 2024 Rate/Services integration on August 17, 2021, I provided a high level update as to the results of the EOI process. Informed them that the response was very strong and that the capacity requested was higher then Enbridge has suggested in the EOI communication package.

Thanks,

Evan

Evan Tomek, BES
Sr. Analyst, Environment
Enbridge Inc.
50 Keil Drive North | Chatham, ON N7M 5M1
Tel: 519.436.4600 ext 5003441
Cell: 226.229.9598
email: evan.tomek@enbridge.com
Safety. Integrity. Respect.

From: Witt, Jordan <Jordan.Witt1@aecom.com>
Sent: Thursday, September 9, 2021 8:53 AM

To: Evan Tomek <Evan.Tomek@enbridge.com>; Doug Schmidt <Doug.Schmidt@enbridge.com>
Cc: van der Woerd, Mark <Mark.VanderWoerd@aecom.com>; Washburn, Kristan <Kristan.Washburn@aecom.com>
Subject: [External] Panhandle Regional Expansion Project - Draft Contact List

EXTERNAL: PLEASE PROCEED WITH CAUTION.
This e-mail has originated from outside of the organization. Do not respond, click on links or open attachments unless you recognize the sender or know the content is safe.

Good morning Evan and Doug,

Please find attached the draft contact list for your review/comment. I have added all agency contacts on the first tab and Indigenous contacts on another.

Let me know if you have any questions.

Thanks!

Jordan Witt, MES
Environmental Planner, Impact Assessment & Permitting
M +1-519-897-3107
jordan.witt1@aecom.com

AECOM

Appendix C

MECP Well Water Records

BOREHOLEID	WELL_ID	COMPLETED	DEPTH	DP_BEDROCK	STATIC_LEV	Hole_Id	Bore_Hole_	WELL_ID_1	Diameter	Depth_from	Depth_to	HOLE_DEPTH	HOLE_DIAME	WELL_ID_12
LEAMINGTON ROUTE 500M RADIUS														
10092708	2103710	1972-08-15	32.9	31.7	6.1	0	0		0	0	0			2103710
10092881	2103885	1973-05-01	33.2	0	0	0	0		0	0	0			2103885
10092790	2103792	1973-05-04	33.5	32.6	7.6	0	0		0	0	0			2103792
10091534	2102525	1955-04-15	30.5	0.00	5.5	0	0		0	0	0			2102525
10094092	2105176	1990-11-09	34.8	32.00	6.7	0	0		0	0	0			2105176
10091531	2102522	1959-04-17	35.7	32.90	6.1	0	0		0	0	0			2102522
10093242	2104255	1977-04-15	33.5	32.60	6.1	0	0		0	0	0			2104255
10092502	2103500	1971-06-18	30.5	0.00	2.1	0	0		0	0	0			2103500
10091530	2102521	1950-12-02	31.4	0.00	0	0	0		0	0	0			2102521
10093618	2104632	1980-09-25	36.6	22.60	3.4	0	0		0	0	0			2104632
10094443	2105577	2000-06-26	30.8	28.00	0	0	0		0	0	0			2105577
10093913	2104960	1987-09-09	30.8	29.60	3	0	0		0	0	0			2104960
1001605881	7105964	2008-05-09	31.4	0.00	2.1	1001730375	1001605881	7105964	10	0	103	ft	inch	7105964
1001605878	7105963	2008-05-17	51.8	0.00	4.9	1001730332	1001605878	7105963	10	0	170	ft	inch	7105963
11317780	2105881	2005-08-23	20.7	15.80	4.3	0	0		0	0	0			2105881
11317779	2105880	2005-08-15	33.5	28.00	3	0	0		0	0	0			2105880
10092294	2103289	1969-11-05	30.8	30.20	2.4	0	0		0	0	0			2103289
10092691	2103693	1972-04-04	32	30.50	2.1	0	0		0	0	0			2103693
10093348	2104361	1978-05-19	34.1	28.60	2.7	0	0		0	0	0			2104361
10093178	2104190	1976-08-31	32.6	28.60	4	0	0		0	0	0			2104190
10094046	2105113	1989-07-13	42.7	36.00	6.1	0	0		0	0	0			2105113
10091648	2102639	1960-08-22	34.8	33.20	4.9	0	0		0	0	0			2102639
10093421	2104435	1978-11-09	34.1	32.90	4.6	0	0		0	0	0			2104435
10090163	2101153	1953-07-09	33.2	32.30	8.5	0	0		0	0	0			2101153
1007570156	7338673	2019-04-22	0	0.00	-0.6	0	0		0	0	0			7338673
1007032191	7309900	2018-02-01	6.1	0.00	0	1007251045	1007032191	7309900	6	0	20	ft	inch	7309900
10093583	2104597	1980-06-20	40.8	34.40	3.7	0	0		0	0	0			2104597
10093177	2104189	1976-08-16	33.2	0.00	4	0	0		0	0	0			2104189

BOREHOLEID	WELL_ID	COMPLETED	DEPTH	DP_BEDROCK	STATIC_LEV	Hole_Id	Bore_Hole_	WELL_ID_1	Diameter	Depth_from	Depth_to	HOLE_DEPTH	HOLE_DIAME	WELL_ID_12
PANHANDLE ROUTE 500M RADIUS														
1003711373	7179529	2012-01-25	6	0.00	0	1004248948	1003711373	7179529	10.9	0	6	m	cm	7179529
1003711367	7179527	2012-01-25	6	0.00	0	1004248920	1003711367	7179527	10.9	0	6	m	cm	7179527
1003711364	7179526	2012-01-25	6	0.00	0	1004248903	1003711364	7179526	10.9	0	6	m	cm	7179526
10188584	3304429	1960-11-10	33.5	31.40	0	0	0		0	0	0			3304429
10192462	3308438	1989-05-01	36.6	30.20	0	0	0		0	0	0			3308438
10186691	3302536	1955-02-21	19.8	0.00	2.4	0	0		0	0	0			3302536
10189977	3305836	1973-07-25	25	24.70	0	0	0		0	0	0			3305836
10189975	3305834	1973-07-16	25	24.70	3.4	0	0		0	0	0			3305834
10190227	3306087	1974-11-12	24.7	24.40	1.8	0	0		0	0	0			3306087
10189976	3305835	1973-07-20	25	24.70	0	0	0		0	0	0			3305835
10186349	3302194	1960-11-17	26.5	26.20	1.8	0	0		0	0	0			3302194
10186416	3302261	1962-03-02	24.7	0.00	4.6	0	0		0	0	0			3302261
10186407	3302252	1957-08-14	25.3	0.00	1.8	0	0		0	0	0			3302252
10186415	3302260	1962-08-17	22.6	0.00	3	0	0		0	0	0			3302260
10186413	3302258	1959-11-08	26.8	26.50	0	0	0		0	0	0			3302258
10186417	3302262	1964-12-29	25	0.00	2.7	0	0		0	0	0			3302262
10186414	3302259	1959-12-10	23.2	0.00	2.1	0	0		0	0	0			3302259
1006815926	7299735	2017-07-25	0	0.00	0	1006917536	1006815926	7299735	0	0	0	ft	inch	7299735
1006815974	7299737	2017-07-25	0	0.00	0	1006917568	1006815974	7299737	0	0	0	ft	inch	7299737
10190688	3306558	1977-07-06	22.6	0.00	5.5	0	0		0	0	0			3306558
10186406	3302251	1948-04-13	21.9	21.60	2.4	0	0		0	0	0			3302251

BOREHOLEID	AUDIT_NO	TAG	FINAL_STA	DATA_SRC	CONTRACTOR	DATE_RECEI	FORMVERSIO	COUNTY	MUNIC_CODE	CONREG	CONN	LOT	STREET
LEAMINGTON RC													
10092708			1	1	5404	1972-10-17	1	21	21008	CON	9	3	
10092881			5	1	5404	1974-03-11	1	21	21008	CON	9	4	
10092790			1	1	5404	1973-07-03	1	21	21008	CON	9	4	
10091534			1	1	5404	1955-06-16	1	21	21008	CON	10	6	
10094092	28154		1	1	4803	1990-12-10	1	21	21008	CON	9	4	
10091531			1	1	4802	1959-04-28	1	21	21008	CON	10	5	
10093242			1	1	5404	1977-05-16	1	21	21008	CON	10	4	
10092502			1	1	5404	1971-07-14	1	21	21008	CON	10	1	
10091530			1	1	5404	1951-01-12	1	21	21008	CON	10	1	
10093618			1	1	5404	1980-12-15	1	21	21008	CON	11	1	
10094443	206216		1	1	4803	2000-07-12	1	21	21004	CON	11	25	
10093913	14287		1	1	5404	1987-10-26	1	21	21004	CON	11	25	
1001605881	Z60998	A062060	1		4803	2008-06-04	4	21	21004		11	25	COUNTY RD. 8 WEST
1001605878	Z60999	A062059	1		4803	2008-06-04	4	21	21005		2	11	1811 TALBOT RD. RR#1
11317780	Z28202	A026695	1		4803	2005-09-14	3	21	21004			2	1139 WIGLE GROVE RD.
11317779	Z28203	A026694	1		4803	2005-09-14	3	21	21004		11	22	854 COUNTY RD. 8
10092294			1	1	5404	1969-12-05	1	21	21010	CON	6	30	
10092691			1	1	2504	1972-08-16	1	21	21004	CON	11	22	
10093348			1	1	4803	1978-06-19	1	21	21010	CON	3	30	
10093178			1	1	4803	1976-09-22	1	21	21010	CON	3	30	
10094046	46206		1	1	4803	1989-08-08	1	21	21004	CON	11	16	
10091648			1	1	4802	1960-09-07	1	21	21010	CON	2	30	
10093421			1	1	5404	1978-11-23	1	21	21004	CON	11	16	
10090163			1	1	2633	1953-07-28	1	21	21004	CON	11	15	
1007570156	Z309570	A237583	A		7190	2019-08-02	7	21	21010	CON	1	30	1758 LAKESHORE RD 225
1007032191	Z273422	A237583	2		7190	2018-04-26	7	21	21010	CON	1	30	1758 LAKESHORE RD 225
10093583			1	1	4803	1980-07-16	1	21	21010	CON	2	30	
10093177			1	1	4803	1976-09-22	1	21	21010	CON	2	30	

BOREHOLEID	AUDIT_NO	TAG	FINAL_STA	DATA_SRC	CONTRACTOR	DATE_RECEI	FORMVERSIO	COUNTY	MUNIC_CODE	CONREG	CONN	LOT	STREET
PANHANDLE ROU													
1003711373	Z142539	A097663	E		7241	2012-04-17	7	33	33605				3705 QUEEN'S LINE
1003711367	Z142538	A097662	E		7241	2012-04-17	7	33	33605				3705 QUEEN'S LINE
1003711364	Z142536	A097660	E		7241	2012-04-17	7	33	33605				3705 QUEEN'S LINE
10188584			5	1	1903	1960-12-23	1	33	33009	CON	2	7	
10192462	27789		5	1	4604	1989-06-19	1	33	33009	CON	1	7	
10186691			1	1	3308	1955-07-11	1	33	33003	WD	3	3	
10189977			5	1	3005	1973-11-09	1	33	33003	WD	3	3	
10189975			5	1	3005	1973-11-09	1	33	33003	WD	3	3	
10190227			1	1	3005	1975-01-20	1	33	33003	WD	3	2	
10189976			5	1	3005	1973-11-09	1	33	33003	WD	3	3	
10186349			1	1	2108	1961-02-06	1	33	33003	ED	5	1	
10186416			6	1	3308	1962-04-02	1	33	33003	ED	6	1	
10186407			1	1	2108	1957-09-04	1	33	33003	ED	6	1	
10186415			1	1	3013	1962-08-31	1	33	33003	ED	6	1	
10186413			5	1	3307	1960-06-13	1	33	33003	ED	6	1	
10186417			1	1	4707	1965-01-06	1	33	33003	ED	6	1	
10186414			1	1	3307	1960-06-13	1	33	33003	ED	6	1	
1006815926	Z264910		A		3655	2017-11-23	7	33	33003	ED	6	1	2488 TOWN LINE RD
1006815974	Z264911		A		3655	2017-11-23	7	33	33003	ED	6	1	2488 TOWN LINE RD
10190688			1	1	2552	1977-07-14	1	33	33003	ED	6	2	
10186406			1	1	3528	1948-08-20	1	33	33003	ED	6	1	

BOREHOLEID	CITY	USE_2ND	USE_1ST	selected_f	data_entry	ABANDONMEN	CODE	DES	prn	Comment	Start_dttm	End_dttm
LEAMINGTON RC												
10092708		1	2	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
10092881				0	0		5	Abandoned-Supply	ABS	Both	1970-01-01	<Null>
10092790		0	1	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
10091534		0	1	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
10094092		0	2	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
10091531		0	1	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
10093242		0	1	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
10092502		1	2	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
10091530		1	2	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
10093618		0	1	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
10094443			1	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
10093913		0	1	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
1001605881	Kingsville			0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
1001605878	Kingsville	8	3	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
11317780	KINGSVILLE		3	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
11317779	WOODSLEE		1	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
10092294		0	1	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
10092691		0	1	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
10093348		0	1	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
10093178		0	1	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
10094046			1	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
10091648		0	1	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
10093421		1	2	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
10090163		0	2	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
1007570156	SOUTH WOODSLEE			0	0	Y	A	Abandoned-Other	ABO	Both	1970-01-01	<Null>
1007032191	SOUTH WOODSLEE		D	0	0		2	Observation Wells	OBS	Both	1970-01-01	<Null>
10093583		0	1	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
10093177		0	1	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>

BOREHOLEID	CITY	USE_2ND	USE_1ST	selected_f	data_entry	ABANDONMEN	CODE	DES	prn	Comment	Start_dttm	End_dttm
PANHANDLE ROU												
1003711373	TILBURY	0	E	0	0		E	Monitoring and Test Hole	MON	New	2014-01-23	<Null>
1003711367	TILBURY	0	E	0	0		E	Monitoring and Test Hole	MON	New	2014-01-23	<Null>
1003711364	TILBURY	0	E	0	0		E	Monitoring and Test Hole	MON	New	2014-01-23	<Null>
10188584				0	0		5	Abandoned-Supply	ABS	Both	1970-01-01	<Null>
10192462		0	1	0	0		5	Abandoned-Supply	ABS	Both	1970-01-01	<Null>
10186691		1	2	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
10189977		0	1	0	0		5	Abandoned-Supply	ABS	Both	1970-01-01	<Null>
10189975		0	1	0	0		5	Abandoned-Supply	ABS	Both	1970-01-01	<Null>
10190227		0	1	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
10189976		0	1	0	0		5	Abandoned-Supply	ABS	Both	1970-01-01	<Null>
10186349		1	2	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
10186416		0	9	0	0		6	Abandoned-Quality	ABQ	Both	1970-01-01	<Null>
10186407		1	2	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
10186415		1	2	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
10186413				0	0		5	Abandoned-Supply	ABS	Both	1970-01-01	<Null>
10186417		1	2	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
10186414		0	1	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
1006815926	PAIN COURT			0	0	Y	A	Abandoned-Other	ABO	Both	1970-01-01	<Null>
1006815974	PAIN COURT			0	0	Y	A	Abandoned-Other	ABO	Both	1970-01-01	<Null>
10190688		0	1	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>
10186406		1	2	0	0		1	Water Supply	SUP	Both	1970-01-01	<Null>

BOREHOLEID	BORE_HOLE1	WELL_ID_13	DP2BR	CODEOB	OPEN_HOLE	DATE_COMPL	Remarks	ZONE	EAST83	NORTH83	UTMRC	LOCATION_M	ORGCS	ELEVATION
LEAMINGTON RC														
10092708	10092708	2103710	104	h		1972-08-15		17	366213	4667122	4	p4		190.014907
10092881	10092881	2103885	0	o		1973-05-01		17	366896	4667372	4	p4		189.307693
10092790	10092790	2103792	107	r		1973-05-04		17	366863	4667372	4	p4		189.820693
10091534	10091534	2102525	0	o		1955-04-15		17	368098	4667422	6	p6		190.179122
10094092	10094092	2105176	105	r		1990-11-09		17	366696	4667424	3	gps		189.034439
10091531	10091531	2102522	108	r		1959-04-17		17	367313	4667472	5	p5		189.569091
10093242	10093242	2104255	107	r		1977-04-15		17	366833	4667482	4	p4		189.174392
10092502	10092502	2103500	0	o		1971-06-18		17	364863	4667837	4	p4		191.6221
10091530	10091530	2102521	0	o		1950-12-02		17	364863	4668422	6	p6		190.076141
10093618	10093618	2104632	74	h		1980-09-25		17	364993	4668982	4	p4		190.230514
10094443	10094443	2105577	92	r		2000-06-26		17	364551.8	4669560	9	lot		188.805725
10093913	10093913	2104960	97	r		1987-09-09		17	364863	4670082	3	gps		186.85997
1001605881	1001605881	7105964	0			2008-05-09		17	364312	4670112	3	wwr	UTM83	186.601333
1001605878	1001605878	7105963	0		Y	2008-05-17		17	364313	4670119	3	wwr	UTM83	186.568008
11317780	11317780	2105881	52	r		2005-08-23		17	364203	4670124	4	wwr	UTM83	186.617431
11317779	11317779	2105880	92	r		2005-08-15		17	364219	4670124	4	wwr	UTM83	186.591674
10092294	10092294	2103289	99	r		1969-11-05		17	364923	4670167	4	p4		188.317565
10092691	10092691	2103693	100	r		1972-04-04		17	363192.9	4670192	4	p4		188.068603
10093348	10093348	2104361	94	h		1978-05-19		17	361792.9	4670342	4	p4		188.353256
10093178	10093178	2104190	94	h		1976-08-31		17	361732.9	4670342	4	p4		188.445678
10094046	10094046	2105113	118	r		1989-07-13		17	358988.3	4670415	6	gis		190.027481
10091648	10091648	2102639	109	r		1960-08-22		17	360587.9	4670422	5	p5		189.494659
10093421	10093421	2104435	108	r		1978-11-09		17	359012.9	4670442	4	p4		190.052993
10090163	10090163	2101153	106	r		1953-07-09		17	358696.3	4670444	6	gis		189.970245
1007570156	1007570156	7338673	0			2019-04-22		17	358527	4670548	4	wwr	UTM83	0
1007032191	1007032191	7309900	0			2018-02-01		17	358527	4670548	4	wwr	UTM83	0
10093583	10093583	2104597	113	r		1980-06-20		17	360632.9	4670622	4	p4		190.083694
10093177	10093177	2104189	0	o		1976-08-16		17	359352.9	4670742	4	p4		190.925125

BOREHOLEID	BORE_HOLE1	WELL_ID_13	DP2BR	CODEOB	OPEN_HOLE	DATE_COMPL	Remarks	ZONE	EAST83	NORTH83	UTMRC	LOCATION_M	ORGCS	ELEVATION
PANHANDLE ROU														
1003711373	1003711373	7179529	0			2012-01-25		17	383498	4680423	4	wwr	UTM83	175.667266
1003711367	1003711367	7179527	0			2012-01-25		17	383503	4680543	4	wwr	UTM83	175.546951
1003711364	1003711364	7179526	0			2012-01-25		17	383503	4680543	4	wwr	UTM83	175.546951
10188584	10188584	3304429	103	r		1960-11-10		17	384753	4686660	5	p5		176.009063
10192462	10192462	3308438	99	r		1989-05-01		17	384190	4687866	3	gps		176.211227
10186691	10186691	3302536	0	o		1955-02-21		17	385263	4689822	9	p9		174.988937
10189977	10189977	3305836	81	r		1973-07-25		17	384898	4691162	6	p6		174.804702
10189975	10189975	3305834	81	r		1973-07-16		17	384878	4691182	6	p6		174.539474
10190227	10190227	3306087	80	r		1974-11-12		17	384892	4691207	4	p4		174.520523
10189976	10189976	3305835	81	r		1973-07-20		17	384893	4691212	6	p6		174.517547
10186349	10186349	3302194	86	r		1960-11-17		17	386033	4691422	5	p5		174.617813
10186416	10186416	3302261	0	o		1962-03-02		17	385833	4691702	5	p5		176.015151
10186407	10186407	3302252	0	o		1957-08-14		17	385793	4691722	9	p9		175.382598
10186415	10186415	3302260	0	o		1962-08-17		17	385763	4691742	5	p5		174.873336
10186413	10186413	3302258	87	h		1959-11-08		17	385873	4691752	5	p5		175.997863
10186417	10186417	3302262	0	o		1964-12-29		17	385883	4691782	5	p5		175.939987
10186414	10186414	3302259	0	o		1959-12-10		17	385753	4691862	5	p5		175.843795
1006815926	1006815926	7299735	0			2017-07-25		17	385580.98	4691912.55	4	wwr	N27e	174.459838
1006815974	1006815974	7299737	0			2017-07-25		17	385593.98	4691924.55	4	wwr	N27e	174.738281
10190688	10190688	3306558	0	o		1977-07-06		17	386113	4691962	4	p4		176.042144
10186406	10186406	3302251	71	r		1948-04-13		17	385438	4692122	9	p9		175.172607

BOREHOLEID	CLUSTER_KI	CODE_1	DES_1	prn_1	Comment_1	Start_dt_1	End_dttm_1
LEAMINGTON RC							
10092708	0	1	Domestic	DO		1970-01-01	<Null>
10092881	0	5	Commerical	CO		1970-01-01	<Null>
10092790	0	1	Domestic	DO		1970-01-01	<Null>
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10094092	0	1	Domestic	DO		1970-01-01	<Null>
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10093242	0	1	Domestic	DO		1970-01-01	<Null>
10092502	0	1	Domestic	DO		1970-01-01	<Null>
10091530	0	1	Domestic	DO		1970-01-01	<Null>
10093618	0	1	Domestic	DO		1970-01-01	<Null>
10094443	0	1	Domestic	DO		1970-01-01	<Null>
10093913	0	1	Domestic	DO		1970-01-01	<Null>
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10091648	0	1	Domestic	DO		1970-01-01	<Null>
10093421	0	1	Domestic	DO		1970-01-01	<Null>
10090163	0	1	Domestic	DO		1970-01-01	<Null>
1007570156	0	A	Other	OT		2007-05-15	<Null>
1007032191	0	2	Livestock	ST		1970-01-01	<Null>
10093583	0	1	Domestic	DO		1970-01-01	<Null>
10093177	0	1	Domestic	DO		1970-01-01	<Null>

BOREHOLEID	CLUSTER_KI	CODE_1	DES_1	prn_1	Comment_1	Start_dt_1	End_dttm_1
PANHANDLE ROI							
1003711373	0	E	Monitoring and Test Hole	MT		2014-01-23	<Null>
1003711367	0	E	Monitoring and Test Hole	MT		2014-01-23	<Null>
1003711364	0	E	Monitoring and Test Hole	MT		2014-01-23	<Null>
10188584	0	5	Commerical	CO		1970-01-01	<Null>
10192462	0	5	Commerical	CO		1970-01-01	<Null>
10186691	0	1	Domestic	DO		1970-01-01	<Null>
10189977	0	5	Commerical	CO		1970-01-01	<Null>
10189975	0	5	Commerical	CO		1970-01-01	<Null>
10190227	0	1	Domestic	DO		1970-01-01	<Null>
10189976	0	5	Commerical	CO		1970-01-01	<Null>
10186349	0	1	Domestic	DO		1970-01-01	<Null>
10186416	0	6	Municipal	MN		1970-01-01	<Null>
10186407	0	1	Domestic	DO		1970-01-01	<Null>
10186415	0	1	Domestic	DO		1970-01-01	<Null>
10186413	0	5	Commerical	CO		1970-01-01	<Null>
10186417	0	1	Domestic	DO		1970-01-01	<Null>
10186414	0	1	Domestic	DO		1970-01-01	<Null>
1006815926	0	A	Other	OT		2007-05-15	<Null>
1006815974	0	A	Other	OT		2007-05-15	<Null>
10190688	0	1	Domestic	DO		1970-01-01	<Null>
10186406	0	1	Domestic	DO		1970-01-01	<Null>

Appendix D

SAR Screening Table

Taxonomy	Species	ESA Status	SARA Status	COSEWIC Status	Preferred Habitat[1, 2]	Associated ELC Communities	Known Species Range[1, 2]	Source Identifying Species Record	Suitable Habitat Identified During Background Review - Panhandle Regional Expansion	Suitable Habitat Identified During Background Review - Leamington Interconnect
Birds	Bank Swallow *Riparia riparia*	THR	THR Schedule	THR	Bank Swallows nest in burrows in natural and human-made settings where there are vertical faces in silt and sand deposits. Many nests are on banks of rivers and lakes, but they are also found in active sand and gravel pits or former ones where the banks remain suitable. The birds breed in colonies ranging from several to a few thousand pairs. The Bank Swallow breeds in a wide variety of natural and artificial sites with vertical banks, including riverbanks, lake and ocean bluffs, aggregate pits, road cuts, and stock piles of soil. Sand-silt substrates are preferred for excavating nest burrows. Breeding sites tend to be somewhat ephemeral due to the dynamic nature of bank erosion. Breeding sites are often situated near open terrestrial habitat used for aerial foraging (e.g., grasslands, meadows, pastures, and agricultural cropland). Large wetlands are used as communal nocturnal roost sites during post-breeding, migration, and wintering periods.		The Bank Swallow is found all across southern Ontario, with sparser populations scattered across northern Ontario. The largest populations are found along the Lake Erie and Lake Ontario shorelines, and the Saugeen River (which flows into Lake Huron). In North America, it breeds widely across the northern two-thirds of the U.S., north to the treeline. It breeds in all Canadian provinces and territories, except perhaps Nunavut.	Leamington Study Area - OBBA Panhandle Study Area - OBBA	**Yes** The banks of the constructued drains and watercourses present within the Study Area may provide suitable nesting habitat for bank swallow.	**Yes** The banks of the agricultural drains present within the Study Area may provide suitable nesting habitat for bank swallow.
Birds	Barn Owl *Tyto alba*	END	END Schedule 1	END	The Barn Owl cannot tolerate severe winter temperatures, and southern Ontario is the northern limit of its range. Breeding sites in Ontario seem to be restricted to areas with the moderating effects of the Great Lakes (within 50 kilometres of the lakes). In southern Ontario, this adaptable owl nests and roosts in barns and abandoned buildings. It may also use natural cavities in trees or holes in cliff faces, as it did before the arrival of Europeans in North America. It lives year round at its nest site and hunts for rodents over orchards, and grasslands such as farmlands, fallow fields, and meadows. Barn Owls prefer low-elevation, open country, where their small rodent prey are more abundant. In Canada, they are often associated with agricultural lands, especially pasture. Nests are located in buildings, hollow trees, and cavities in cliffs. In Canada, most nests are found on man-made structures, especially those which are abandoned or unused.	**TPO, TPS, CUM, CUS** and **CUW** where suitable nesting habitat is present.	In the Western Hemisphere, the Barn Owl is found from extreme southern Canada to southern South America and the West Indies. In Canada, the Barn Owl is at the northern limit of its range, and breeds only locally in southern British Columbia, southern Ontario, and possibly in southern Quebec. Barn Owl numbers in Ontario and Quebec were probably never very large, although the species possibly inhabited oak-savannah vegetation adjacent to tall grass prairie prior to European settlement. Colonization of southern Canada is attributed to clearance of forests for agriculture, which created open habitats supporting high rodent populations. In Ontario, Barn Owls may potentially breed on the Niagara Peninsula, in adjacent Halimand-Norfolk, in the Thousands Island area of Kingston, at Long Point, and in several other localities in the southwestern part of the province. Today, there are fewer than five pairs of Barn Owls in Ontario.	Panhandle Study Area - OBBA	**Yes** Buildings (i.e. barns) and trees within the Study Area may provide suitable nesting habitat for barn owl. Agricultural fields may also provide suitable foraging habitat for this species.	Species was not identified through the background review.
Birds	Barn Swallow *Hirundo rustica*	THR	THR Schedule 1	THR	Barn Swallows often live in close association with humans, building their cup-shaped mud nests almost exclusively on human-made structures such as open barns, under bridges, and in culverts. The species is attracted to open structures that include ledges where they can build their nests, which are often re-used from year to year. They prefer unpainted, rough-cut wood, since the mud does not adhere as well to smooth surfaces. Before European colonization, Barn Swallows nested mostly in caves, holes, crevices, and ledges in cliff faces. Following European settlement, they shifted largely to nesting in and on artificial structures, including barns and other outbuildings, garages, houses, bridges, and road culverts. Barn Swallows prefer various types of open habitats for foraging, including grassy fields, pastures, various kinds of agricultural crops, lake and river shorelines, cleared rights-of-way, cottage areas and farmyards, islands, wetlands, and subarctic tundra.	**TPO, CUM1, MAM, MAS, OAO, SAS1, SAM1, SAF1**; containing or adjacent structures that are suitable for nesting.	The Barn Swallow may be found throughout southern Ontario and can range as far north as Hudson Bay, wherever suitable locations for nests exist. The Barn Swallow has become closely associated with human rural settlements. It breeds across much of North America south of the treeline, south to central Mexico. In Canada, it is known to breed in all provinces and territories.	Leamington Study Area - OBBA Panhandle Study Area - NHIC, OBBA	**Yes** Antropogenic stuctures such as buildings, culverts and bridges may provide suitable nesting habitat for this species.	**Yes** Antropogenic stuctures such as buildings, culverts and bridges may provide suitable nesting habitat for this species.
Birds	Bobolink *Dolichonyx oryzivorus*	THR	THR Schedule 1	THR	Historically, Bobolinks lived in North American tallgrass prairie and other open meadows. With the clearing of native prairies, Bobolinks moved to living in hayfields. Bobolinks often build their small nests on the ground in dense grasses. Both parents usually tend to their young, sometimes with a third Bobolink helping. Most of this prairie was converted to agricultural land over a century ago, and at the same time the forests of eastern North America were cleared to hayfields and meadows that provided habitat for the birds. Since the conversion of the prairie to cropland and the clearing of the eastern forests, the Bobolink has nested in forage crops (e.g., hayfields and pastures dominated by a variety of species, such as clover, Timothy, Kentucky Bluegrass, and broadleaved plants). The Bobolink also occurs in various grassland habitats including wet prairie, graminoid peatlands, and abandoned fields dominated by tall grasses, remnants of uncultivated virgin prairie (tall-grass prairie), no-till cropland, small-grain fields, restored surface mining sites, and irrigated fields in arid regions. It is generally not abundant in short-grass prairie, Alfalfa fields, or in row crop monocultures (e.g., corn, soybean, wheat), although its use of Alfalfa may vary with region.	**TPO, TPS, CUM1** and **MAM2**.	The Bobolink breeds across North America. In Ontario, it is widely distributed throughout most of the province south of the boreal forest, although it may be found in the north where suitable habitat exists. The breeding range of the Bobolink in North America includes the southern part of all Canadian provinces from British Columbia to Newfoundland and Labrador and south to the northwestern, north-central and northeastern U.S.	Leamington Study Area - OBBA Panhandle Study Area - NHIC, OBBA	**Yes** The Study Area is dominated by agricultural fields which may consist of hayfields.	**Yes** The Study Area is dominated by agricultural fields which may consist of hayfields.

Taxonomy	Species	ESA Status	SARA Status	COSEWIC Status	Preferred Habitat[1, 2]	Associated ELC Communities	Known Species Range[1, 2]	Source Identifying Species Record	Suitable Habitat Identified During Background Review - Panhandle Regional Expansion	Suitable Habitat Identified During Background Review - Leamington Interconnect
Birds	Chimney Swift *Chaetura pelagica*	THR	THR Schedule 1	THR	Before European settlement, Chimney Swifts mainly nested on cave walls and in hollow trees or tree cavities in old growth forests. However, due to the land clearing associated with colonization, hollow trees became increasingly rare, which led Chimney Swifts to move into house chimneys. Today, they are more likely to be found in and around urban settlements where they nest and roost (rest or sleep) in chimneys and other manmade structures. It is likely that a small portion of the population continues to use hollow trees. They also tend to stay close to water as this is where the flying insects they eat congregate. The Chimney Swift spends the major part of the day in flight feeding on insects. In the northern part of the breeding range, the Chimney Swift favours sites where the ambient temperature is relatively stable.	**TPO, CUM1, MAM, MAS, OAO, SAS1, SAM1, SAF1** containing or adjacent structures with suitable nesting habitat (i.e. chimneys).	The Chimney Swift breeds in eastern North America, possibly as far north as southern Newfoundland. In Ontario, it is most widely distributed in the Carolinian zone in the south and southwest of the province, but has been detected throughout most of the province south of the 49th parallel. The Chimney Swift breeds mainly in eastern North America, from southern Canada down to Texas and Florida. The species breeds in east central Saskatchewan, southern Manitoba, southern Ontario, southern Quebec, New Brunswick, Nova Scotia, and possibly in Prince Edward Island and southwestern Newfoundland.	Leamington Study Area - OBBA Panhandle Study Area - OBBA	**Yes** Buildings present within the Study Area may provide suitable nesting habitat for this species.	**Yes** Buildings present within the Study Area may provide suitable nesting habitat for this species.
Birds	Eastern Meadowlark *Sturnella magna*	THR	THR Schedule 1	THR	Eastern Meadowlarks breed primarily in moderately tall grasslands, such as pastures and hayfields, but are also found in alfalfa fields, weedy borders of croplands, roadsides, orchards, airports, shrubby overgrown fields, or other open areas. Small trees, shrubs, or fence posts are used as elevated song perches. Eastern Meadowlarks prefer grassland habitats, including native prairies and savannahs, as well as non-native pastures, hayfields, weedy meadows, herbaceous fencerows, and airfields.	**TPO, TPS, CUM1, CUS**, and **MAM2** with elevated song perches.	In Ontario, the Eastern Meadowlark is primarily found south of the Canadian Shield but it also inhabits the Lake Nipissing, Timiskaming, and Lake of the Woods areas. Including all subspecies, the Eastern Meadowlark's global breeding range extends from central and eastern North America, south through parts of South America. However, there is only one subspecies in Canada and the neighbouring northeastern U.S. In Canada, the bulk of the population breeds in southern Ontario.	Leamington Study Area - OBBA Panhandle Study Area - NHIC, OBBA	**Yes** The Study Area is dominated by agricultural fields which may consist of pastures or hayfields.	**Yes** The Study Area is dominated by agricultural fields which may consist of pastures or hayfields.
Birds	Henslow's Sparrow *Centronyx henslowii*	END	END Schedule 1	END	In Ontario, the Henslow's Sparrow lives in open fields with tall grasses, flowering plants, and a few scattered shrubs. It has also been found in abandoned farm fields, pastures, and wet meadows. It tends to avoid fields that have been grazed, burned, or are crowded with trees and shrubs. It prefers extensive, dense, tall grasslands where it can more easily conceal its small ground nest. Henslow's Sparrows occupy open fields. The vegetation of these areas includes tall grasses that are interspersed with tall herbaceous plants, or shrubby species. It prefers undisturbed areas with dense living grasses and a dense thatch of dead grasses. The species may occupy hayfields, but if the hay is cut early, the nests are destroyed and the resulting losses are severe. Only areas that remain undisturbed for several years appear to be more successfully colonized. The precise amount of remaining suitable habitat in Ontario is unknown.	**TPO, CUM**, and **MAM** that are a minimum of 30 ha in size with vegetation that is over 30cm in height with a thick thatch layer and a lack of emergent woody vegetation.	The Henslow's Sparrow breeds in the northeastern and east-central United States, and reaches its northeastern limit in Ontario. It was once fairly common in scattered areas of suitable habitat south of the Canadian Shield. However, steep declines since the 1960s have all but wiped this bird out as a breeding species in Ontario. A few are still seen each spring at migration hotspots such as Point Pelee National Park, and a few may breed at selected locations. In Canada, it now occurs in southern Ontario. Historical information indicates that the species probably occurred in natural prairie areas and that forest clearing in the 1800s probably lead to an expanded range for a time. In addition to southern Ontario, the Henslow's Sparrow used to occur in southwestern and eastern Ontario.	Panhandle Study Area - NHIC	**No** Grasslands of sufficient size (i.e. >30 ha) are not anticipated within the Study Area.	Species was not identified through the background review.
Birds	King Rail *Rallus elegans*	END	END Schedule 1	END	King Rails are found in densely vegetated freshwater marshes with open shallow water that merges with shrubby areas. They are sometimes found in smaller isolated marshes but most seem to prefer larger, coastal wetlands. Its nest is a dinner plate-sized platform made of plant material, placed just above the water in shrubs or clumps of other marsh plants. King Rails are found in a variety of freshwater marshes and marsh-shrub swamp habitats. The species occurs in areas where wild rice grows, but also in sedge and cattail marshes. Most importantly, the species requires large marshes with open shallow water that merges with shrubby areas. In fact, birds only return in successive years to large marshes that are not overgrown with cattails. Originally, the best habitat for King Rails was in southwestern Ontario, but most of these wetlands have since been eliminated. Only 10% of the original pre-European settlement marshes remain in the one area of Ontario where the largest component of the species occurs. The quality of the remaining habitat is also deteriorating.	**MAS, SWT,** and **MAM**.	King Rails reach their northern limit in southern Ontario, where they are quite rare. Recent province-wide surveys suggest there are only about 30 pairs left, the majority of which are in the large wetlands bordering Lake St. Clair. Most of the remainder are found in several key coastal marshes along Lakes Erie and Ontario. In Canada, the species breeds only in the extreme southern part of Ontario. It is thought that the King Rail was quite common in some southern Ontario marshes, although there is no early information on population numbers and the area occupied.	Panhandle Study Area - NHIC, OBBA	**Yes** The St. Clair Marsh Complex Provinically Significant Wetland (PSW) may provide sutiable nesting habitat for this species.	Species was not identified through the background review.

Taxonomy	Species	ESA Status	SARA Status	COSEWIC Status	Preferred Habitat[1, 2]	Associated ELC Communities	Known Species Range[1, 2]	Source Identifying Species Record	Suitable Habitat Identified During Background Review - Panhandle Regional Expansion	Suitable Habitat Identified During Background Review - Leamington Interconnect
Birds	Least Bittern *Ixobrychus exilis*	THR	THR Schedule 1	THR	In Ontario, the Least Bittern is found in a variety of wetland habitats, but strongly prefers cattail marshes with a mix of open pools and channels. This bird builds its nest above the marsh water in stands of dense vegetation, hidden among the cattails. The nests are almost always built near open water, which is needed for foraging. This species eats mostly frogs, small fish, and aquatic insects. The Least Bittern breeds strictly in marshes dominated by emergent vegetation surrounded by areas of open water. Most breeding grounds in Canada are dominated by cattails, but breeding also occurs in areas with other robust emergent plants and in shrubby swamps. The presence of stands of dense vegetation is essential for nesting because the nests of Least Bittern sit on platforms of stiff stems. The nests are almost always within 10 m of open water. Open water is also needed for foraging, because Least Bitterns forage by ambushing their prey in shallow water near marsh edges, often from platforms that they construct out of bent vegetation. Access to clear water is essential for the birds to see their prey. This small heron prefers large marshes that have relatively stable water levels throughout the nesting period. Adults can raise nests somewhat to deal with rising waters, but persistent or sudden increases will flood nests. Conversely, drops in water level can reduce foraging opportunities and increase the species' exposure to predators. Needs for wintering habitat are less specific, and appear to be met by a wide variety of wetlands—not only emergent marshes like those used for breeding, but also brackish and saline swamps. Habitat use during migration is poorly known, but presumably is similar to breeding and wintering habitat.	**MAS2-1, MAS3-1, SA** and **OAO**.	In Ontario, the Least Bittern is mostly found south of the Canadian Shield, especially in the central and eastern part of the province. Small numbers also breed occasionally in northwest Ontario. This species has disappeared from much of its former range, especially in southwestern Ontario, where wetland loss has been most severe. The Least Bittern breeds from southern Canada to South America. In Canada, the Least Bittern has been observed in every province, but most individuals occur in Ontario. The species breeds primarily in southern Ontario.	Panhandle Study Area - NHIC, OBBA	**Yes** Marsh communities assocaited with the St. Clair Marsh Complex PSW, Baptiste Creek, Jeannettes Creek and the Thames River may provide suitable nesting habitat for this species.	Species was not identified through the background review.
Birds	Prothonotary Warbler *Protonotaria citrea*	END	END Schedule 1	END	The Prothonotary is the only warbler in eastern North America that nests in tree cavities, where it typically lays four to six eggs on a cushion of moss, leaves, and plant fibres. In Canada, this species breeds only in deciduous swamp forests or riparian floodplain forests. The forests it occupies are typically dominated by Silver Maple, ash, and Yellow Birch. The species nests in naturally formed tree cavities or cavities excavated by other species, mainly Downy Woodpeckers and chickadees. It favours small, shallow holes situated at low heights in dead or dying trees, in which it builds a nest lined with moss. Nests are typically situated over standing or slow-moving water. Artificial nest boxes are also readily accepted and perhaps even preferred. Males often build one or more incomplete "dummy" nests. Females usually select one of these to complete, but they may also build an entirely new nest on their own. In any case, several suitable cavities appear to be required in each territory to accommodate all of these nests.	**FOD** and **SWD** with standing water.	In Canada, the Prothonotary Warbler is only known to nest in southwestern Ontario, primarily along the north shore of Lake Erie. Over half of the small and declining population is found in Rondeau Provincial Park. In Ontario, the Prothonotary Warbler is found in the warmer climate of the Carolinian deciduous forests. This species is very rare in Canada, but is actively monitored by a combination of amateurs and professionals. Many occupied sites are prone to blinking on and off. This level of annual fluctuation makes it difficult to ascertain whether there has been a true change in occupied range, but such a change seems unlikely. Fewer than 10 locations are occupied in Canada in any given year (e.g., no more than 8 in 2015).	Panhandle Study Area - NHIC, OBBA	**No** Suitable decidious swamps or riparian floodplain forests for nesting were not identified within the Study Area through the background review.	Species was not identified through the background review.
Mammals	Eastern Small-footed Myotis *Myotis leibii*	END	N/A	N/A	In the spring and summer, Eastern Small-footed Bats will roost in a variety of habitats, including in or under rocks, in rock outcrops, in buildings, under bridges, or in caves, mines, or hollow trees. These bats often change their roosting locations every day. At night, they hunt for insects to eat, including beetles, mosquitos, moths, and flies. In the winter, these bats hibernate, most often in caves and abandoned mines. They seem to choose colder and drier sites than similar bats and will return to the same spot each year.		The Eastern Small-footed Bat has been found from south of Georgian Bay to Lake Erie and east to the Pembroke area. There are also records from the Bruce Peninsula, the Espanola area, and Lake Superior Provincial Park. Most documented sightings are of bats in their winter hibernation sites.	Bat Conservation International (BCI)	**Yes** Buildings present within the Study Area may provide suitable roosting habitat.	**Yes** The proposed pipeline passes through a woodlot that may contain suitable roosting habitat. Buildings present within the Study Area may provide suitable roosting habitat.
Mammals	Little Brown Myotis *Myotis lucifugus*	END	END Schedule 1	END	Bats are nocturnal. During the day they roost in trees and buildings. They often select attics, abandoned buildings, and barns for summer colonies where they can raise their young. Bats can squeeze through very tiny spaces (as small as six millimetres across) and this is how they access many roosting areas. Little Brown Bats hibernate from October or November to March or April, most often in caves or abandoned mines that are humid and remain above freezing. Their specific physiological requirements limit the number of suitable sites for overwintering. In the east, large numbers (i.e., >3000 bats) of several species typically overwinter in relatively few hibernacula. In the west, there are fewer known hibernacula, and numbers appear lower per site. Females establish summer maternity colonies, often in buildings or large-diameter trees. Foraging occurs over water, along waterways, and forest edges. Large open fields or clearcuts generally are avoided. In autumn, bats return to hibernacula, which may be hundreds of kilometres from their summering areas, swarm near the entrance, mate, and then enter that hibernaculum, or travel to different hibernacula to overwinter.		The Little Brown Bat is widespread in southern Ontario and found as far north as Moose Factory and Favourable Lake. In Canada, *Myotis lucifugus* occurs from Newfoundland to British Columbia, and northward to near the treeline in Labrador, Northwest Territories and Yukon.	BCI	**Yes** Buildings present within the Study Area may provide suitable roosting habitat.	**Yes** The proposed pipeline passes through a woodlot that may contain suitable roosting habitat. Buildings present within the Study Area may provide suitable roosting habitat.

Taxonomy	Species	ESA Status	SARA Status	COSEWIC Status	Preferred Habitat[1, 2]	Associated ELC Communities	Known Species Range[1, 2]	Source Identifying Species Record	Suitable Habitat Identified During Background Review - Panhandle Regional Expansion	Suitable Habitat Identified During Background Review - Leamington Interconnect
Mammals	Northern Myotis *Myotis septentrionalis*	END	END Schedule 1	END	Northern Long-eared Bats are associated with boreal forests, choosing to roost under loose bark and in the cavities of trees. These bats hibernate from October or November to March or April. The Northern Long-eared Bat overwinters in cold and humid hibernacula (caves/mines). Their specific physiological requirements limit the number of suitable sites for overwintering. In the east, large numbers (i.e., >3000 bats) of several species typically overwinter in relatively few hibernacula. In the west, there are fewer known hibernacula, and numbers appear lower per site. Females establish summer maternity colonies in buildings or large-diameter trees. Foraging occurs along waterways, forest edges, and in gaps in the forest. Large open fields or clearcuts generally are avoided. In autumn, bats return to hibernacula, which may be hundreds of kilometres from their summering areas, swarm near the entrance, mate, and then enter that hibernaculum, or travel to different hibernacula to overwinter.	**FOC, FOM, FOD, SWC, SWM,** and **SWD** where suitable roosting (i.e. cavity trees and trees with loose bark) habitat is available.	The Northern Long-eared Bat is found throughout forested areas in southern Ontario, to the north shore of Lake Superior and occasionally as far north as Moosonee, and west to Lake Nipigon. In Canada, *Myotis septentrionalis* occurs from Newfoundland to British Columbia, and northward to near the treeline in Labrador, Northwest Territories, and Yukon.	BCI, Ministry of Environment, Conservation and Parks (MECP)	**Yes** Buildings present within the Study Area may provide suitable roosting habitat.	**Yes** The proposed pipeline passes through a woodlot that may contain suitable roosting habitat. Buildings present within the Study Area may provide suitable roosting habitat.
Mammals	Tri-colored Bat *Perimyotis subflavus*	END	END Schedule 1	END	During the summer, the Tri-colored Bat is found in a variety of forested habitats. It forms day roosts and maternity colonies in older forest and occasionally in barns or other structures. They forage over water and along streams in the forest. Tri-colored Bats eat flying insects and spiders gleaned from webs. At the end of the summer they travel to a location where they swarm; it is generally near the cave or underground location where they will overwinter. They overwinter in caves where they typically roost by themselves rather than part of a group. The Tri-colored Bat overwinters in cold and humid hibernacula (caves/mines). Their specific physiological requirements limit the number of suitable sites for overwintering. In the east, large numbers (i.e., >3000 bats) of several species typically overwinter in relatively few hibernacula. In the west, there are fewer known hibernacula, and numbers appear lower per site. Females establish summer maternity colonies in buildings or large-diameter trees. Foraging occurs over water, along waterways, and forest edges. Large open fields or clearcuts generally are avoided. In autumn, bats return to hibernacula, which may be hundreds of kilometres from their summering areas, swarm near the entrance, mate, and then enter that hibernaculum, or travel to different hibernacula to overwinter.		This bat is found in southern Ontario and as far north as Espanola near Sudbury. Because it is very rare, it has a scattered distribution. It is also found from eastern North America down to Central America. In Canada, *Perimyotis subflavus* occurs in Nova Scotia, New Brunswick, Quebec, and Ontario.	BCI	**Yes** Buildings present within the Study Area may provide suitable roosting habitat.	**Yes** The proposed pipeline passes through a woodlot that may contain suitable roosting habitat. Buildings present within the Study Area may provide suitable roosting habitat.
Plants	Dense Blazing Star *Liatris spicata*	THR	THR Schedule 1	THR	In Ontario, Dense Blazing Star grows in moist prairies, grassland savannahs, wet areas between sand dunes, and abandoned fields. This plant does not do well in the shade and is usually found in areas that are kept open and sunny by fire, floods, drought, or grazing. Dense Blazing Star is a plant of open tallgrass prairies. It can grow in a range of moisture regimes from dry to very moist.	**TPO2, TPS2, SDO,** and **CUM** with moist soils.	Dense Blazing Star is found only in North America. In Canada, it occurs naturally only in southwest Ontario, mainly in the area between Lake St. Clair, Lake Huron, and Lake Erie. There are believed to be 11 to 13 populations in the province with six populations known to have been lost. Over 90% of all native Dense Blazing Star plants in Canada grow at Walpole Island First Nation (WIFN), with another large population in Windsor. There are ten extant populations in Ontario.	Panhandle Study Area - NHIC	**No** Suitable tall grass praries or cultural meadows were not identified through the background review.	Species was not identified through the background review.
Reptiles	Blanding's Turtle (Great Lakes / St. Lawrence population) *Emydoidea blandingii*	THR	THR Schedule 1	END	Blanding's Turtles live in shallow water, usually in large wetlands and shallow lakes with lots of water plants. It is not unusual, though, to find them hundreds of metres from the nearest water body, especially while they are searching for a mate or traveling to a nesting site. Blanding's Turtles hibernate in the mud at the bottom of permanent water bodies from late October until the end of April. In the Great Lakes/St. Lawrence population, Blanding's Turtles are often observed using clear water, eutrophic wetlands. Blanding's Turtles have strong site fidelity but may use several connected water bodies throughout the active season. Females nest in a variety of substrates including sand, organic soil, gravel, cobblestone, and soil-filled crevices of rock outcrops. Adults and juveniles overwinter in a variety of water bodies that maintain pools averaging about 1 m in depth; however, hatchling turtles have been observed hibernating terrestrially during their first winter. Reported mean home ranges generally fall between 10-60 ha (maximum 382 ha) or 1000-2500 m (maximum 7000 m); however, most studies likely underestimate Blanding's Turtle home range size because few have utilized GPS loggers to track daily movements throughout one or more entire active seasons.	**SWT2, SWT3, SWD, SWM, MAS2, SAS1, SAM1**, where open water is present.	The Blanding's Turtle is found in and around the Great Lakes Basin, with isolated populations elsewhere in the United States and Canada. In Canada, the Blanding's Turtle is separated into the Great Lakes-St. Lawrence population and the Nova Scotia population. Blanding's Turtles can be found throughout southern, central, and eastern Ontario. In its Canadian range, the Great Lakes/St. Lawrence population of the Blanding's Turtle occurs primarily in southern Ontario (with isolated reports as far north as Timmins) and southern Québec (with isolated reports occurring as far north as the Abitibi-Témiscamingue region and as far east as the Capitale-Nationale region in Québec). Across the North American range, Blanding's Turtles mainly occur in small, isolated subpopulations that maintain a few dozen to approximately 100 turtles.	Panhandle Study Area - NHIC, ORAA	**Yes** Marsh and open water communities assocaited with the St. Clair Marsh Complex PSW, Baptiste Creek, Jeannettes Creek and the Thames River may provide suitable habitat.	Species was not identified through the background review.

Taxonomy	Species	ESA Status	SARA Status	COSEWIC Status	Preferred Habitat[1, 2]	Associated ELC Communities	Known Species Range[1, 2]	Source Identifying Species Record	Suitable Habitat Identified During Background Review - Panhandle Regional Expansion	Suitable Habitat Identified During Background Review - Leamington Interconnect
Reptiles	Common Five-lined Skink (Five-lined Skink; Carolinian population) *Plestiodon fasciatus*	END	END Schedule 1	END	Common Five-lined Skinks like to bask on sunny rocks and logs to maintain a preferred body temperature (28-36°C). During the winter, they hibernate in crevices among rocks or buried in the soil. There are two populations of Common Five-lined Skink in Ontario and they each occupy different types of habitat. The habitat of the Five-lined Skink varies from region to region and includes rocky outcrops, dunes, fields, and deciduous forests. This species is generally associated with relatively open environments that provide a sufficient covering of debris for shelter. Carolinian populations inhabit the forests around Lakes Erie, St. Clair, and Huron. Five-lined Skinks primarily inhabit clearings such as stabilized sand dunes, open forest areas, and wetlands where they find shelter, most often under plant debris, such as decomposing tree trunks. They also use other items for shelter, including artificial objects such as construction materials, utility poles, and wooden boardwalks. The availability of objects that provide shelter is vital to the Five-lined Skink so it can protect itself against extreme temperatures and desiccation. Since the Five-lined Skink is prone to dehydration, its habitat must include a permanent water body.	**SDO, SDS, SDT, TPS, CUS, CUW, FOM, FOD,** and **MAM** where suitable cover and basking habitat is present.	In North America, the Common Five-lined Skink occurs throughout hardwood forests from the Atlantic seaboard to Texas and Minnesota and from southern Ontario to the Gulf of Mexico. There are two known populations of Five-lined Skinks in Ontario: the Carolinian population, which concentrates near Lakes Erie, St. Clair, and Huron in southwestern Ontario; and the Great Lakes/St. Lawrence population, which occurs along the southern edge of the Canadian Shield, from Georgian Bay to Leeds and Greenville County in south-central Ontario. Between 1995 and 2004, four or five small distinct populations were reported in the Carolinian region, namely those of Point Pelee National Park, Rondeau Provincial Park, Pinery Provincial Park, Oxley Poison Sumac Swamp, and, possibly, Walpole Island.	Panhandle Study Area - NHIC, ORAA	**No** Suitable habitat was not identified through the background reivew.	Species was not identified through the background review.
Reptiles	Eastern Foxsnake (Carolinian population) *Pantherophis gloydi*	END	END Schedule 1	END	Eastern Foxsnakes in the Carolinian population are usually found in old fields, marshes, along hedgerows, drainage canals, and shorelines. Females lay their eggs in rotting logs, manure, or compost piles, which naturally incubate the eggs until they hatch. During the winter, Eastern Foxsnakes hibernate in groups in deep cracks in the bedrock and in some man-made structures. Eastern Foxsnakes in the Essex-Kent and Haldimand-Norfolk regions use mainly unforested, early successional vegetation communities (e.g., old field, prairie, marsh, dune-shoreline) as habitat during the active season. Hedgerows bordering farm fields and riparian zones along drainage canals are regularly used. In some areas of intensive farming, these linear habitat strips likely make up the bulk of habitat available for foxsnakes.		The Eastern Foxsnake is only found in Ontario, Michigan, and Ohio. Ontario contains 70% of their range in two distinct populations: the Carolinian population in southwestern Ontario and the eastern Georgian Bay population. Within Ontario, the species' distribution is highly disjunct, occupying three discrete regions along the Lake Erie-Lake Huron waterway shoreline. The three regional populations from south to north are (1) Essex-Kent, (2) Haldimand-Norfolk, and (3) Georgian Bay Coast.	Leamington Study Area - ORAA Panhandle Study Area - ORAA	**Yes** Riperian habitat assocaited with the St. Clair Marsh Complex PSW, Baptiste Creek, Jeannettes Creek, the Thames River and agricultural drains as well as the various hedgrows present with the Study Area may provide suitable habitat.	**Yes** Suitable habitat may be present within the strips of riperian vegetation present within the Study Area.
Reptiles	Massasauga (Carolinian population) *Sistrurus catenatus*	END	END Schedule 1	END	Massasaugas live in different types of habitats throughout Ontario, including tallgrass prairie, bogs, marshes, shorelines, forests, and alvars. Within all of these habitats, Massasaugas require open areas to warm themselves in the sun. Pregnant females are most often found in open, dry habitats such as rock barrens or forest clearings where they can more easily maintain the body temperature required for the development of their offspring. Non-pregnant females and males forage and mate in lowland habitats such as grasslands, wetlands, bogs, and the shorelines of lakes and rivers. Massasaugas hibernate underground in crevices in bedrock, sphagnum swamps, tree root cavities, and animal burrows where they can get below the frost line but stay above the water table. The Massasauga's habitat varies from wet prairie, sedge meadows, and old fields, to peatlands, bedrock barrens, and coniferous forest; however, each habitat provides physical similarities to meet the species' habitat requirements. Massasaugas require a semi-open habitat to provide both cover from predators and opportunities for thermoregulation (i.e. basking). Hibernation sites are often damp or water-saturated, suggesting that moisture content is a key variable in successful hibernation. Both quantity and quality of Massasauga habitat in Ontario have declined, and in many places continue to decline, due to human encroachment.	**TP, BO, MA, FO, AL, RB**, and **CUM** with open areas.	In Canada, the Massasauga is found only in Ontario, primarily along the eastern side of Georgian Bay and on the Bruce Peninsula. Two small populations are also found in the Wainfleet Bog on the northeast shore of Lake Erie and near Windsor. The Massasauga was once more widespread in southwestern Ontario, especially along the shores of the Great Lakes. In Canada, populations of this snake are restricted to four geographically distinct regions within Ontario. The Wainfleet and Ojibway populations in southwestern Ontario are small and completely isolated. It is thought probable that they shared a continuous distribution with Massasaugas in the Bruce Peninsula and eastern Georgian Bay.	Panhandle Study Area - ORAA	**No** Riperian and marsh habitat assocaited with the St. Clair Marsh Complex PSW, Baptiste Creek, Jeannettes Creek and the Thames River may provide suitable habitat. However, this species record is greater than 25 years old (1881) and is considered historic.	Species was not identified through the background review.

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Reptiles	Queensnake *Regina septemvittata*	END	END Schedule 1	END	The Queensnake is an aquatic species that is seldom found more than a few metres from the water. It prefers rivers, streams, and lakes with clear water, rocky or gravel bottoms, lots of places to hide, and an abundance of crayfish. Queensnakes will often hibernate in groups with other snakes, amphibians, and even crayfish. Suitable hibernation sites (called hibernacula) include abutments of old bridges and crevices in bedrock. Queensnakes are most commonly associated with rocky streams and rivers, but are also occasionally found in marsh, pond, and lake shore habitats. This highly aquatic species is usually found within 3 m of the shoreline and only at sites where there is an abundance of crayfish, its primary food source.	**OAO** with clear water and rocky or gravel bottoms with lots of places to hide and abundance of crayfish.	In Ontario, the Queensnake is found only in the southwest in Middlesex, Brant, Huron, and Essex counties, and on the Bruce Peninsula. There are fewer than 25 sites where it is known to occur in these areas. The extremely specialized habitat requirements of the Queensnake restrict this species to particular areas, with large gaps of unfavourable habitat in between populations. The snake's home range is quite small, making Queensnakes less likely to move into new areas or areas where it was historically found. The Queensnake is relatively widespread in eastern North America, ranging from southeastern Pennsylvania, western New York and southwestern Ontario, west to southeastern Wisconsin, and south to the Gulf Coast from the Florida panhandle to eastern Mississippi. The Queensnake occurs west of the Niagara Escarpment, from the northern portion of the Bruce Peninsula, south to Lake Erie, and west to Essex County.	Panhandle Study Area - ORAA	**Yes** Riperian and marsh habitat assocaited with the St. Clair Marsh Complex PSW, Baptiste Creek, Jeannettes Creek and the Thames River may provide suitable habitat.	Species was not identified through the background review.
Reptiles	Spiny Softshell *Apalone spinifera*	END	END Schedule 1	END	Spiny Softshells are highly aquatic turtles that rarely travel far from water. They are found primarily in rivers and lakes but also in creeks and even ditches and ponds near rivers. Key habitat requirements are open sand or gravel nesting areas, shallow muddy or sandy areas to bury in, deep pools for hibernation, areas for basking, and suitable habitat for crayfish and other food species. These habitat features may be distributed over an extensive area, as long as the intervening habitat doesn't prevent the turtles from traveling between them. Spiny Softshell inhabits a wide variety of aquatic habitats, including rivers, marshy creeks, oxbows, lakes, and impoundments. Common habitat features include a soft bottom with sparse aquatic vegetation, as well as sandbars or mudflats. Overwintering sites are generally in well oxygenated lakes and rivers.	**OAO** characterized as rivers with nearby open sand or gravel nesting areas, shallow muddy or sandy substrates, deep pools, basking areas and suitable habitat for food species.	In Canada, the Spiny Softshell is found only in Quebec and southwestern Ontario in the Lake St. Clair, Lake Erie, and western Lake Ontario watersheds. The majority of Spiny Softshells in Ontario are found in the Thames and Sydenham rivers and at two sites in Lake Erie. The size of the home range of this turtle depends on availability of habitat features such as nesting and hibernation sites. Some turtles travel up to 30 kilometres in a year from one part of their home range to another. Globally, the Spiny Softshell occurs in eastern North America from the New England states through extreme southern Quebec and Ontario, west to Nebraska, south to Texas, and across the Gulf states to the Atlantic. The Canadian population is divided into two geographically distinct subpopulations: a Great Lakes/St. Lawrence subpopulation in southern Quebec and a Carolinian subpopulation in southern Ontario.	Panhandle Study Area - NHIC	**Yes** OAO habitat assocaited with the St. Clair Marsh Complex PSW, Baptiste Creek, Jeannettes Creek and the Thames River may provide suitable habitat.	Species was not identified through the background review.
Reptiles	Timber Rattlesnake *Crotalus horridus*	EXP	EXP Schedule 1	EXP	The preferred habitats for Timber Rattlesnakes in the northern parts of their range are forested areas with rocky outcrops for denning and basking. Granitic escarpments and ledges with accumulations of talus (rock debris) are common characteristics of the communal den within which the snakes hibernate.		This rattlesnake was found along the Niagara Escarpment, primarily in the Niagara area. The most recent confirmed records of this rattlesnake in Ontario are from the Niagara Gorge in the 1940s. This species occurs throughout the eastern and central United States, although it is locally extirpated in many areas. It has not been found anywhere else in Canada since then, and is therefore considered extirpated from Canada.	Panhandle Study Area - NHIC	**No** Species is considered extripated from Ontario.	Species was not identified through the background review.

Appendix E

Stage 1 Archaeological Assessment

See report appended to this ER

Appendix F

Cultural Heritage Assessment Report

See report appended to this ER

AECOM

Appendix G

Summary of Potential Effects, Recommended Mitigation and Net Effects

Environmental Feature(s)	Potential Effect	Mitigation Measures	Net Effects
Physical Features			
Geological Resources	• Interaction with bedrock is not anticipated.	• No mitigation measures are required as no potential effects are anticipated.	• No net effects to bedrock are anticipated.
Groundwater Resources	• Changes in groundwater quantity and groundwater flow patterns; and • Changes in groundwater quality	**<u>Hydrostatic Testing and Dewatering</u>** • Retain an independent hydrogeologist to assess the potential for construction to affect groundwater quantity and identify the need for a well monitoring program during construction. Prior to construction, Enbridge will obtain appropriate dewatering permits, and establish a water well monitoring plan/protocol, if necessary. • For groundwater dewatering, permit requirements vary dependent upon the rate of withdrawal required. For construction dewatering projects where groundwater takings will be greater than 50,000 L/day and less than 400,000 L/day registration on EASR is required. However, if anticipated groundwater takings exceed 400,000 L/day (per excavation), a Category 3 PTTW is required from the MECP. • If more than 50,000 L/d of surface water is used as the source water for the hydrostatic test, a PTTW application would be required. The application would include an assessment of the capacity of the source to provide the required volume and rate of water without effecting the ecosystem. The application would also include recommendations for mitigation measures. • Discharge locations used either during dewatering activities or during hydrostatic testing should be established using best practices to reduce the potential for erosion and scouring. • During discharge activities regular monitoring should occur to confirm that no erosion or flooding occurs and to confirm that the water quality meets the applicable standard. • Limit duration of dewatering to as short a time frame as possible. • Discharge piping should be properly secured and free of leaks. To reduce the likelihood of erosion at discharge locations minimizing velocities, discharging into a filter bag or diffuser and utilizing protective riprap or equivalent to dissipate water energy can be utilized. If energy dissipation measures are found to be inadequate, the rate of dewatering should be reduced or dewatering discontinued until satisfactory mitigation measures are in place. • Direct dewatering discharge to affected watercourse, waterbody and/or wetland following appropriate water quality and temperature control measures. Discharge of water must comply with relevant regulations (i.e., MECP, Conservation Authority, NDMNRF, DFO, municipal, etc.), and as specified in any/all required discharge authorizations. • Any application for a PTTW or an EASR registration will include an assessment of the potential for introduction of contaminated water to soils or bodies of water and testing of hydrostatic and trench dewatering discharge water should be considered. The specific testing requirements can be influenced by the nature and quality of the source water used, the test process, the nature of the pipeline, and pipeline contents. A qualified environmental professional should be consulted to determine what testing is necessary for the discharge water. **<u>Private Water Wells</u>** • If dewatering requirements indicate a potential effect on the identified private wells in the project area, then a water well survey should be conducted. Based on the findings and the dewatering program, a private well monitoring program may be recommended for residents who rely on overburden groundwater supply for domestic use. This type of monitoring program often includes pre-construction water quality monitoring as well as water level monitoring. If the project caused effects to a domestic well, a potable water supply should be provided, and the water well should be repaired or restored as required. **<u>Municipal Water Supply</u>** • There are no nearby municipal supply wells, and therefore additional mitigation measures are not required to protect municipal groundwater drinking supply sources.	• With the implementation of the mitigation measures, no significant adverse residual effects on groundwater are anticipated.
Aggregates and Petroleum Resources	• The Panhandle Loop and Leamington Interconnect either parallel an existing natural gas pipeline corridor or contain no evidence of aggregate/petroleum resources present. Therefore, no effects are anticipated.	• During the detailed design phase of the project, Enbridge Gas should review all available mapping to determine locations of any suspected petroleum resources. • Prior to construction, conduct utility sweeps, confirm the location of existing infrastructure, and consult with landowners to assist in identifying any old/abandoned infrastructure or potential areas of contaminated soil along the Panhandle Loop.	• No net effects to aggregates and petroleum resources are anticipated.

Soil Resources	• Reduction in soil quality and quantity due to erosion and sedimentation resulting from excavation, use of heavy equipment and stockpiling of cleared materials.	• Surface soil can become eroded when vegetation is removed or disturbed. Where there is potential for soil erosion, erosion, and sediment control (ESC) measures should be determined and installed before the start of construction works. During construction these measures should be reviewed by a qualified inspector. • Natural features should be preserved. However, when vegetation is removed the exposure should be for the minimum amount of time reasonable and natural vegetation should be re-established as soon as practical. Temporary vegetation and mulching can be used to protect areas as appropriate. • Sufficient quantities of materials to control erosion should be used on site and additional supplies kept near the work areas. ESC structures should be monitored to maintain their effectiveness during the full construction period and any subsequent rehabilitation period. • Extreme precipitation events could result in overwhelming mitigation measures causing 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. • A geotechnical engineer should provide professional guidance on the appropriate measures to prevent slumping of excavation walls. • 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 under O. Reg. 152/06 and 158/06 from LTVCA and ERCA, respectively, may contain conditions pertaining to ESC.	• With the implementation of the mitigation measures and adherence to Enbridge Gas construction standards, no significant adverse residual effects to or from the overburden material are anticipated.
	• Reduction in topsoil quantity and quality due to mixing and compaction • Reduction in soil capability (quality) from mixing, compaction and rutting risk, accidental contaminant spills, and erosion. • Reduction in soil quality and quantity due to the release of construction dewatering discharge resulting in erosion and sedimentation. • Reduction in soil quality due to accidental release of contaminants during construction.	**<u>Excess Soils</u>** • Top soil may be transported and used within other areas of the project, as required. Any top soil that is being transported will be managed in accordance with the Excess Soils Regulation (O. Reg. 406/19). • Since excess soils in Ontario are regulated, a qualified person for environmental site assessments will be obtained. • This individual will be knowledgeable in the current excess soils guidelines and applicable regulations. • This individual will provide instructions on the management of excess soils for this project. **<u>Wet Soil Shutdown</u>** • Construction activities will be limited to drier seasons, where feasible. • To mitigate the potential for topsoil and subsoil mixing and soil structure loss, lands affected by heavy rainfall will be monitored for wet soil conditions. • Where wet soil conditions are observed, construction activities should be temporarily paused on agricultural lands. • On-site inspectors will determine when construction activities can resume. • If construction must take place during wet soil conditions, soil protection measures will be implemented. • These measures can include confining construction to the smallest area practical, installing protection measures or using wide tracked or low ground pressure vehicles. **<u>High Winds</u>** • During construction, weather will be monitored for high wind conditions to preserve topsoil. • Protection measures to protect topsoils from high winds are suspension of earth moving activities, applying dust suppressants, and protecting stockpiles will barriers or windscreens. **<u>Soil Stripping</u>**	• No significant adverse effects on soil resources are anticipated with the implementation of the mitigation measures described.

		• Consult with landowners regarding preferred topsoil handling measures (e.g., no stripping or additional stripping and potential storage preferences to avoid mixing of topsoil and subsoil). • To ensure the correct amount of topsoil will be replaced, levels will be measured prior to stripping. • Stripped topsoils and subsoils will be stockpiled separately where it is removed from agricultural lands. • Organic and duff layers should be removed, where feasible, in woodland areas. Organic material and subsoil should be stockpiled separately. **<u>Soil Compaction</u>** • Keep all equipment within identified work areas and confine construction activities to the narrowest area practical to minimize disturbance of adjacent soils. • If compaction occurs, a qualified individual should determine if compaction relief is necessary. Relief measures should be discussed with landowners prior to taking place. • Decompaction can be achieved by using a subsoiler prior to replacing topsoil. • Other methods of decompaction can include sub-soiling with a subsoiler, discing, chisel ploughing and cultivating. • Deep tillage or subsoiling can be implemented in areas where compaction persist. • Soil compaction can be measured/assessed by a penetrometer to ensure soil has been sufficient decompacted. **<u>Soil Pest/Diseases</u>** • A soil sampling plan on agricultural lands where soil pests and/or diseases are known should be developed and implemented, in consultation with landowner and an agrologist. • If an issue arises, the landowner and agrologist should develop a best practices protocol. • Imported topsoil for rehabilitation should be sampled and analyzed to identify concerns before placement on the easement. **<u>Dewatering Discharge:</u>** • Where dewatering of excavations is required, mitigation could include the use of splash pads, discharge energy diffusers, filter bags, sediment basins or similar measures at discharge locations to ensure that any water discharged to the natural environment does not result in scouring, erosion, or physical alteration of the soil at the discharge location, streams channel or banks. • Leave a layer of vegetation intact between the outfall and receiving waterbody to provide additional water dispersion and entrapment of suspended solids, if discharge is to a waterbody and/or wetland, where feasible. • Obtain applicable Conservation Authority/NDMNRF/MECP, and/or municipal permits for the release of dewatering discharge. **<u>Accidental Release of Contaminants:</u>** • Apply the following general mitigation measures to avoid soil contamination: ○ Ensure machinery is maintained free of fluid leaks. ○ All stationary equipment, such as generators shall have secondary containment to prevent spills. Potential contaminant storage will not occur within 50 m of a wetland or watercourse. ○ Site maintenance, vehicle maintenance, vehicle washing and refuelling to be done in specified areas at least 50 m away from wetlands and/or waterbodies or a required by regulatory authority. Where it is impracticable to maintain the 50 m buffer (such as in the case of an operating pump), the following fuelling measures will be followed: ○ The equipment will be positioned as far away as possible on a secure and level surface; ○ The equipment will have a secondary containment system in place;	

		○ Two workers will refuel the equipment such that one person is positioned at the fuel truck close to the emergency shut off, while the second person handles to nozzle/hose to refuel the equipment; and ○ An emergency spill kit will be set out in the open for immediate use, if required. • Develop and implement a Spill Prevention and Response protocol outlining steps to prevent and contain any chemicals and to avoid soil contamination. This plan will include, for example: ○ In the event of a contaminant spill, all work will stop until the spill is cleaned up. ○ Reporting procedures to meet federal, provincial and local requirements (e.g., reporting spills and verification of clean-up), emergency contact and project management phone numbers. ○ Spill control and containment equipment/materials shall be readily available on site. ○ Protocols for access to additional spill clean-up materials, if needed. ○ Contaminated materials to be handled in accordance with relevant federal and provincial guidelines and standards. ○ Include the use of Material Safety Data Sheets, which provide information on proper handling of chemicals readily available for the types of chemicals that will be used on site. ○ Proper training of operational staff on associated emergency response plan and spill clean-up procedures. ○ Spills to be cleaned up as soon as possible, with contaminated soils/water removed to a licenced disposal site, if required. ○ Materials contained in spill clean-up kits are restocked as necessary. ○ Any soil encountered during excavation that has visual staining odours or other visual evidence of contamination effects should be analyzed to determine its quality in order to identify the appropriate disposal method. • Waste and excess materials management (including excess soil) to be completed in accordance with relevant federal and provincial guidelines and standards	
Agricultural Resources	• Damaged or severed tile drainage	• Consultation with landowners of agricultural fields should take place to confirm where drainage is present. • If tile drainage is present, standard mitigations during trenching should be implemented. • These standard mitigations can include: – Working with independent tile contractor to develop site-specific plans – Pre-construction tiling will be undertaken prior to the start of any operations, if necessary. – Maintain tile system function by installing header tile – Excavate pipeline trench to allow clearance between top of the proposed pipeline and the bottom of the existing drainage system – If a tile drain is severed of crushed, record and flag the tile – If a main drain, header drain or large diameter drain is severed, completed temporary repairs to maintain field drainage and prevent flooding of the work area and adjacent lands – Prevent the entry of soil, debris and rodents by capping both sides of the severed drains that cross trenches, as required – Following construction, repair damaged and severed drains • Invite landowner to inspect and approve repairs once completed but before area is backfilled	• No significant adverse effects on agricultural tile drains are anticipated with the implementation of the mitigation measures described.
	• Potential spread of Soybean Cyst Nematode	• Enbridge Gas should consult with landowners of agriculture fields to determine if they would like to proceed with soil sampling for SCN. If requested and agreed to by the landowner, soil sampling for SCN is recommended where construction activity is planned on agricultural crop lands. If a field is identified as having SCN, in consultation with potentially effected landowners, the following mitigation measures should be considered: – To the extent feasible restrict construction activity to the non-agricultural pipeline construction area.	• No significant adverse effects on from SCN are anticipated with the implementation of the mitigation measures described.

		– If the pipeline route or an adjacent farm field is identified as having SCN all equipment and boots should be properly cleaned before moving to an area that has not been shown to be affected by SCN. This may involve thorough washing before moving equipment from an effected field to non-effected field. – All properties effected with SCN should be identified and communicated to the Contractor. A best practice protocol should be developed to handle SCN, with assistance from AECOM. • Any topsoil imported for clean-up activities should be analyzed for SCN by collecting a composite sample, sending it to a laboratory for analysis and reviewing results before any imported topsoil is placed on the easement. Imported suitable fill (not containing topsoil) or granular materials do not need to be tested for SCN.	
Biophysical Features			
Surface Water	• Changes in surface water quality and quantity	• Develop plans for spill prevention and response prior the start of construction to provide a detailed response system to respond to the release of petroleum, oils, lubricants and/or other hazardous materials released into the environment. Site supervisors must keep a spill kit on-site at all times and train workers in the use of this kit. • Operate construction equipment (i.e., back hoes, etc.) in a manner that minimizes disturbance to the banks of waterbodies (e.g., avoiding unnecessary travel, machine rotations, etc.) and ensure equipment is kept out of waterbodies, wherever possible. • All vehicles, machinery and other construction equipment shall not enter the water. • Restrict construction equipment to designated controlled vehicle access routes to minimize the potential contamination. • Construction equipment should arrive on site in a clean condition. Frequent checks and maintenance should ensure that no fluid leaks occur. All stationary equipment, such as generators shall have secondary containment to prevent spills. • Construction equipment must be refuelled, washed, and serviced a minimum of 50 m away from all waterbodies and other drainage features to prevent any deleterious substances from entering a water resource, or as designated by the local regulatory authority. Where it is impracticable to maintain the 50 m buffer (such as in the case of an operating pump), the following fuelling measures will be followed: – The equipment will be positioned as far away as possible on a secure and level surface; – The equipment will have a secondary containment system in place; – Two (2) workers will refuel the equipment such that one person is positioned at the fuel truck close to the emergency shut off, while the second person handles to nozzle/hose to refuel the equipment; and – An emergency spill kit will be set out in the open for immediate use, if required. • Fuel and other construction related fuels/lubricants must be stored securely in a designated area that is a minimum of 50 m away from any waterbody or drainage feature, or as designated by the local regulatory authority. • Implement necessary erosion and sediment control (ESC) measures (i.e., silt fencing) for Project work near watercourses to prevent potential erosion and sedimentation into nearby watercourses. • Clearly delineate work area using erosion fencing or other barriers, to avoid effecting hydrological functions associated with permanent open water. • Control quantity and quality of stormwater discharge using best management practices. • Minimize grading activities to maintain existing drainage patterns as much as possible. • Schedule construction activities near water to occur within the low flow period of the late summer months, where possible, to avoid or minimize effects. • Develop plans to deal with on-site flooding in order to mitigate any possible effects to the aquatic.	• With the implementation of the mitigation measures, no significant adverse residual effects on surface water resources or from flooding are anticipated.
	• Flooding events leading to construction effects, soil erosion, sedimentation, contamination, etc.	• The probability of a flooding event effecting project construction is reduced by construction occurring outside of the spring thaw. Should in-water or near water works be proposed during the spring thaw, appropriate sediment and erosion control measures will be implemented.	

		• 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 possible, unless necessary for watercourse crossings. • All work in the floodplain will be subject to a permit under O. Reg. 152/06 and 158/06 from LTVCA and ERCA, respectively.	
Fish and Fish Habitat and Aquatic SAR	• Changes in fish habitat (including other aquatic biota habitat such as invertebrates) • Fish mortality risk (including other aquatic biota such as invertebrates)	• DFO has developed the following general mitigation measures to protect fish and fish habitat. Additional pipeline-specific measures related to the various construction methods are provided following DFO's standard general mitigation measures. All measures taken should be consistent with DFO's measures to protect fish and fish habitat as published on the DFO website (DFO 2019). If there are concerns or discrepancies between the contractor intended actions and the DFO recommendations, additional correspondence with DFO is advised. **General Mitigation Measures** • All temporary and permanent crossings should be completed following the measures outlined in industry standards and company specifications for construction. • All vehicles, machinery and other construction equipment shall not enter the water. There must be no fording of any waterbody. • Watercourses should not be obstructed or impede the free movement of water and fish. • Where construction activity occurs within 30 m of a waterbody clearly delineate the construction area to avoid accidental damage to riparian vegetation. • Operate machinery in a manner that minimizes disturbance to the watercourse bed and banks. • Protect entrances at machinery access points (e.g., using swamp mats) and establish single site entry and exit where feasible and practical. • Construction equipment should arrive on site in a clean condition. Frequent checks and maintenance should ensure that no fluid leaks occur. • Fuel and other construction related fuels/lubricants must be stored securely in a designated area that is a minimum of 50 m away from any waterbody or drainage feature, or as designated by the local regulatory authority. • Generators and gas-powered water pumps shall be stored in secondary containment when located in close proximity to a waterbody. • Signs will be installed at all watercourses a minimum of 50 m from the top of bank locations, or as designated local regulatory authority, indicating stream name and "no fuelling beyond this point." • Develop plans for spill prevention and response prior to the start of construction to provide a detailed response system to respond to the release of petroleum, oils, lubricants and/or other hazardous materials released into the environment. Keep an emergency spill kit on site in case of fluid leaks or spills from machinery. In the unlikely event of a spill the MECP Spills Action Centre should be contacted immediately. **Flow Diversion/Dewatering** • In-water work for warmwater habitats is prohibited from March 15 to June 30 (MNRF 2013). All watercourses within the PSAs are designated or are assumed to be warmwater. • For in-water works downstream flows should be maintained using dam and pump techniques. Maintenance of downstream flow should avoid potential upstream flooding and desiccation of downstream aquatic habitat and organisms. • Dewatering operations should be controlled to prevent erosion or the release of sediment laden or contaminated water to the watercourse. Equipment like settling basins, filter bags, or energy dispersion measures can be utilized. • An isolation/contamination plan should be designed and implemented to isolate any in-water work zones. **Fish & Wildlife Rescue Plan** • Prior to dewatering fish trapped in the construction area should be collected, enumerated, and moved upstream of the construction area.	• Death of fish or HADD of fish habitat will be minimized through the implementation of mitigation measures, no significant adverse residual effects are anticipated. • Crossing techniques will be confirmed in consultation with appropriate regulatory bodies to avoid effects to fish and fish habitat.

		• Methods used should ensure safe capture, handling, and release to prevent harm or mortalities. All intakes of pumping hoses should be equipped with a fish protection screen as per DFO specifications. • Fish rescue plans should be designed for each watercourse crossing and executed by qualified professionals with a Licence to Collect Fish issued by the NDMNRF. • If during the course of the fish and wildlife rescue SAR are found to be present within the site all work local work will be stopped until a management plan has been determined with consultation, if available, from MECP & DFO. The most likely form of action will be an immediate relocation outside of the impact zone paired with additional monitoring to ensure no immediate negative effects. **Riparian Vegetation Removal** • Maintain vegetative buffers around water bodies and clearly delineate work area using erosion fencing, or other barriers, to avoid effecting hydrological functions associated with permanent open water. • Minimize riparian vegetation removals. If removal is unavoidable use proper clearing techniques and protect retained vegetation. • Prohibit or limit access to banks or areas adjacent to waterbodies, to the extent required to protect the structural integrity of banks or shorelines • Implement vegetation rehabilitation plan following construction/disturbance to re-plant riparian vegetation to pre-construction or better condition as required **Erosion and Sedimentation Control** • Utilize industry standard ESC measures including but not limited to erosion control fencing, fabrics, straw, straw bales, settling ponds, in-water silt curtains or other isolation techniques. • Where significant erosion and sedimentation risk occurs develop a site-specific ESC plan and monitor the installation and maintenance to ensure continued compliance. • Stabilize or use appropriate Sediment and Erosion control measures for any waste materials requiring storage/stockpiling a minimum of 30 m from any watercourse unless silt fence is installed to prevent soil movement/sedimentation into the watercourse. This could include covering spoil piles with biodegradable mats or tarps or planting them with grass or shrubs. Stabilization measures will depend on the level of risk at the time the material is stockpiled (e.g., risk of substantial rainfall, local topography). • Vegetate any disturbed areas by planting and seeding preferably with native trees, shrubs or grasses and cover such areas with erosion control matting to prevent soil erosion and to help seeds germinate. • Implement the mitigation measures outlined below for different types of watercourse crossings. For detailed information on mitigation measures, contingency plans and construction sequences of different types of watercourse crossings, refer to the Generic Sediment Control Plans provided in **Appendix I**. **Permitting** • Work within ERCA and LTRCA's regulated boundary, which the extent of the proposed route is, may require a permit under O. Reg.152/06. • Work within fish habitat, which many of the watercourses are, is regulated by the Fisheries Act. It prohibits activities that result in the death of fish or the harmful alteration, disruption, or destruction (HADD) of fish habitat unless authorized by the DFO. • The Species at Risk Act (SARA) prohibits the killing, harming, harassing, capturing, or taking of a species or damaging or destroying the residence of a species that is listed as endangered or threatened. For federally regulated aquatic species these activities may be permitted through a Species at Risk Act (SARA) Permit which is administered by DFO. • If in-water works (i.e., open cut, dam and pump) are expected, a consultation with DFO will be required. • Adhere to all permits and approvals of federal and/or provincial agencies related to watercourse crossings. • Notify the appropriate federal or provincial agencies related to watercourse crossings prior to commencement of a watercourse crossing in accordance with regulatory permit conditions.	

		Should on-site conditions require a change in approach to a watercourse crossing, appropriate federal or provincial agencies must be notified.	
Designated Natural Areas and Vegetation	• Removal of and/or damage to vegetation; and • Loss and/or degradation of ecological communities including designated natural areas	• Minimize vegetation removal to the extent possible and limit to within the construction footprint. Designated natural areas (including significant wetlands and significant woodlands) will be avoided, wherever possible. • Obtain appropriate government approvals to construct pipeline facilities adjacent to designated natural areas (e.g., significant woodlands). Any permitting that may be required to be determined in consultation with the MECP, NDMNRF, LTVCA and ERCA. • Prune any tree limbs or roots that are accidentally damaged by construction activities within 48 hours of damage using appropriate arboricultural techniques. • Clearly delineate the construction area to avoid accidental damage to species to be retained. Delineation will be in the form of construction fencing and/or barriers with the latter implemented if sediment and erosion control is also acquired. • Inspection staff may also consider substituting other demarcating types for fencing, such as staking and flagging, where it is determined that there is no apparent risk to nearby natural features. • Re-vegetate cleared areas as soon as reasonably possible. Native seed mixes should be used to revegetate natural areas. If there is insufficient time in the growing season to effectively re-vegetate the disturbed areas, overwintering treatments such as erosion control blankets or fibre matting should be installed to contain the site over the winter months. • Prior to removal, landowners should be consulted on any vegetation removed from their property. Any merchantable wood must be offered to the landowner or, where possible, used in pipeline construction or associated works. • Any slash generated as part of clearing and grubbing the pipeline easement must be chipped or disposed to the satisfaction of the landowner. • Trees directly above or adjacent to the pipeline or pipeline infrastructure will be removed and not replaced to facilitate future maintenance. Trees on private land(s) will be negotiated with the landowner and trees removed in temporary construction areas will be replaced, in accordance with the Enbridge Tree Replacement Program. • Minimize spread of invasive plant species by ensuring equipment and machinery is clean prior to arriving on-site. • Regularly clean vehicles and equipment. • Apply dust suppressants to unpaved areas when necessary, as determined by inspection staff. Application frequency and method will vary, but should be determined by site-specific weather conditions, including recent precipitation, temperatures, and wind speeds. Input from the construction team may warrant an increased frequency of dust suppression. • Dust control plans should be developed in consultation with the local municipality. • Implement a speed limit for construction equipment and trucks on construction roads/routes. • Install wind fences, where determined to be necessary by the on-site inspection staff. Installation of these fences will depend on site-specific conditions, including wind speeds, topography, land cover and the extent of surrounding natural wind breaks. • Store any stockpiled material > 30 m from a wetland or waterbody unless silt fence is installed to prevent soil movement/sedimentation into the wetland or waterbody.	• Vegetation loss, adjacent to the construction area will be minimized through the application of mitigation measures. • Vegetation loss is likely to occur but will not result in significant adverse effects. • Where possible, degradation of ecological communities, adjacent to the construction area will be minimized through the implementation of mitigation measures. • Degradation of ecological communities will largely be avoided by siting the project adjacent to the public road RoW, or existing infrastructure, however, where adjacent ecological communities are affected, no significant adverse effects are expected.
Wildlife Habitat, Wildlife	• Loss and/or degradation of wildlife habitat including significant wildlife habitat during construction • Changes in habitat, mortality risk or behaviour during construction	• Construction activities will be located primarily on agricultural land or adjacent to road RoW to minimize effects to wildlife habitat and SWH. Minimize vegetation removal to the extent possible and limit to within the construction footprint. Avoid potential significant wildlife habitat wherever possible. • Clearly delineate the construction footprint to avoid accidental damage to retained vegetation. Delineation will be in the form of construction fencing and/or silt fence barriers with the latter implemented if erosion and sediment control is also required. • Inspection staff may also consider substituting other demarcating types for fencing, such as staking and flagging, where it is determined that there is no apparent risk to nearby vegetation communities. • Install and maintain sediment and erosion controls such as silt fence barriers, rock flow check dams, compost filter socks or approved alternative along the edge of the construction footprint area if within 30 m of a wetland or waterbody where appropriate to delineate work area and avoid effecting water quality.	• Loss or degradation of local wildlife habitat will be minimized through the application of mitigation measures • Disturbance and/or mortality to local wildlife will be minimized through the implementation of mitigation measures.

		• Ensure machinery is maintained free of fluid leaks. Vehicle maintenance, washing and refuelling to be done in specified areas at least 50 m away from wetlands and/or waterbodies. Avoid the use of herbicides, to the extent possible, within significant during the construction. • Conduct field investigations in advance of construction to identify wildlife habitats and determine significance and necessary mitigation measures to avoid or reduce any anticipated effects to wildlife or their habitats. • Conduct tree clearing outside of the bat roosting window April 1 to October 1. • Conduct vegetation clearing outside of the breeding bird nesting period (April 1st to August 31st) to avoid incidental take and limit disturbance to birds (including SOCC) or their nests, unless nest and nesting activity surveys have been completed by a qualified avian biologist and no active nests are present. If vegetation removal or trimming must occur during the breeding bird nesting period (April 1st – August 31st), nest and nesting activity searches will be conducted by a qualified avian biologist no more than 24 hours in advance. If an active nest or nesting activity of a protected bird is observed, the area will be protected and no construction activities will occur until the young have fledged or until the nest is no longer active, as confirmed by a qualified biologist. • Schedule construction activities within 30 m of woodlands to occur during daylight hours to avoid excessive noise and/or light disturbances to wildlife, wherever possible. • If construction activities within 30 m of woodlands must occur outside of daylight hours, spotlights will be directed downward and/or away from the woodland to limit potential light disturbance to breeding birds. • Obey site speed limits identified in plans for traffic management. • Construction equipment and vehicles must yield the RoW to wildlife. • Trench operations should be backfilled as soon as reasonable to facilitate wildlife movement across the ROW. • Workers must never threaten, harass, or injure wildlife. • Stockpile areas placed prior to June 30 (turtle egg laying period; Ontario Nature, 2016) in proximity to suitable turtle habitat will be assessed by the environmental inspector to determine if they are suitable turtle nesting habitat, and exclusionary fencing will be installed where necessary. Stockpile that are placed after June 30 do not require assessment or installation of exclusionary fencing as this is after the typical period for turtle/snake egg laying. Exclusionary fencing may be installed along watercourses and the work areas to avoid fencing individual stockpiles. • No watercourse crossing construction will occur during the turtle and snake overwintering period of October 30 to April 1. • Prior to dewatering herptile species trapped in the construction area should be collected, enumerated, and moved upstream of the construction area. • Methods used should ensure safe capture, handling, and release to prevent harm or mortalities. • If during the course of the fish and wildlife rescue SAR are found to be present within the site all work local work will be stopped until a management plan has been determined with consultation, if available, from MECP & DFO. The most likely form of action will be an immediate relocation outside of the impact zone paired with additional monitoring to ensure no immediate negative effects. • Elevated noise levels and vibration generated by construction within or adjacent to bird SAR habitats during the breeding bird season of April 1 and August 31 may also cause birds to abandon their nests.	
	• Unlikely but possible mortality, harm, and/or disturbance/displacement of wildlife during operations	• Maintenance vehicles must yield the RoW to wildlife. • Workers will report any wildlife incidents to Enbridge environmental department for record keeping and regulatory reporting where required • Workers must never threaten, harass, or injure wildlife. • Conduct vegetation maintenance outside of the breeding bird nesting period (April 1st to August 31st) to avoid incidental take and limit disturbance to birds (including SOCC) or their nests, unless nest and nesting activity surveys have been completed by a qualified avian biologist and no active nests are present. If vegetation removal or trimming must occur during the breeding bird nesting period (April 1st – August 31st), nest and nesting activity searches will be conducted by a qualified avian biologist no more than 24 hours in advance. If an active nest or nesting activity of a protected bird is observed, the area will be protected and no construction	• Disturbance and/or mortality to local wildlife will be minimized through the implementation of mitigation measures.

		activities will occur until the young have fledged or until the nest is no longer active, as confirmed by a qualified biologist.	
Species at Risk	• Loss and/or degradation of SAR habitat during construction • Changes in habitat, mortality risk or behaviour of SAR during construction	• Measures to protect terrestrial SAR and SAR habitat are similar to those required for the protection of non-SAR wildlife. Therefore, the mitigation measures presented above for wildlife are acceptable to all SAR and SAR habitat present within the PSAs. However, site-specific and species-specific mitigation may be necessary should any SAR dependent on specialized and/or sensitive habitat features be identified within the PSAs during future surveys. This will be confirmed through future surveys and in consultation with appropriate regulatory agencies. • Potential for bird SAR and their habitat to occur within the PSAs was identified during the background information review. Site investigations will be conducted in spring/summer 2022 to confirm habitat suitability for SAR birds. Mitigation and avoidance measures will be developed and implemented to avoid effects to the SAR. If necessary, a permit or other authorization from the MECP will be obtained to ensure adherence to the ESA. • Potential for reptile SAR and their habitat to occur within the PSAs was identified during the background information review. A reptile SAR habitat assessment will be conducted in spring 2022 to determine if suitable habitat is present. If suitable habitat is present mitigation and avoidance measures will be developed and implemented to avoid effects to the SAR. If necessary, a permit or other authorization from the MECP will be obtained to ensure compliance with ESA. • Potential for bat SAR and their habitat to occur within the PSAs was identified during the background information review. A site visit will be conducted in spring 2022 to determined habitat suitability for SAR bats, including a leaf off snag survey. If the habitat is deemed suitable for SAR bats within the area of proposed works, acoustic monitoring will be conducted to determine presence/absence of SAR bats and mitigation measures will be developed and implemented to avoid effects to the SAR. If necessary, a permit or other authorization from the MECP will be obtained to avoid contravention of the ESA.	• Disturbance and/or mortality of SAR will be minimized through the application of mitigation measures. No significant adverse effects are anticipated.
	• Unlikely but possible mortality, harm, and/or disturbance/displacement of wildlife during operations	• Mitigation measures identified under “wildlife and wildlife habitat” will be applicable to SAR. • Enbridge Gas will follow conditions of any approvals, or mitigation advice provided by MECP.	• Disturbance to SAR and SAR habitat will be minimized through the application of mitigation measures. No significant adverse effects are anticipated.
Socio-Economic Environment			
Indigenous Interests	• Effects to traditional Indigenous territories, communities, and practices • Disturbance to Indigenous artifacts	• Further Stage 2 archaeological assessment is required for areas not previously assessed. Indigenous communities will be invited to participate in the monitoring of Stage 2 Archaeological Assessment. • Enbridge Gas has sought input from the identified Indigenous communities and will continue engaging with Indigenous communities as the project moves forward. Enbridge Gas will also continue to work with their respective Economic Development departments and Enbridge Gas’ contractors to find opportunities for their participation in providing goods and services during construction. Information on the current state of Indigenous engagement will be provided in the application to the OEB. • Indigenous communities should be consulted with for any permits where a duty to consult applies.	• By undertaking the engagement and archaeological assessments, no significant adverse residual effects on Indigenous interests are anticipated.
Demographics	• No effects to community demographics are anticipated as a result of the proposed project.	• No mitigation measures are required as no potential effects are anticipated.	• No net effects to demographics are anticipated.
Employment	• Negative effects on the local economy and/or employment are not anticipated due to the construction or operation of the project. However, the construction and operation of the project may result in direct and/or indirect income to local businesses during the construction phase. The project will result in increased property tax assessment paid on the new pipeline to local municipalities by	• As no negative effects are anticipated, no mitigation measures are required. Enbridge Gas will make all reasonable efforts to procure goods and services from local suppliers, subject to product availability and pricing.	• No net effects to employment and business are anticipated.

	Enbridge Gas annually which provides new revenues to support local services.		
Community Services and Infrastructure	• Increase in demand for housing/accommodations • Increase in construction traffic volumes • Increase in use of existing local infrastructure, emergency services and other community services	• 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, 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 – Reduce on-road disturbance and land closures – Store equipment as far from the edge of the road as practical – Install construction barricades at road crossings • Traffic disruptions during construction will be reduced by adherence to the Traffic Management Plan. Guidelines will be developed for vehicular use on the RoW and associated access roads to avoid traffic congestion and accidents. Access to existing transportation infrastructure will be addressed through standard mitigation and will be reversible once the construction phase ends. • 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 consultation with residents and businesses adjacent to the Panhandle Loop and Leamington Interconnect will be held in advance of construction commencement to discuss potential specific effects 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.	• Community services and infrastructure appear to have additional capacity to absorb potential increased temporary demands that may result from the project. • Adverse effects on traffic will be minimal because the Panhandle Loop and Leamington Interconnect intersect mainly rural communities where roads currently have low levels of traffic and alternative routes are readily accessible. • Given the available capacity of the local community services and infrastructure, along with the implementation of the mitigation measures, no significant adverse residual effects on community services and infrastructure are anticipated.
Culture, Tourism and Recreational Facilities	• Increase in noise, dust, air emissions • Undesirable aesthetic effects, real or perceived safety concerns and general disturbances (i.e., impairment of the use of property). • Restricted land access	• It is recommended additional consultation with residents and businesses adjacent to the Panhandle Loop and Leamington Interconnect occur in advance of construction commencement. Contact information for a designated Enbridge Gas representative should be available prior to and during construction to address questions and concerns. • While pipeline construction activities and machinery have the potential to temporarily affect street aesthetics, restoration of the construction area will leave little evidence that a pipeline exists. Construction should be conducted as expeditiously as possible, to reduce duration of activities. Vegetative buffers at watercourse and road crossings should be restored where feasible. • Access to businesses and residential properties should be maintained always. If required, signs should be used to direct people to correct access. • Apply dust suppressants to unpaved areas, when necessary, as determined by inspection staff. Application frequency and method will vary, but should be determined by site-specific weather conditions, including recent precipitation, temperatures, and wind speeds. Input from the construction team may warrant an increased frequency of dust suppression. • Enbridge should develop plans for traffic management prior to the commencement of construction activities, if necessary. • The Contractor should implement plans for traffic management for all roads affected by construction activities. The traffic management planning should, at a minimum, follow the Ontario Traffic Manual Book 7 and should additionally include: – Warn oncoming motorists of construction activity.	• With the implementation of the mitigation measures, no significant adverse residual effects on cultural, tourism, and recreational facilities are anticipated.

		– Restrict the movement of personnel and materials to and from the construction site. – Employ a trained traffic control officer to assist with truck movements where possible. – Control traffic at road crossings. – Reduce lane disturbances and closures. – Store equipment as far away from the roadway as possible. – Utilize and install construction barricades at road crossings. • Return all road RoWs to their original condition or better following construction. • The period of time that a road is closed (except for local access) should be reduced to the shortest extent possible. Enbridge Gas should meet with representatives of the effected municipality(ies) and local school board(s) to discuss potential road crossing procedures and address the following issues: – Deterioration of roadways due to increased traffic; – Crossing procedures including resurfacing or grading of roadways, and traffic safety; – Road restrictions and haul routes; and – Road surface and municipal drain restoration. • Any municipal approvals required for land restrictions and haul routes.	
Air Quality and Noise	• Increase in noise, dust, air emissions.	• The idling of vehicles should be avoided, and vehicles and/or equipment should be turned off when not in use. • Construction activities that result in noise should be restricted to daylight hours and will adhere to any applicable local noise by-laws. In the event that construction activities that may cause excessive noise must occur outside of these time frames, application(s) for Noise By-law exemption will be submitted for approval. • During construction, practices to reduce and limit air emissions should include, but not be limited to: – Maintaining equipment in compliance with regulatory requirements. – Protecting stockpiles of friable material with barriers and/or widescreens during dry conditions and covering friable material during transportation. • Dust suppression of source areas.	• With the implementation of the mitigation measures, no significant adverse residual effects from air quality and noise are anticipated.
Land Use	• Natural gas pipelines and their associated facilities/structures are permitted land uses, and therefore no effects are anticipated.	• No mitigation measures are required as no potential effects are anticipated.	• No net effects to land use designations are anticipated.
Landfills and Contaminated Sites	• Contamination of soil, surface and/or groundwater resources due to improper waste disposal; and • Contaminated soils discovered during trench excavation.	• Site-specific Soil Management Plans for waste collection and disposal management should be developed by the contractor prior to the execution of the project and should include provisions for: – The transportation of waste and recycling off-site by private waste contractors licensed by the MECP; – The removal of excess materials from the site; and – The reuse and recycling of materials. • Should excess soil be generated on-site during construction activities that will require off-site management, or if contaminated soils are suspected (e.g., odour, film, sheen, staining, previous known contamination issues in the vicinity), representative soil samples should be collected and submitted for chemical analysis to determine management options and appropriate handling and health and safety guidelines.	• With the implementation of the mitigation, no significant adverse residual effects from Landfills and Contaminated Sites are anticipated.
Archaeological Resources	• Disturbances to previously undocumented archaeological resources.	• Based on the findings of the Stage 1 AA, Stage 2 AA is required. • The results of the Stage 2 AA will provide recommendations for further assessment, protection, and mitigation of archaeological resources. Where feasible for the project, archaeological sites should be mitigated by avoidance and protection/preservation measures. Or where avoidance and protection/preservation measures are not feasible, archaeological resources may be mitigated by excavation. • Consultation with local Indigenous Nations should be conducted for Stage 2, 3 and 4 archaeological investigations/mitigation. Mitigation options should be discussed with interested Indigenous Nations	• With the implementation of the AA and mitigation measures prior to ground disturbance as part of the project, no adverse effects on archaeological resources are anticipated.

Cultural Heritage Resources	• Effects to cultural heritage resources	• Where temporary landscape disturbance may occur due to the installation of the pipelines, ensure that any landscape disturbance is restored to pre-construction conditions in the effected lands outside the existing road allowances (i.e., restore to an active agricultural field). • Should the limits of the PSAs documented in the CHAR change, then further mitigation will be required. Mitigation measures may include, but are not limited to, completing a cultural heritage evaluation report, or employing suitable measures such as landscaping, buffering or other forms of mitigation, where appropriate. • The CHAR will be submitted to MHSTCI for review and comment. • No further cultural heritage work required for this proposed undertaking.	• With the implementation of the mitigation measures, no adverse effects on cultural heritage resources are anticipated.

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Appendix H

Mitigation Photomosaics

PIPELINE PLAN
SCALE 1:2000

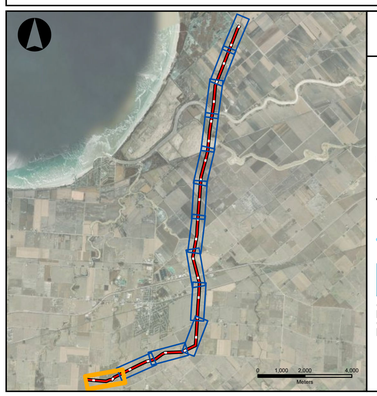


Agricultural Tile Drainage Area (4.2.6.1) (Figure 16)

Agricultural Tile Drainage Area (4.2.6.1) (Figure 16)

PSC01 - Thibert Drain (4.3.1) (Figure 20)

PSC02 - Tilbury Creek (4.3.1) (Figure 20)



LEGEND

- Station
- Infrastructure Crossing
- Panhandle Loop
- Road
- Watercourse
- Drainage Area
- Concession Lot

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Panhandle Regional Expansion Project

Panhandle Loop Mitigation Photomosaic

0 15 30 60 90 120
Meters

DATUM: NAD 1983 UTM Zone 17N

DATE: April, 2022
P#: 60665521

Data Sources:
MNRF, Enbridge, ESRI
Key Map:
ESRI, Google, Others

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FIGURE 1 OF 13

Map location: \\na.aecomnet.com\lfs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Data\08_Incoming\20220422_FromGDS\PanhandleLoop_MitigationPhotomosaic.mxd
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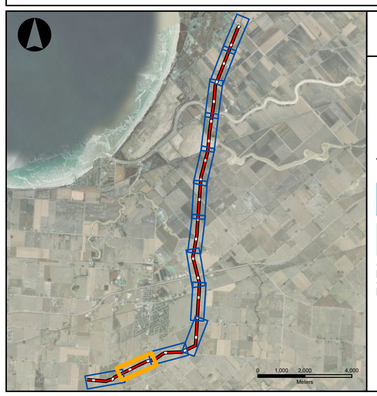
PIPELINE PLAN
SCALE 1:2000



Agricultural Tile Drainage Area (4.2.6.1) (Figure 16)

Road Crossing - Wheatley Road (4.4.4)



LEGEND

- X Infrastructure Crossing
- Panhandle Loop
- Road
- Drainage Area
- Wooded Area
- Concession Lot

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Panhandle Regional Expansion Project

Panhandle Loop Mitigation Photomosaic

0 15 30 60 90 120
Meters

DATUM: NAD 1983 UTM Zone 17N

DATE: April, 2022
P#: 60665521

Data Sources:
MNRF, Enbridge, ESRI
Key Map:
ESRI, Google, Others

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FIGURE 2 OF 13

Map location: \\na.aecomnet.com\fs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_PanhandleData\08_Incoming\20220422_FromGDS\PanhandleLoop_MitigationPhotomosaic.mxd
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SCALE 1:2000



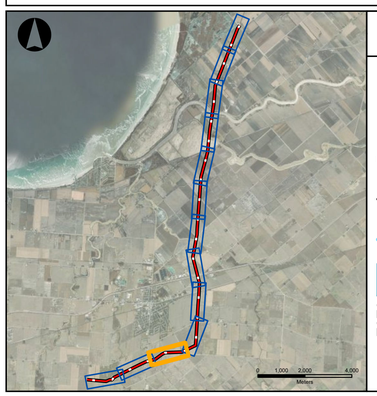
Agricultural Tile Drainage Area (4.2.6.1) (Figure 16)

Road Crossing - King & Whittle Road (4.4.4)

PSC03 - Unnamed Irrigation Pond 1 (4.3.1) (Figure 20)

PSC04 - Unnamed Tributary to King and Whittle Drain - 001 (4.3.1) (Figure 20)

CHL 1 - Cultural Heritage Landscape - Malott Cemetery (4.4.10) (Figure 26)



LEGEND

- Cultural Heritage Resource
- Infrastructure Crossing
- Panhandle Loop
- Road
- Watercourse
- Drainage Area
- Concession Lot

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Panhandle Regional Expansion Project

Panhandle Loop Mitigation Photomosaic

0 15 30 60 90 120
Meters

DATUM: NAD 1983 UTM Zone 17N

DATE: April, 2022
P#: 60665521

Data Sources:
MNRF, Enbridge, ESRI
Key Map:
ESRI, Google, Others

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FIGURE 3 OF 13

Map location: \\na.aecomnet.com\fs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_PanhandleData\08_Incoming\20220422_FromGDS\PanhandleLoop_MitigationPhotomosaic.mxd
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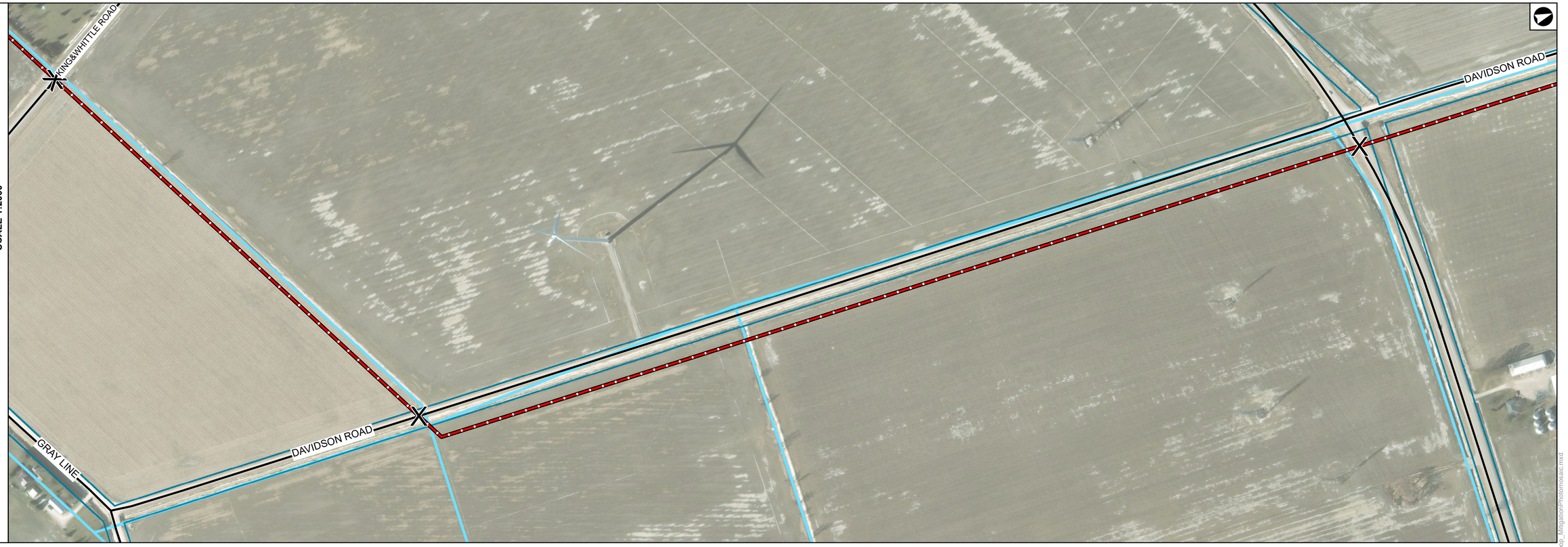
PIPELINE PLAN
SCALE 1:2000



Agricultural Tile Drainage Area (4.2.6.1) (Figure 16)

Road Crossing - Davidson Road (4.4.4)

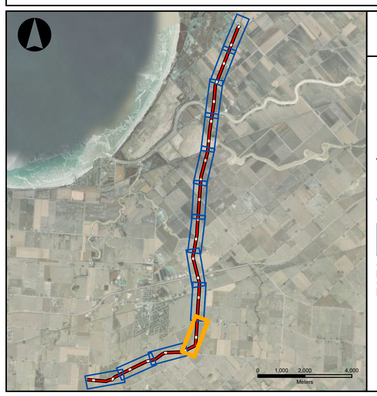
Road Crossing - Middle Line (4.4.4)

PSC07 - Gagnier Drain (4.3.1) (Figure 20)

PSC05 - King and Whittle Drain (4.3.1) (Figure 20)

PSC06 - Unnamed Tributary to King and Whittle Drain - 002 (4.3.1) (Figure 20)

PSC08 - Powell Drain (4.3.1) (Figure 20)



LEGEND

- X Infrastructure Crossing
- Panhandle Loop
- Road
- Watercourse
- Drainage Area
- Concession Lot

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Panhandle Regional Expansion Project

Panhandle Loop Mitigation Photomosaic

0 15 30 60 90 120
Meters

DATUM: NAD 1983 UTM Zone 17N

DATE: April, 2022
P#: 60665521

Data Sources:
MNRF, Enbridge, ESRI
Key Map:
ESRI, Google, Others

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FIGURE 4 OF 13

Map location: \\na.aecomnet.com\lfs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_PanhandleData\08_Incoming\20220422_FromGDS\PanhandleLoop_MitigationPhotomosaic.mxd
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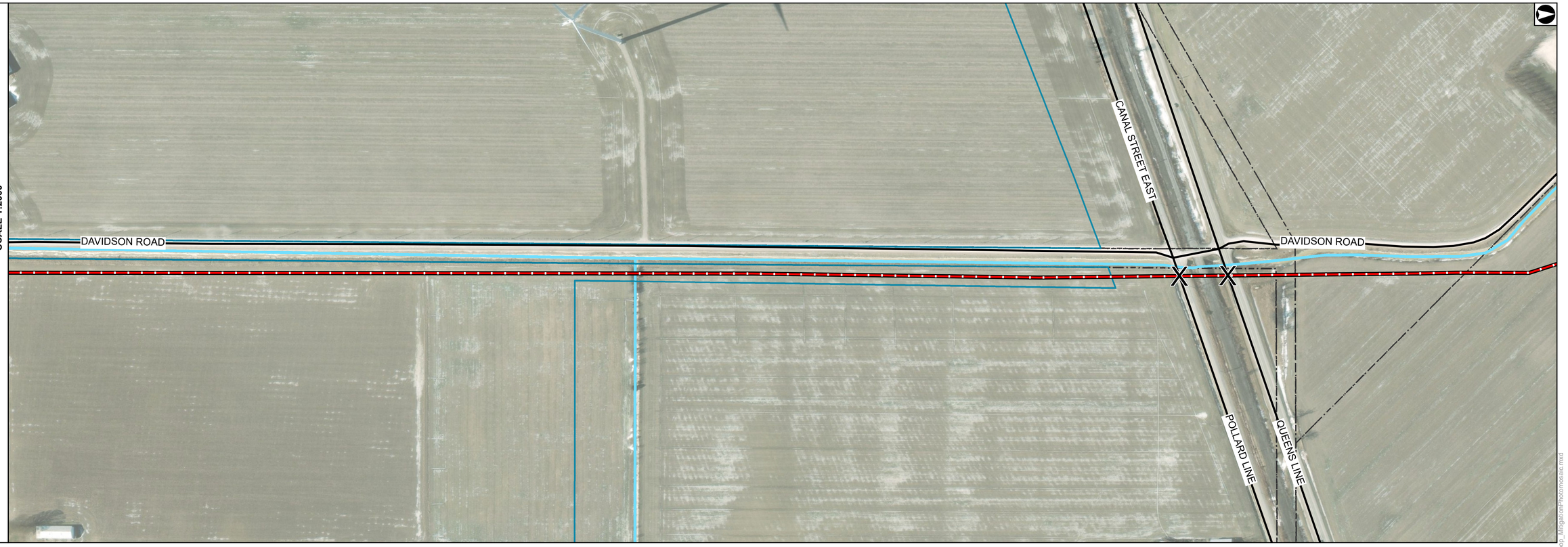
SCALE 1:2000



Agricultural Tile Drainage Area (4.2.6.1) (Figure 16)

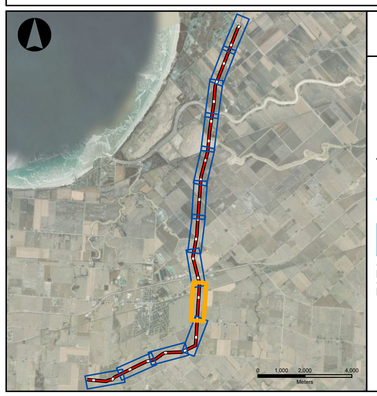
Agricultural Tile Drainage Area (4.2.6.1) (Figure 16)

Road Crossing - Canal Street E. and Pollard Line (4.4.4)

Road Crossing - Queens Line (4.4.4)

PSC09 - Ivison Drain (4.3.1) (Figure 20)

PSC10 - Anesser Drain (4.3.1) (Figure 20)



LEGEND

- X Infrastructure Crossing
- Panhandle Loop
- Road
- Watercourse
- Drainage Area
- Concession Lot

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Panhandle Regional Expansion Project

Panhandle Loop Mitigation Photomosaic

0 15 30 60 90 120
Meters

DATUM: NAD 1983 UTM Zone 17N

DATE: April, 2022
P#: 60665521

Data Sources:
MNRF, Enbridge, ESRI
Key Map:
ESRI, Google, Others

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FIGURE 5 OF 13

Map location: \\na.aecomnet.com\lfs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_PanhandleData\08_Incoming\20220422_FromGDS\PanhandleLoop_MitigationPhotomosaic.mxd
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Agricultural Tile Drainage Area (4.2.6.1) (Figure 16)

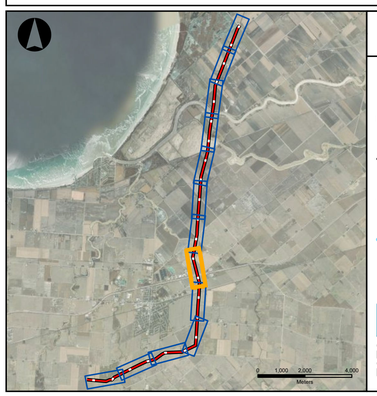
Road Crossing - HWY 401 (Macdonald-Cartier Fwy) (4.4.4)

Road Crossing - Coutts Line (4.4.4)

Railway Crossing (4.4.4)

PSC11 - Baptiste Creek (4.3.1) (Figure 20)

ERCA Maximum Observed Flooding (4.3.1) (Figure 19)



LEGEND

- X Infrastructure Crossing
- Panhandle Loop
- Road
- Railway
- Watercourse
- Waterbody
- Drainage Area
- Concession Lot

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Panhandle Regional Expansion Project

Panhandle Loop Mitigation Photomosaic

0 15 30 60 90 120
Meters

DATUM: NAD 1983 UTM Zone 17N

DATE: April, 2022
P#: 60665521

Data Sources:
MNRF, Enbridge, ESRI
Key Map:
ESRI, Google, Others

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FIGURE 6 OF 13

Map location: \\na.aecomnet.com\fs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_PanhandleData\08_Incoming\20220422_FromGDS\PanhandleLoop_MitigationPhotomosaic.mxd
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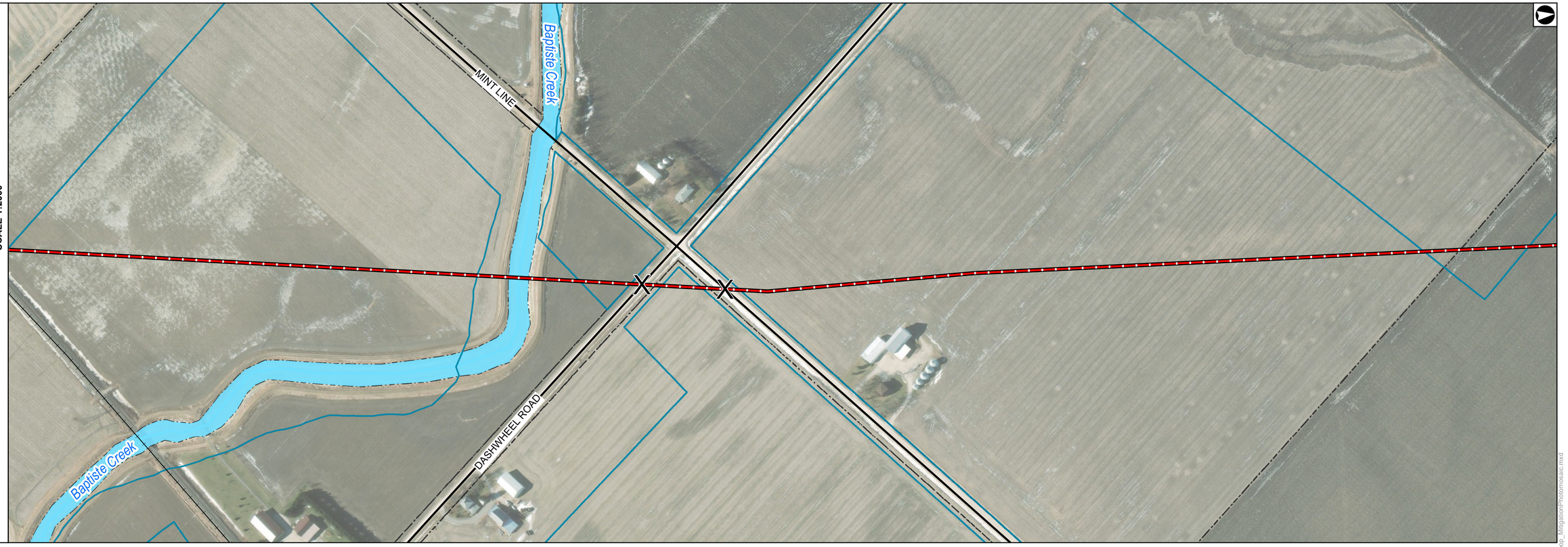


Agricultural Tile Drainage Area (4.2.6.1) (Figure 16)

Agricultural Tile Drainage Area (4.2.6.1) (Figure 16)

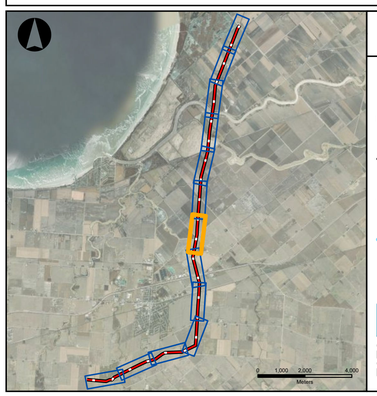
Road Crossing - Dashwheel Road (4.4.4)

Road Crossing - Mint Line (4.4.4)

PSC11 - Baptiste Creek (4.3.1) (Figure 20)

ERCA Maximum Observed Flooding (4.3.1) (Figure 19)

BHR 1 - Built Heritage Resource - 23696 Dashwheel Road, a farmhouse (4.4.10) (Figure 26)



LEGEND

- X Infrastructure Crossing
- Panhandle Loop
- Road
- Railway
- Watercourse
- Waterbody
- Drainage Area
- Concession Lot

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Panhandle Regional Expansion Project

Panhandle Loop Mitigation Photomosaic

0 15 30 60 90 120
Meters

DATUM: NAD 1983 UTM Zone 17N

DATE: April, 2022
P#: 60665521

Data Sources:
MNRF, Enbridge, ESRI
Key Map:
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FIGURE 7 OF 13

Map location: \\na.aecomnet.com\fs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_PanhandleData\08_Incoming\20220422_FromGDS\PanhandleLoop_MitigationPhotomosaic.mxd
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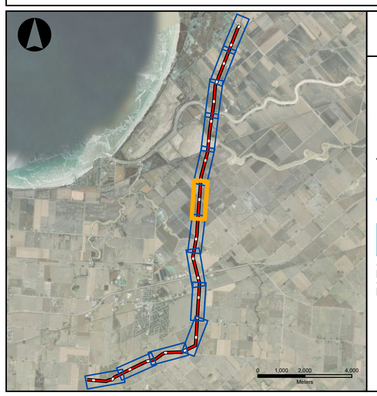
Agricultural Tile Drainage Area (4.2.6.1) (Figure 16)
Road Crossing - Jeannettes Creek Road (4.4.4)
Road Crossing - Forbes Line (4.4.4)
PSC12 - Olds Drain (4.3.1) (Figure 20)
ERCA Maximum Observed Flooding (4.3.1) (Figure 19)



LEGEND

- X Infrastructure Crossing
- Panhandle Loop
- Road
- Watercourse
- Drainage Area
- Concession Lot

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Panhandle Regional Expansion Project

Panhandle Loop Mitigation Photomosaic

0 15 30 60 90 120
Meters

DATUM: NAD 1983 UTM Zone 17N

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Data Sources:
MNRF, Enbridge, ESRI
Key Map:
ESRI, Google, Others

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FIGURE 8 OF 13

Map location: \\na.aecomnet.com\lfs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_PanhandleData\08_Incoming\20220422_FromGDS\PanhandleLoop_MitigationPhotomosaic.mxd
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PIPELINE PLAN
SCALE 1:2000



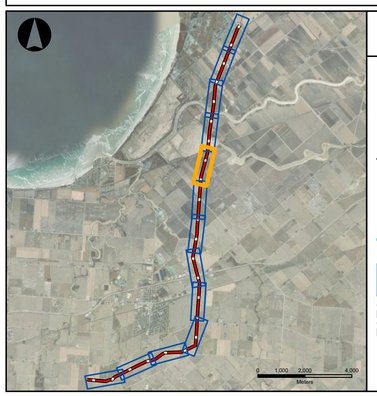
Agricultural Tile Drainage Area (4.2.6.1) (Figure 16)

Railway Crossing (4.4.4)

Road Crossing - Techumseh Line (4.4.4)

PSC13 - Unnamed Tributary to Jennettes Creek 001 (4.3.1) (Figure 20)

ERCA Maximum Observed Flooding (4.3.1) (Figure 19)



LEGEND

- X Infrastructure Crossing
- Panhandle Loop
- Road
- Railway
- Watercourse
- Drainage Area
- Concession Lot

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Panhandle Regional Expansion Project

Panhandle Loop Mitigation Photomosaic

0 15 30 60 90 120
Meters

DATUM: NAD 1983 UTM Zone 17N

DATE: April, 2022
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Data Sources:
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Key Map:
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FIGURE 9 OF 13

Map location: \\na.aecomnet.com\lfs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_PanhandleData\08_Incoming\20220422_FromGDS\PanhandleLoop_MitigationPhotomosaic.mxd
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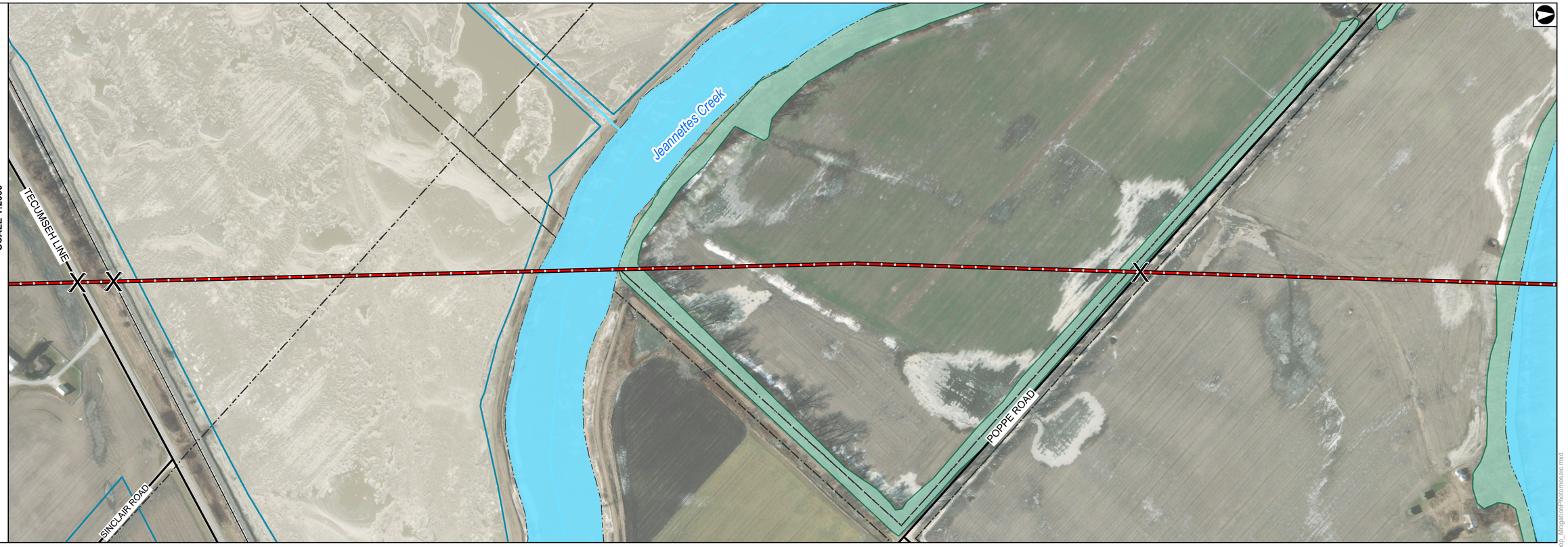


Agricultural Tile Drainage Area (4.2.6.1) (Figure 16)

Road Crossing - Poppe Road (4.4.4)

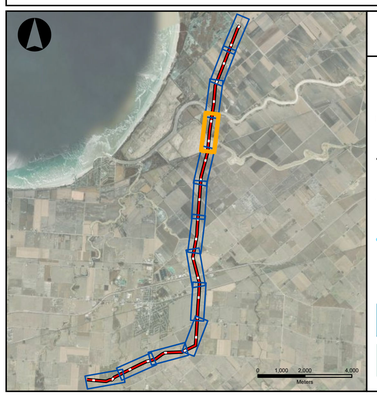
PSC16 - Unnamed Tributary to Thames River (4.3.1) (Figure 20)

PSC14 - Jannettes Creek (4.3.1) (Figure 20)

PSC15 - Unnamed Tributary to Jeannettes Creek (4.3.1) (Figure 20)

PSC17 - Unnamed Tributary to Thames River (4.3.1) (Figure 20)

ERCA Maximum Observed Flooding (4.3.1) (Figure 19)



LEGEND

- X Infrastructure Crossing
- Panhandle Loop
- Road
- Railway
- Watercourse
- Waterbody
- Drainage Area
- Wooded Area
- Concession Lot

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Panhandle Regional Expansion Project

Panhandle Loop Mitigation Photomosaic

0 15 30 60 90 120
Meters

DATUM: NAD 1983 UTM Zone 17N

DATE: April, 2022
P#: 60665521

Data Sources: MNRF, Enbridge, ESRI
Key Map: ESRI, Google, Others

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FIGURE 10 OF 13

Map location: \\na.aecomnet.com\lfs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_PanhandleData\08_Incoming\20220422_FromGDS\PanhandleLoop_MitigationPhotomosaic.mxd
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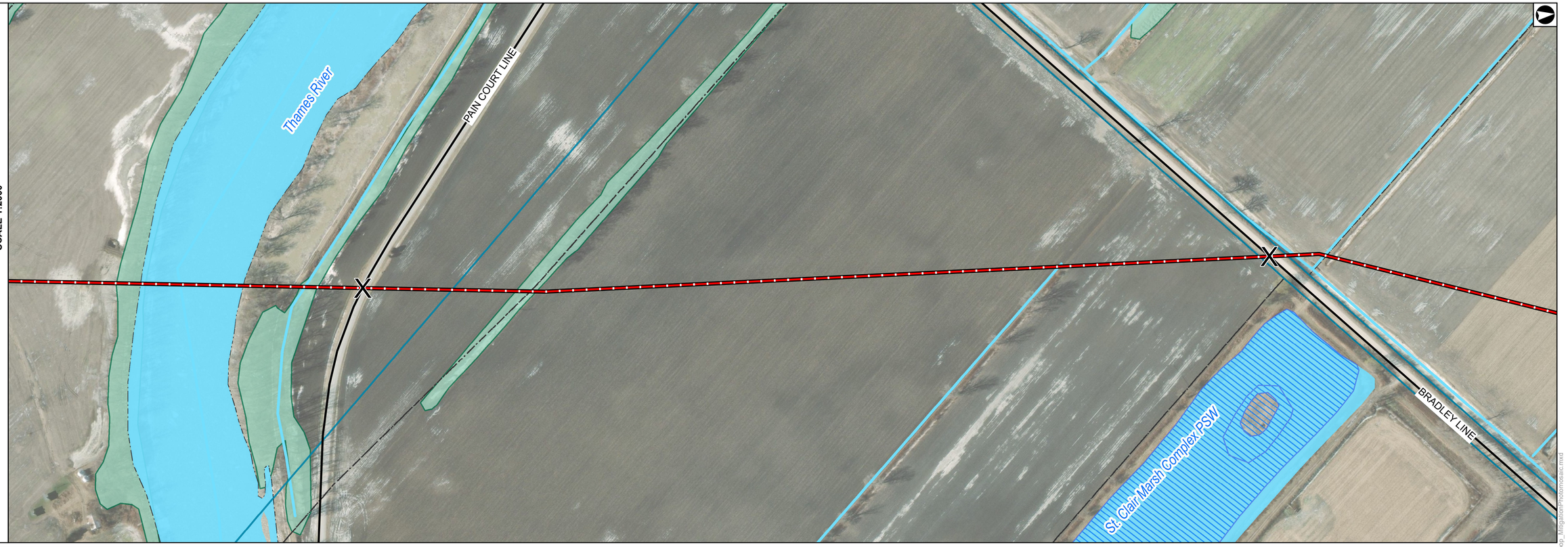
SCALE 1:2000



Agricultural Tile Drainage Area (4.2.6.1) (Figure 16)

Road Crossing - Pain Court Road (4.4.4)

Road Crossing - Bradley Line (4.4.4)

PSC18 - Unnamed Tributary to Thames River and PSC19 - Thames River (4.3.1) (Figure 20)

PSC20 - Unnamed Tributary to Thames River (4.3.1) (Figure 20)

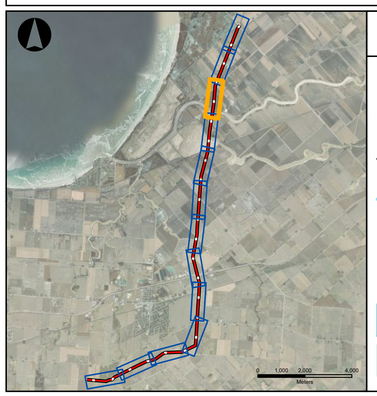
PSC21 - Myers Pump Works Drainage (4.3.1) (Figure 20)

St. Clair Marsh Complex PSW (4.3.2.1) (Figure 22)

PSC22 - Unnamed Tributary to Myers Pump Works Drain - 001 (4.3.1) (Figure 20)

ERCA Maximum Observed Flooding (4.3.1) (Figure 19)

CHL 2 - Cultural Heritage Landscape -Thames River, Canadian Heritage River (4.4.10) (Figure 26)



LEGEND

- X Infrastructure Crossing
- Panhandle Loop
- Road
- Watercourse
- Waterbody
- Wetland
- Drainage Area
- Wooded Area
- Concession Lot

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Panhandle Regional Expansion Project

Panhandle Loop Mitigation Photomosaic

0 15 30 60 90 120
Meters

DATUM: NAD 1983 UTM Zone 17N

DATE: April, 2022
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Key Map:
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FIGURE 11 OF 13

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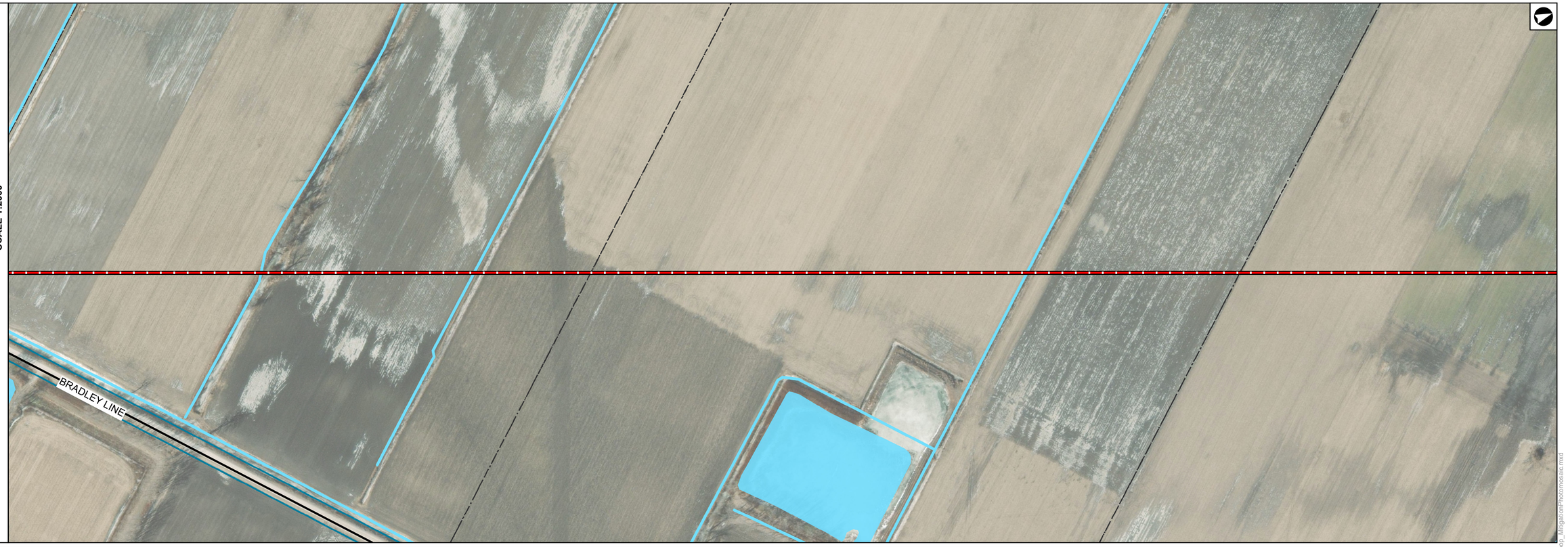
SCALE 1:2000



Agricultural Tile Drainage Area (4.2.6.1) (Figure 16)

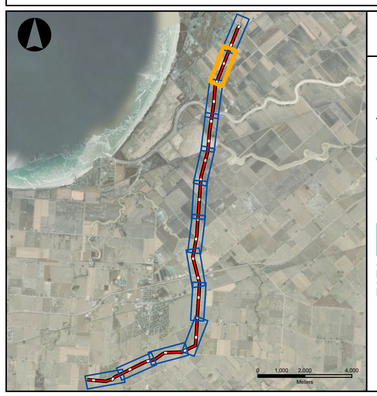
PSC23 - Unnamed Tributary to Myers Pump Works Drain - 002 (4.3.1) (Figure 20)

PSC24 - Unnamed Tributary to Myers Pump Works Drain - 003 (4.3.1) (Figure 20)

PSC25 - Unnamed Tributary to Myers Pump Works Drain - 004 (4.3.1) (Figure 20)

ERCA Maximum Observed Flooding (4.3.1) (Figure 19)

Petroleum Pool (5.3.1.3) (Figure 13)



LEGEND

- Panhandle Loop
- Road
- Watercourse
- Waterbody
- Drainage Area
- Concession Lot

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Panhandle Regional Expansion Project

Panhandle Loop Mitigation Photomosaic

0 15 30 60 90 120
Meters

DATUM: NAD 1983 UTM Zone 17N

DATE: April, 2022
P#: 60665521

Data Sources:
MNRF, Enbridge, ESRI
Key Map:
ESRI, Google, Others

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FIGURE 12 OF 13

Map location: \\na.aecomnet.com\lfs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_PanhandleData\08_Incoming\20220422_FromGDS\PanhandleLoop_MitigationPhotomosaic.mxd
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PIPELINE PLAN
SCALE 1:2000



Agricultural Tile Drainage Area (4.2.6.1) (Figure 16)

Road Crossing - Townline Road (4.4.4)

PSC26 - Unnamed Tributary to Myers Pump Works Drain - 005 (4.3.1) (Figure 20)

PSC28 - Jacks Creek Drain and PSC 29 McFarlane Relief Drain (4.3.1) (Figure 20)

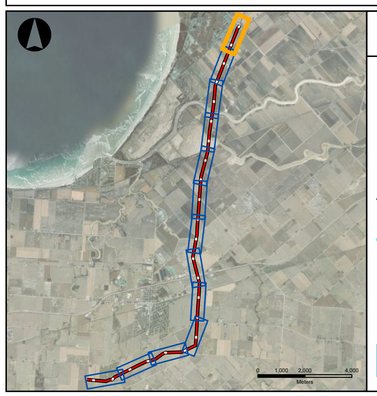
PSC27 - Unnamed Tributary to Myers Pump Works Drain - 006 (4.3.1) (Figure 20)

ERCA Maximum Observed Flooding (4.3.1) (Figure 19)

St. Clair Marsh Complex PSW (4.3.2.1) (Figure 22)

Petroleum Pool (5.3.1.3) (Figure 13)

Petroleum Pool (5.3.1.3) (Figure 13)



LEGEND

- Station
- Infrastructure Crossing
- Panhandle Loop
- Road
- Watercourse
- Waterbody
- Wetland
- Drainage Area
- Wooded Area
- Concession Lot

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Panhandle Regional Expansion Project

Panhandle Loop Mitigation Photomosaic

0 15 30 60 90 120
Meters

DATUM: NAD 1983 UTM Zone 17N

DATE: April, 2022
P#: 60665521

Data Sources: MNRF, Enbridge, ESRI
Key Map: ESRI, Google, Others

AECOM

FIGURE 13 OF 13

Map location: \\na.aecomnet.com\fs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_PanhandleData\08_Incoming\20220422_FromGDS\PanhandleLoop_MitigationPhotomosaic.mxd
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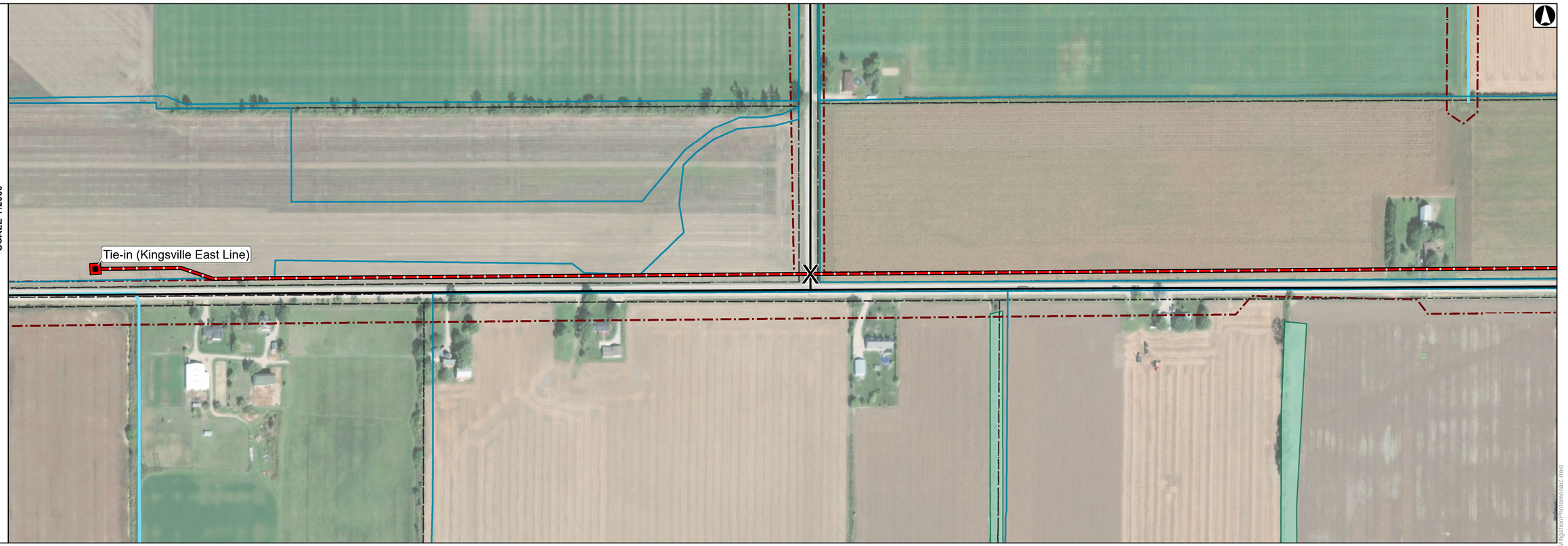
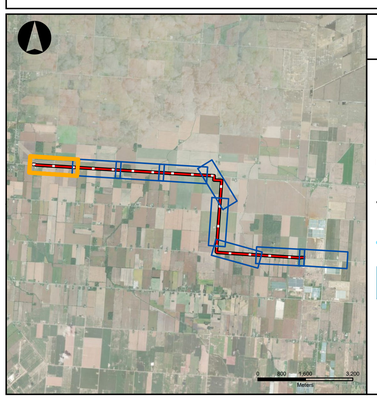


Agricultural Tile Drainage Area (4.2.6.1) (Figure 17)

Agricultural Tile Drainage Area (4.2.6.1) (Figure 17)

Road Crossing - Lakeshore Road 225 (4.4.4)

LSC1 - Hollingsworth (4.3.1) (Figure 21)



LEGEND

- Tie-in
- Infrastructure Crossing
- Leamington Interconnect
- Road
- Watercourse
- Drainage Area

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Panhandle Regional Expansion Project

Leamington Interconnect Mitigation Photomosaic

0 15 30 60 90 120
Meters

DATUM: NAD 1983 UTM Zone 17N

DATE: April, 2022
P#: 60665521

Data Sources:
MNRF, Enbridge, ESRI
Key Map:
ESRI, Google, Others

AECOM

FIGURE 1 OF 9

Map location: \\na.aecomnet.com\ifs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Data\08_Incoming\20220422_FromGDS\Leamington_Mitigation\Photomosaic.mxd
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PIPELINE PLAN
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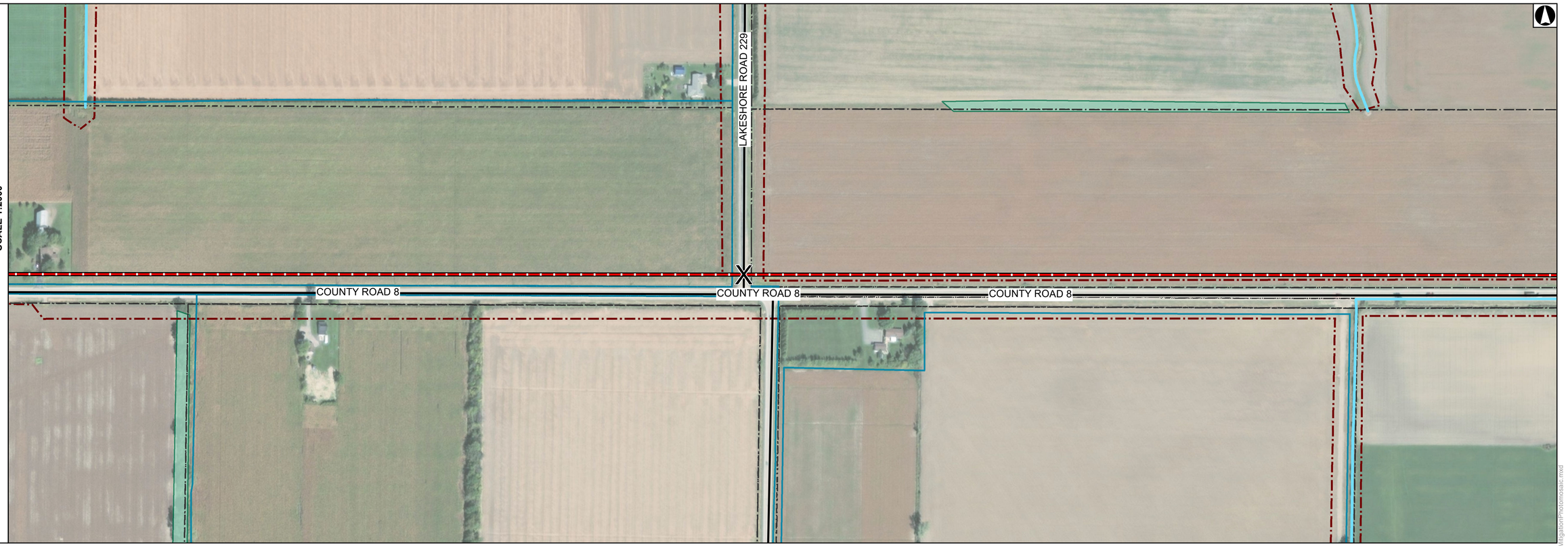
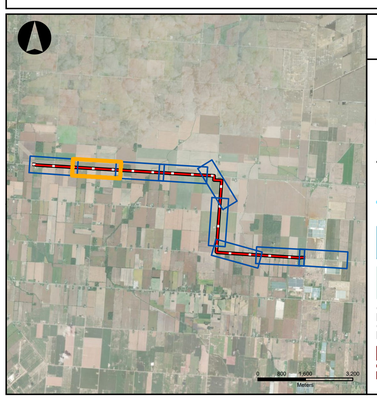


Agricultural Tile Drainage Area (4.2.6.1) (Figure 17)

Road Crossing - Lakeshore Road 229 (4.4.4)

LSC2 - Graham Creek (4.3.1) (Figure 21)

LSC3 - Elgin Smith Drain South(4.3.1) (Figure 21)



LEGEND

- X Infrastructure Crossing
- Leamington Interconnect
- Road
- Watercourse
- Drainage Area
- Wooded Area
- Concession Lot
- Essex Regulation Limit

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Panhandle Regional Expansion Project

Leamington Interconnect Mitigation Photomosaic

0 15 30 60 90 120
Meters

DATUM: NAD 1983 UTM Zone 17N

DATE: April, 2022
P#: 60665521

Data Sources:
MNRF, Enbridge, ESRI
Key Map:
ESRI, Google, Others

AECOM

FIGURE 2 OF 9

Map location: \\na.aecomnet.com\lfs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Data\08_Incoming\20220422_FromGDS\Leamington_
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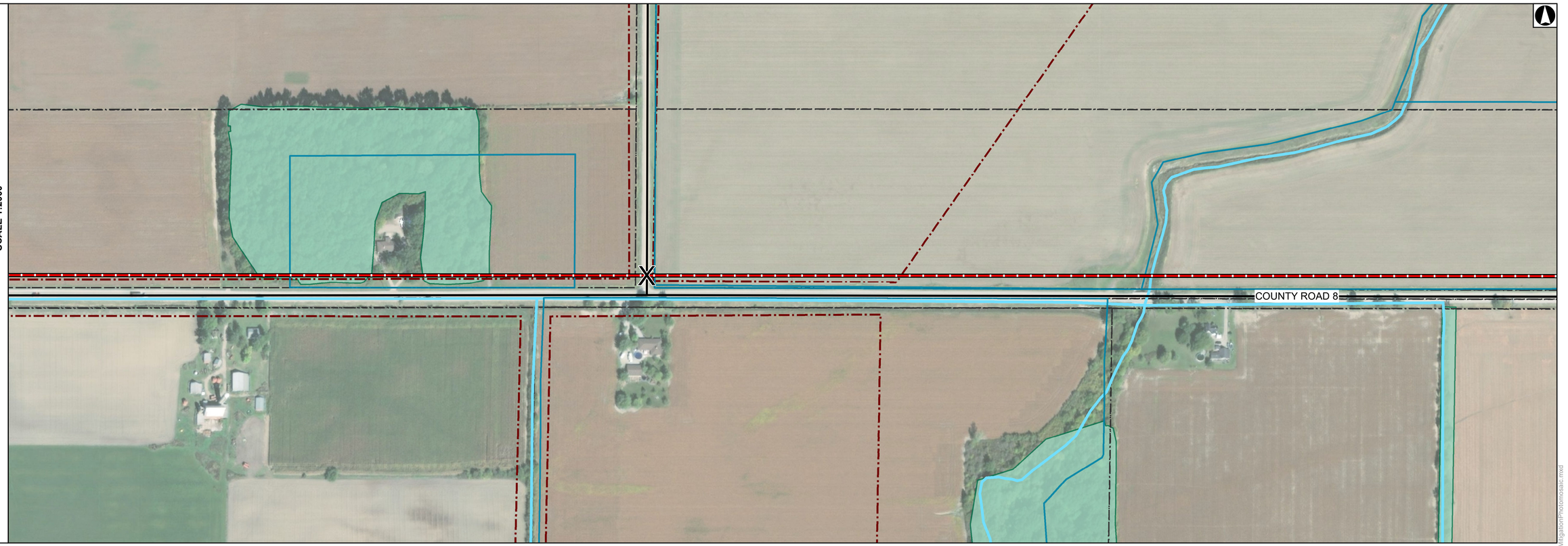
MitigationPhotomosaic.mxd

PIPELINE PLAN
SCALE 1:2000



Agricultural Tile Drainage Area (4.2.6.1) (Figure 17)

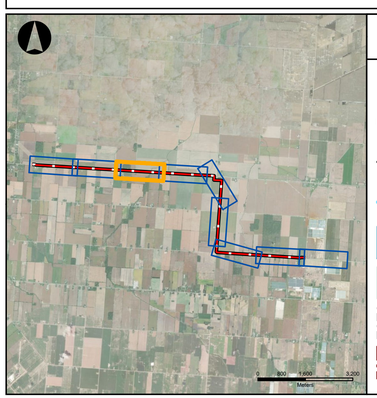
Road Crossing - Lakeshore Road 233 (4.4.4)

LSC4 - Graham Creek Drain (4.3.1) (Figure 21)

LSC5 - Ruscom River (4.3.1.1) (Figure 21)

ERCA Maximum Observed Flooding (4.3.1.1) (Figure 19)

Woodlot crossed by pipeline (4.3.2.2.2) (Figure 23)



LEGEND

- X Infrastructure Crossing
- Leamington Interconnect
- Road
- Watercourse
- Drainage Area
- Wooded Area
- Concession Lot
- Essex Regulation Limit

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Panhandle Regional Expansion Project

Leamington Interconnect Mitigation Photomosaic

0 15 30 60 90 120
Meters

DATUM: NAD 1983 UTM Zone 17N

DATE: April, 2022
P#: 60665521

Data Sources:
MNRF, Enbridge, ESRI
Key Map:
ESRI, Google, Others

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FIGURE 3 OF 9

Map location: \\na.aecomnet.com\lfs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Data\08_Incoming\20220422_FromGDS\Leamington_
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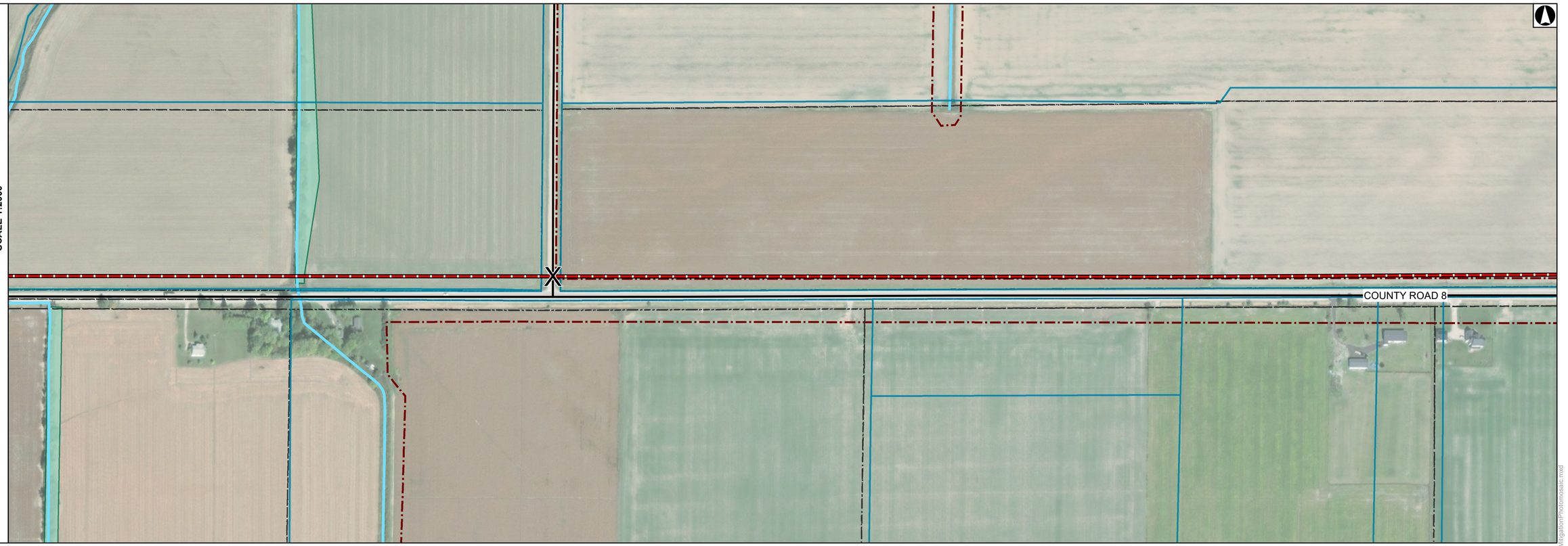
PIPELINE PLAN
SCALE 1:2000

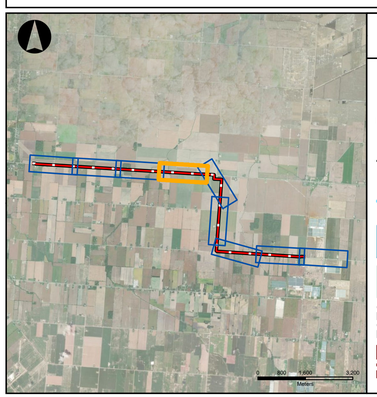


Agricultural Tile Drainage Area (4.2.6.1) (Figure 17)

Road Crossing - Lakeshore Road 235 (4.4.4)

LSC6 - Patterson Drain (4.3.1) (Figure 21)

ERCA Maximum Observed Flooding (4.3.1.1) (Figure 19)



LEGEND

- X Infrastructure Crossing
- Leamington Interconnect
- Road
- Watercourse
- Drainage Area
- Wooded Area
- Concession Lot
- Essex Regulation Limit

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Panhandle Regional Expansion Project

Leamington Interconnect Mitigation Photomosaic

0 15 30 60 90 120
Meters

DATUM: NAD 1983 UTM Zone 17N

DATE: April, 2022
P#: 60665521

Data Sources:
MNRF, Enbridge, ESRI
Key Map:
ESRI, Google, Others

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FIGURE 4 OF 9

Map location: \\na.aecomnet.com\lfs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Data\08_Incoming\20220422_FromGDS\Leamington_MitigationPhotomosaic.mxd
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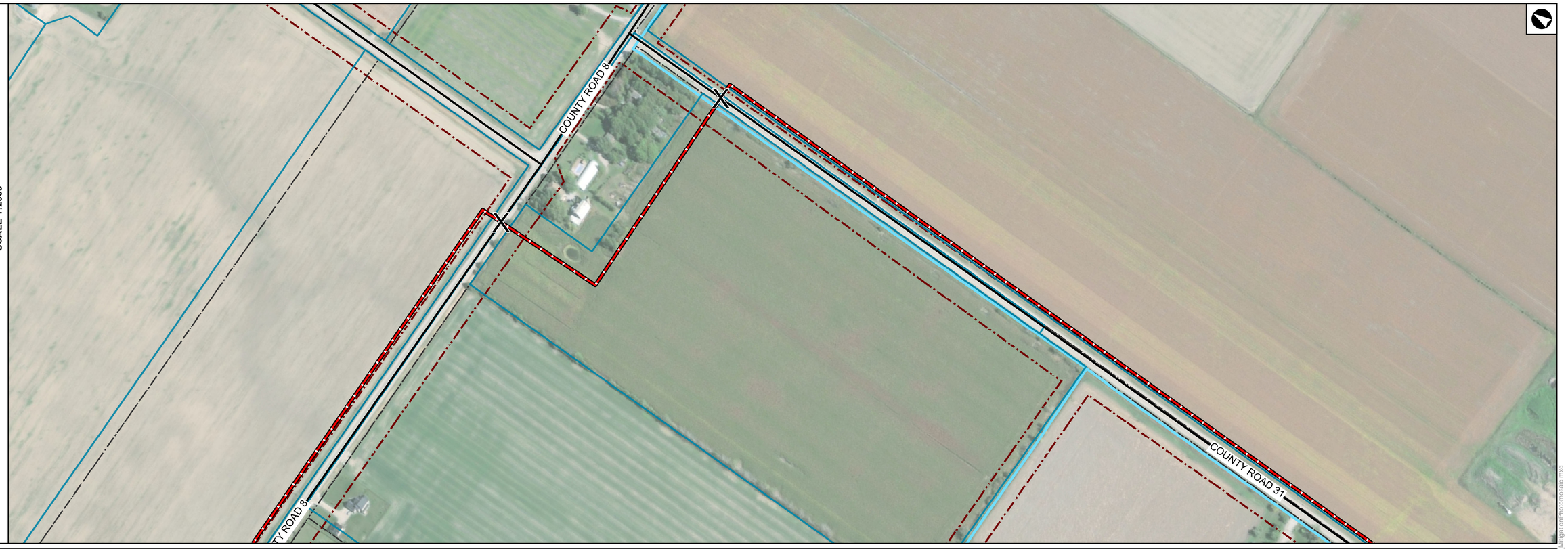
PIPELINE PLAN
SCALE 1:2000



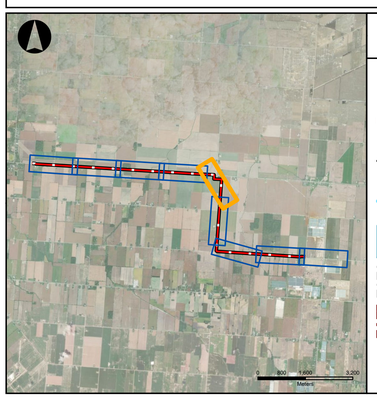
Agricultural Tile Drainage Area (4.2.6.1) (Figure 17)

Road Crossing - Country Road 8 (4.4.4)

Road Crossing - Country Road 31 (4.4.4)

LSC7 - Cameron Curry Drain (4.3.1) (Figure 21)

LSC8- Irwin Drain (4.3.1) (Figure 21)



LEGEND

- X Infrastructure Crossing
- Leamington Interconnect
- Road
- Watercourse
- Drainage Area
- Concession Lot
- Essex Regulation Limit

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Panhandle Regional Expansion Project

Leamington Interconnect Mitigation Photomosaic

0 15 30 60 90 120
Meters

DATUM: NAD 1983 UTM Zone 17N

DATE: April, 2022
P#: 60665521

Data Sources:
MNRF, Enbridge, ESRI
Key Map:
ESRI, Google, Others

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FIGURE 5 OF 9

Map location: \\na.aecomnet.com\lfs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Data\08_Incoming\20220422_FromGDS\Leamington_MitigationPhotomosaic.mxd
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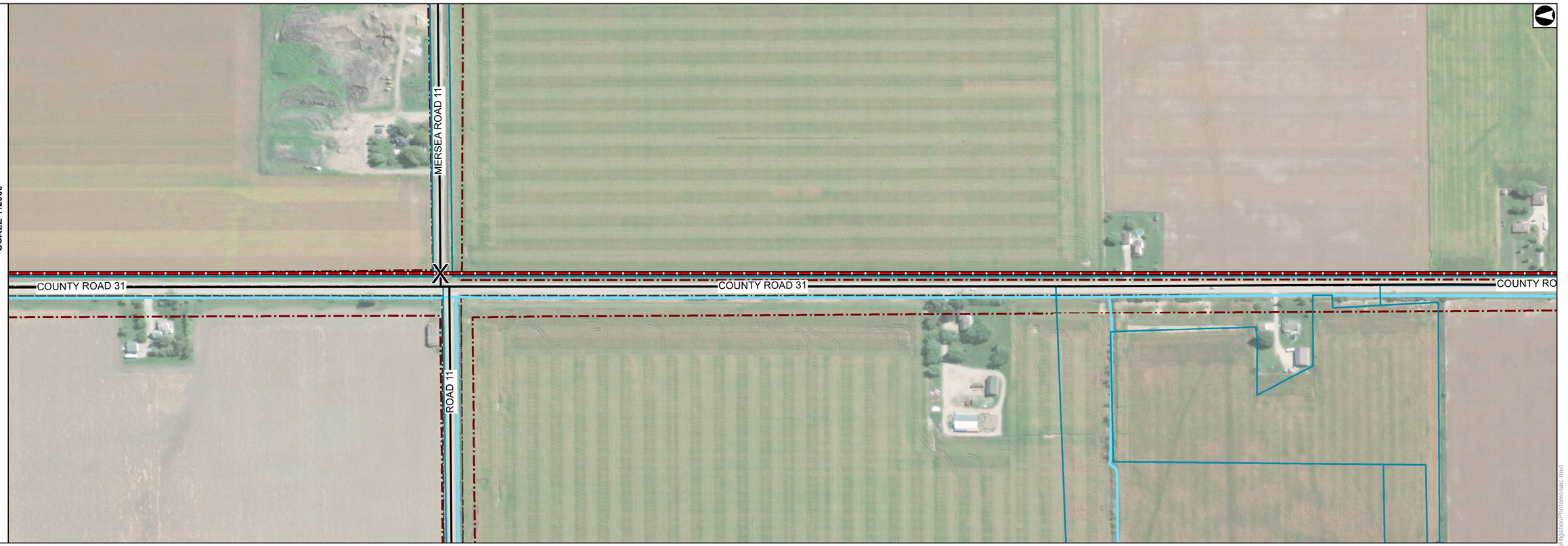
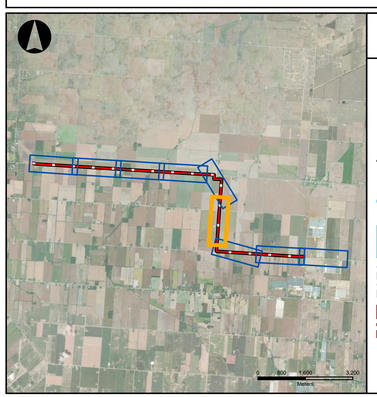
PIPELINE PLAN
SCALE 1:2000



Agricultural Tile Drainage Area (4.2.6.1) (Figure 17)

Road Crossing - Mersea Road 11 (4.4.4)



LEGEND

- X Infrastructure Crossing
- Leamington Interconnect
- Road
- Watercourse
- Drainage Area
- Concession Lot
- Essex Regulation Limit

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Panhandle Regional Expansion Project

Leamington Interconnect Mitigation Photomosaic

0 15 30 60 90 120
Meters

DATUM: NAD 1983 UTM Zone 17N

DATE: April, 2022
P#: 60665521

Data Sources:
MNRF, Enbridge, ESRI
Key Map:
ESRI, Google, Others

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FIGURE 6 OF 9

Map location: \\na.aecomnet.com\lfs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Data\08_Incoming\20220422_FromGDS\Leamington_MitigationPhotomosaic.mxd
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PIPELINE PLAN
SCALE 1:2000

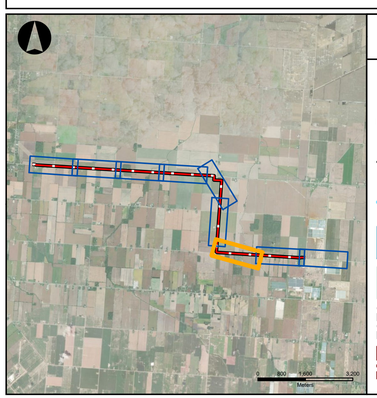


Agricultural Tile Drainage Area (4.2.6.1) (Figure 17)

Agricultural Tile Drainage Area (4.2.6.1) (Figure 17)

LSC9- Ruscom River (4.3.1) (Figure 21)

Significant woodland (4.3.2.2.2) (Figure 23)



LEGEND

- Tie-in
- Leamington Interconnect
- Road
- Watercourse
- Drainage Area
- Wooded Area
- Concession Lot
- Essex Regulation Limit

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Leamington Interconnect Mitigation Photomosaic

0 15 30 60 90 120
Meters

DATUM: NAD 1983 UTM Zone 17N

DATE: April, 2022
P#: 60665521

Data Sources:
MNRF, Enbridge, ESRI
Key Map:
ESRI, Google, Others

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FIGURE 7 OF 9

Map location: \\na.aecomnet.com\lfs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Data\08_Incoming\20220422_FromGDS\Leamington_
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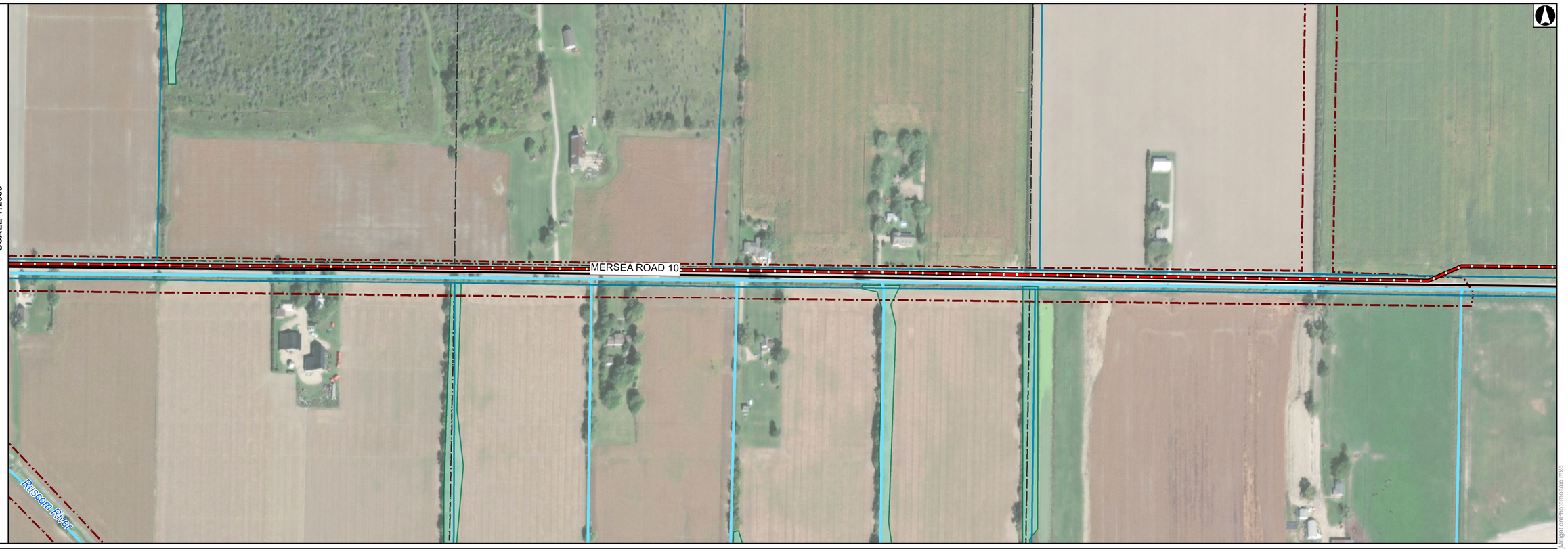
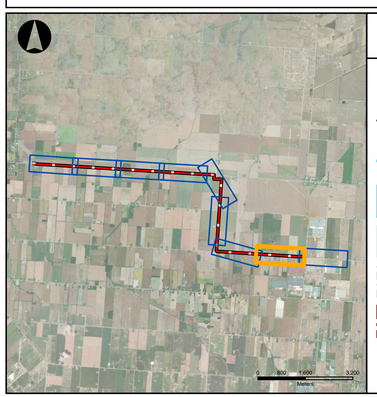
PIPELINE PLAN
SCALE 1:2000



Agricultural Tile Drainage Area (4.2.6.1) (Figure 17)

Ditch/Drainage Crossing (4.3.1)



LEGEND

- Leamington Interconnect
- Road
- Watercourse
- Drainage Area
- Wooded Area
- Concession Lot
- Essex Regulation Limit

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Panhandle Regional Expansion Project

Leamington Interconnect Mitigation Photomosaic

0 15 30 60 90 120
Meters

DATUM: NAD 1983 UTM Zone 17N

DATE: April, 2022
P#: 60665521

Data Sources:
MNRF, Enbridge, ESRI
Key Map:
ESRI, Google, Others

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FIGURE 8 OF 9

Map location: \\na.aecomnet.com\lfs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Data\08_Incoming\20220422_FromGDS\Leamington_
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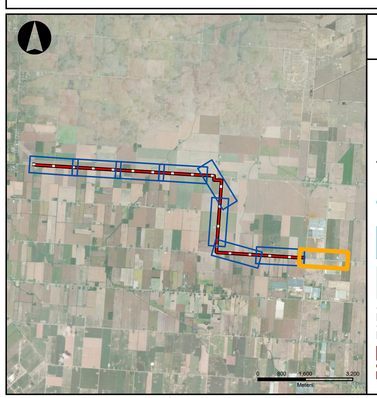
PIPELINE PLAN
SCALE 1:2000



Agricultural Tile Drainage Area (4.2.6.1) (Figure 17)



LEGEND

- Tie-in
- Leamington Interconnect
- Road
- Watercourse
- Drainage Area
- Wooded Area
- Concession Lot
- Essex Regulation Limit

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Panhandle Regional Expansion Project

Leamington Interconnect Mitigation Photomosaic

0 15 30 60 90 120
Meters

DATUM: NAD 1983 UTM Zone 17N

DATE: April, 2022
P#: 60665521

Data Sources:
MNRF, Enbridge, ESRI
Key Map:
ESRI, Google, Others

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FIGURE 9 OF 9

Map location: \\na.aecomnet.com\ifs\AMER\Kitchener-CAKCN1\DCS\GIS\Projects\60665521_Enbridge_Panhandle\Data\08_Incoming\20220422_FromGDS\Leamington_
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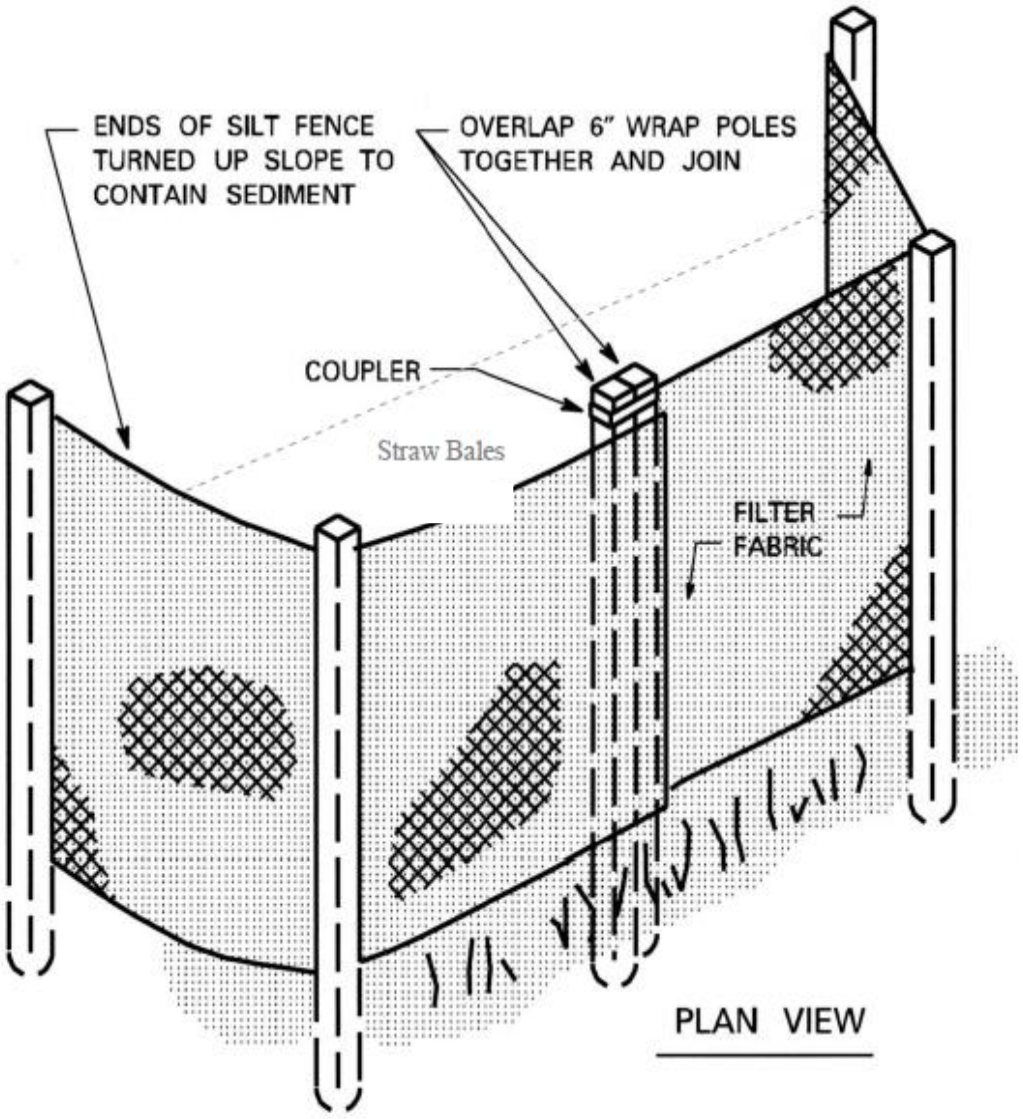
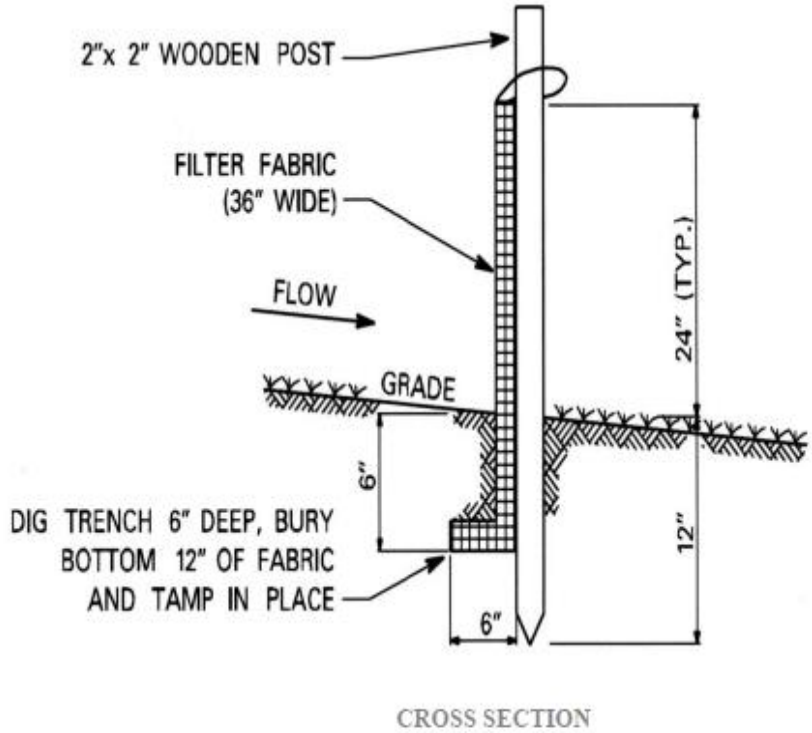
MitigationPhotomosaic.mxd

Appendix I

Standards and Typical Drawings

Proper Silt Fence Installation





Inspect daily, as required.
Remove collected sediments

Jordan Witt
Environmental Planner

AECOM Canada Ltd.
50 Sportsworld Crossing Road, Suite 290
Kitchener, ON N2P 0A4 Canada

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