St. Thomas Line Project Class Environmental Assessment

Draft Environmental Study Report

May 28, 2025

Prepared by:

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Executive Summary

Hydro One Networks Inc. (Hydro One) has prepared this draft Environmental Study Report (ESR) for the proposed construction of a new 230 kV double-circuit transmission line (the Project). The Project will be approximately 20 km in length and will connect the existing 230 kV transmission lines located east of Hydro One's Buchanan Transformer Station (TS) in London to the proposed new Centennial TS in St. Thomas. The purpose of the Project is to connect the new PowerCo Canada Inc. electric vehicle battery cell manufacturing facility in the City of St. Thomas to Ontario's energy grid and meet its electricity demands.

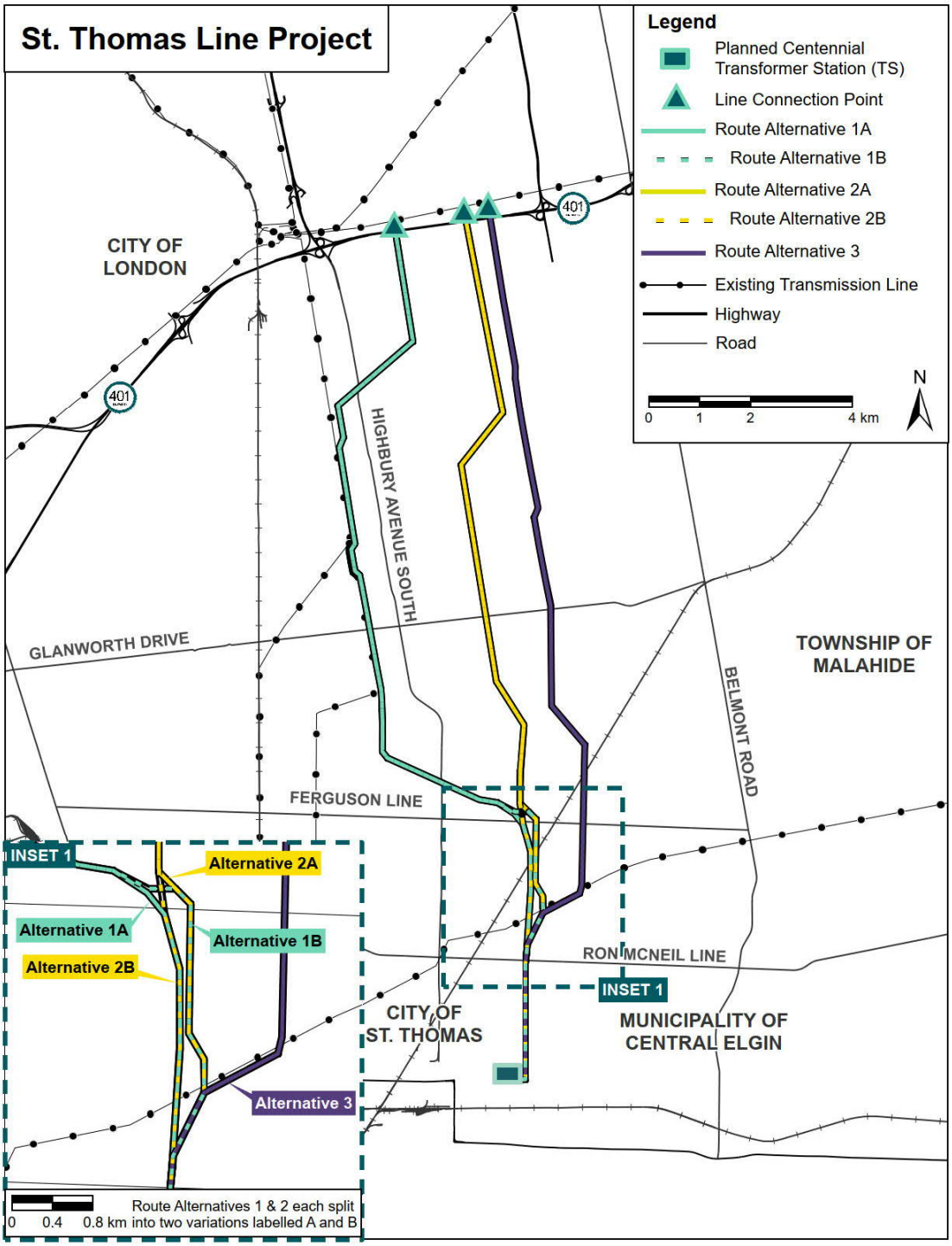
The proposed Project is subject to the Class Environmental Assessment (Class EA) for Minor Transmission Facilities (Hydro One, July 2022), an approved planning process under the *Environmental Assessment Act* (*EA Act*). This process is designed for proponents to characterize the existing environment, assess potential environmental effects and mitigation, identify and evaluate alternatives, conduct consultation, and document study findings. This draft ESR has been prepared in accordance with the Class EA requirements. The Project meets the criteria for establishing a new transmission line with a nominal operating voltage equal to or greater than 115 kV and less than 345 kV and is greater than 2 km in length. It does not meet the eligibility for exemption from the Class EA process for emergency situations, archaeological screening, or Class EA Screening. Therefore, the Project is subject to a full Class EA.

At the outset of the Class EA, two study areas (Local Study Area/LSA and Project Study Area/PSA) were established to assess potential natural environment, socio-economic environment, and technical constraints and potential effects associated with each of the three route alternatives and their corresponding variations identified (**Figure E-1**). The three route alternatives for the Project include:

- **Route Alternative 1** - This route alternative, and its variations, is shown in green on **Figure E-1** and proceeds south from Hydro One's existing transmission lines in London, east of the Highbury Avenue South interchange, and then diverts southwest and then travels south parallelling Hydro One's existing transmission lines before traveling southeast to the planned Centennial TS in St. Thomas.

- **Route Alternative 2** - This route alternative, and its variations, is shown in yellow on **Figure E-1**, and proceeds south from the Hydro One's existing transmission lines in London, east of the Highbury Avenue South interchange, and then travels south to the planned Centennial TS in St. Thomas.
- **Route Alternative 3** - This route alternative is the eastern route shown in purple in **Figure E-1.** It travels south from Hydro One's existing transmission lines in London, diverts southeast over Kettle Creek, and then southwest paralleling Hydro One's existing transmission line, and then south to the planned Centennial TS in St. Thomas.

Figure E-1-1: Route Alternatives



To select a preferred route alternative, a weighted multi-criteria decision-making approach was undertaken. The criteria were grouped into the following categories:

- Natural Environment;
- Socio-economic Environment;
- Indigenous Culture, Values and Land Use; and
- Technical and Cost.

The first step consisted of collecting information on existing conditions for each criterion, using data obtained from literature reviews, reports and technical memos commissioned by Hydro One, online databases, mapping, consultation, and field surveys. After the information was collected, each route alternative was analyzed, and the potential impacts of the proposed transmission line were assessed. The alternatives were then compared using a multi-criteria decision-making process that accounted for the relative importance (i.e., weights) of the criteria used in the assessment. Evaluation criteria were identified, and relative weightings were assigned, using input obtained through the consultation process for the Project, including input from the Technical Advisory Committee (TAC). This comparative evaluation resulted in the selection of the Technically Preferred Route Alternative, identified as Route Alternative 3 (**Figure E-2**).

Figure E-1-2: Preferred Route Alternative

Consultation and engagement have been an important component of the Class EA process, providing opportunities for meaningful participation and input. Consultation was undertaken with a range of parties, including Indigenous communities, municipal, provincial, and federal government officials and agencies, interest groups, and the public. Key consultation methods included the establishment of a Technical Advisory Committee (TAC), Community Open Houses (COH), meetings and discussions with various stakeholders, and correspondence. Two virtual TAC workshops were held on May 30, 2024, and November 4, 2024. A high-level overview of the consultation timeline is outlined in **Section 3.0**. A consolidated summary of comments and concerns raised throughout the process is provided in Section 3.13.

The draft ESR is made available for a public review period, from **May 28 to June 30, 2025**, to allow sufficient time for review and comment on this draft ESR. Written comments regarding the draft ESR can be submitted to:

Jennifer Trotman, Environmental Planner, Hydro One Networks Inc.
483 Bay Street, North Tower,
14th Floor, Toronto, ON M5G 2P5
Phone: 1-877-345-6799 (Community Relations hotline)
Email: Community.Relations@HydroOne.com

The draft ESR will be available electronically on the Hydro One St. Thomas Line Project webpage: https://www.hydroone.com/about/corporate-information/major-projects/st-thomas.

Copies of the draft ESR will also be available in print at the following locations:

Belmont Public Library	St. Thomas City Hall	Pond Mills Public Library
14134 Belmont Road	545 Talbot Street	1166 Commissioners Road E.
Belmont, ON	**St. Thomas, ON**	**London, ON**
N0L 1B0	N5P 3V7	N5Z 4W8
519-644-1560	519-631-1680	519- 685-1333

Comments and concerns received during the draft ESR review period will be recognized, considered, addressed, and documented. Hydro One will make best efforts to respond and resolve issues raised. Following the comment period, the ESR will be finalized in accordance with the Class EA. Upon completion of the Class EA process, the final ESR will be filed with the Ministry of the Environment, Conservation and Parks (MECP), and the Project will be considered acceptable to proceed as outlined in the final ESR. Necessary environmental approvals and permits will be obtained prior to construction.

Under the *EA Act*, a request may be made to the MECP for an order requiring a higher level of study (comprehensive EA approval) or that conditions be imposed (e.g., require further studies). Such requests can only be made on the grounds that the requested order may prevent, mitigate, or remedy adverse impacts on constitutionally protected Aboriginal or treaty rights. The MECP will not consider requests on other grounds. Requests should include contact information, full name, specify the type of order requested, explain how the order may address potential adverse effects on Aboriginal and treaty rights, and provide supporting information. Requests should be sent in writing or email to the Minister of the Environment, Conservation and Parks and the Environmental Assessment Branch of the MECP, and should also be copied to Hydro One.

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Acronyms and Abbreviations

Acronym or Abbreviation	Definition
AA	Archaeological Assessment
AAFC	Agriculture and Agri-Food Canada
AFN	Aamjiwnaang First Nation
BHR	Built Heritage Resources
CCCA	Catfish Creek Conservation Authority
CFA	Capacity Funding Agreement
CFN	Caldwell First Nation
CHEC	Cultural Heritage Existing Conditions
CHL	Cultural Heritage Landscapes
CHVI	Cultural Heritage Value or Interest
CKSPFN	Chippewas of Kettle and Stony Point First Nation
CLI	Canada Land Inventory
CN Rail	Canadian National Railway
COH	Community Open House
COTTFN	Chippewas of the Thames First Nation
CWS	Canadian Wildlife Services
DFO	Fisheries and Oceans Canada

Dillon	Dillon Consulting Limited
EA	Environmental Assessment
EA Act	Environmental Assessment Act
EAB	Environmental Assessment Branch
EASR	Environmental Activity and Sector Registry
ECCC	Environment and Climate Change Canada
ELC	Ecological Land Classification
EMF	electric and magnetic fields
Enbridge Gas Inc.	Enbridge
EPC	Engineering, Procurement and Construction
ESA	Endangered Species Act
ESC	Erosion Sediment Control
ESR	Environmental Study Report
HCCC	Haudenosaunee Confederacy Chiefs Council
HDI	Haudenosaunee Development Institute
Hydro One	Hydro One Networks Inc.
IESO	Independent Electricity System Operator
IO	Infrastructure Ontario
KCCA	Kettle Creek Conservation Authority
km	kilometre

kV	kilovolt
LSA	Local Study Area
m	metre
MBCA	Migratory Birds Convention Act
MCDA	Multi-Criteria Decision-Making Analysis
MCM	Ministry of Citizenship and Multiculturalism
MECP	Ministry of the Environment, Conservation and Parks
MEDJCT	Ministry of Economic Development, Job Creation and Trade
MIAFNER	Ministry of Indigenous Affairs and First Nations Economic Reconciliation
MMAH	Ministry of Municipal Affairs and Housing
MNR	Ministry of Natural Resources
MOEE	Ministry of Energy and Electrification
MP	Member of Parliament
MPP	Members of Provincial Parliament
MTO	Ministry of Transportation
MVA	megavolt-ampere
NFU	National Farmers Union
NHRM	Natural Heritage Reference Manual
OFA	Ontario Federation of Agriculture

OMAFA	Ministry of Agriculture, Food, and Agribusiness
Oneida	Oneida Nation of the Thames
OP	Official Plan
OSR	Ontario Southland Railway
OWES	Ontario Wetland Evaluation System
PPS	Provincial Planning Statement
PSA	Project Study Area
PSW	Provincially Significant Wetland
PTTW	Permit to Take Water
PWQMN	Provincial Water Quality Monitoring Network
PWQO	Provincial Water Quality Objectives
ROW	right-of-way
RSA	Regional Study Area
SAR	Species at Risk
SARA	Species at Risk Act
SCC	Species of Conservation Concern
Six Nations	Six Nations of the Grand River
SPA	Source Protection Area
TAC	Technical Advisory Committee
TC	Transport Canada

the Project	St. Thomas Line Project
TS	Transformer Station
UTRCA	Upper Thames River Conservation Authority
VW	Volkswagen Group
WIFN	Walpole Island First Nation

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1.0 Introduction

Hydro One Networks Inc. (Hydro One) is Ontario's largest electricity transmission and distribution service provider; energizing life in southwestern Ontario for over 110 years. In the spring of 2023, the provincial and federal government secured an investment with the Volkswagen Group and its subsidiary PowerCo Canada Inc., which plans to build its largest electric vehicle battery cell manufacturing facility in the City of St. Thomas, Ontario. To meet the electricity demands for this manufacturing facility, Hydro One will construct a new 230 kilovolt (kV) double-circuit transmission line connecting existing infrastructure near the existing Buchanan Transformer Station (TS), in London, to the planned Centennial TS being constructed in St. Thomas for the PowerCo Canada Inc. electric vehicle battery cell manufacturing facility.

In January 2024, Hydro One commenced a Class Environmental Assessment (Class EA) to construct the new 230 kV double-circuit transmission line. Hydro One is calling this undertaking the St. Thomas Line Project (the Project).

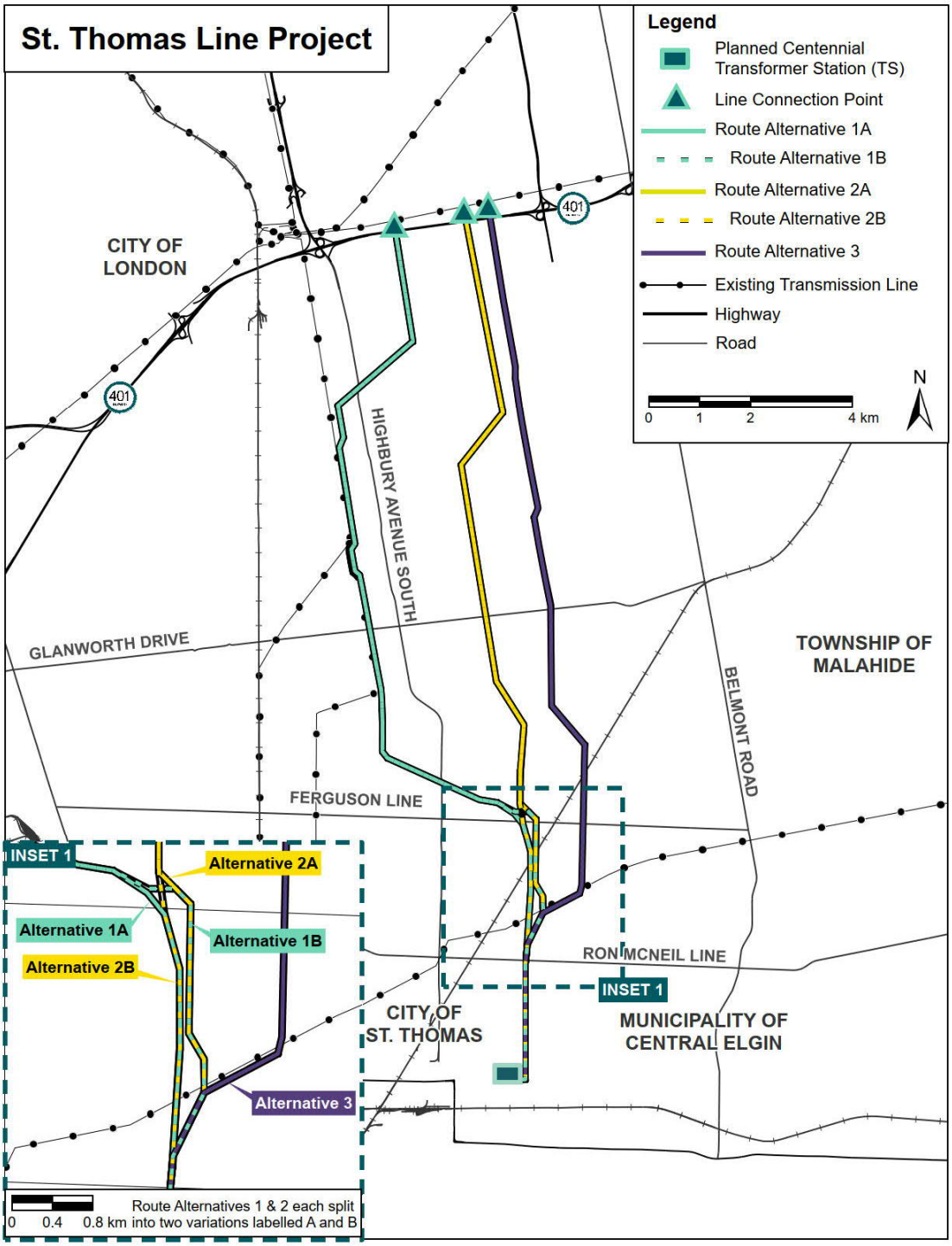
The proposed Project is subject to the Class Environmental Assessment for Minor Transmission Facilities (Hydro One, July 2022), an approved planning process under the *Environmental Assessment Act* (*EA Act*) designed for proponents to characterize the existing environment, assess potential environmental effects and mitigation, identify, and evaluate alternatives, conduct consultation and document study findings. This draft Environmental Study Report (ESR) has been prepared in accordance with the Class EA.

The Project consists of the installation of a proposed new 230 kV double-circuit transmission line connection between the existing 230 kV transmission lines to the east of Hydro One's Buchanan TS in London and the proposed new Centennial TS in St. Thomas (**Figure 1-1**). The total length of the line will be approximately 20 kilometers (km).

This draft ESR describes the Class EA process that was undertaken for the proposed Project. The draft ESR:

- Summarizes existing conditions in the Local Study Area (LSA; 500 meters [m]) and Project Study Area (PSA; 120 m);
- Documents the notification to, and consultation undertaken with; Indigenous communities, government agencies, municipal staff and elected officials, interest groups and members of the public about the Project;
- Documents the route identification and evaluation process conducted to select the preferred route;
- Identifies potential environmental effects associated with the Project; and
- Identifies potential avoidance, mitigation, and restoration measures to address these potential environmental effects.

Figure 1-1: Project Location



1.1. Need for the Undertaking

In the spring of 2023, the provincial and federal governments secured an investment with the Volkswagen Group and its subsidiary PowerCo Canada Inc., which plans to build its largest electric vehicle battery cell manufacturing facility in the City of St. Thomas (**Appendix A**). In order to support the undertaking, Hydro One has been directed to provide a high-voltage connection to Ontario's electricity grid by constructing a new 230 kV double-circuit transmission line from existing transmission infrastructure near Hydro One's existing Buchanan TS to the proposed new Centennial TS being constructed in St. Thomas.

The purpose of the proposed new 230 kV double-circuit transmission line is to meet the electricity demands for the new PowerCo Canada Inc. electric vehicle battery cell manufacturing facility. The required in-service date for the Project is 2027.

1.2. Description of the Undertaking

The undertaking will involve the installation of a new 230 kV double-circuit transmission line connection, including associated infrastructure (e.g., towers, access roads). The undertaking will be approximately 20 km in length and will connect the new Centennial TS being constructed in the City of St. Thomas and the existing 230 kV transmission lines (circuits M31W/M33W) to the east of Hydro One's Buchanan TS in the City of London. Upon the successful completion of the Class EA process and receipt of subsequent required approvals, construction may begin in late 2025.

1.3. Alternatives to the Undertaking

The Project is a customer funded connection project, which will energize PowerCo Canada Inc.'s new electric vehicle battery cell manufacturing facility.

Upon receiving the connection request to energize the new facility, Hydro One evaluated how the additional power demand would connect to the province's existing electrical grid through a transmission line connection. This assessment considered factors such as capacity, reliability, stability, and the efficiency of the grid, as well as a review of the existing transmission lines in the area. It was determined that a new line

would need to be built due to the capacity and impact to the grid, and the magnitude of supply required for the new facility.

Alternative 1: Do Nothing

The “Do Nothing Alternative” is an alternative to the undertaking that must be considered.

Due to the significant increase in power demand for the new PowerCo Canada Inc. electric vehicle battery cell manufacturing facility, the Do Nothing Alternative would result in the inability to reliably supply the new facility within the limits of the existing transmission system. Therefore, the “Do Nothing Alternative” is not considered to be a feasible option.

Alternative 2: Upgrade Existing Transmission Lines

The Hydro One project team reviewed the possibility of upgrading existing transmission lines in the Study Area to energize the new PowerCo Canada Inc. electric vehicle battery cell manufacturing facility. Upgrading an existing transmission line would require installing higher capacity wires, strengthening and/or replacing towers, and upgrading other major equipment. Given the magnitude of the supply required, the capacity that could be achieved through upgrades would not provide sufficient capacity for the requested connection by utilizing the existing 115 kV and 230 kV transmission lines in the Study Area. The supply will be partially provided by a 2 km line tap to the available capacity of the existing 230kV transmission line (circuits W45LS/W44LC) located west of Highbury Avenue in the City of St. Thomas. This connection is discussed further below.

Alternative 3: New Transmission Line Alternatives

Based on the assessment of the capacity of the existing transmission lines, the Hydro One project team determined that a new transmission line was found to be the most cost effective and technically feasible option to meet the requested connection requirements.

Hydro One does not connect load customers to the 500 kV transmission network, as it is critical to maintain the security of the province’s bulk electricity system. Connecting

load customers directly to these circuits would increase the chances of a contingency that removes these critical circuits from service, resulting in broader transmission system impacts. It would also make it more difficult to maintain the 500 kV circuits, due to the increased coordination that would be required. Further, a connection to the existing 500 kV transmission line (circuit N582L) in the Study Area north of the Power Canada Inc. electric vehicle battery cell manufacturing facility would not be economical as it would require a new 500 kV TS to step down the voltage from 500 kV to 230 kV.

It was also determined that connecting to the existing 115 kV transmission network would not provide the sufficient capacity to meet the customer's megavolt-ampere (MVA) supply requirement as the present load serving capability of 115 kV network in the area is already serving existing customers.

The 230 kV transmission network was assessed, and it was determined that the full capacity required could not be achieved through a connection to the existing 230 kV transmission line (circuits W45LS/W44LC), west of Highbury Avenue. Hydro One is constructing a 2 km double-circuit transmission line connection from these circuits to the new Hydro One Centennial TS to provide an initial partial supply to the electric vehicle battery cell manufacturing facility. However, it was determined that a second connection to the 230 kV transmission network would be required to fulfill the ultimate load request, as there is not enough capacity on the existing 230 kV transmission line west of Highbury Avenue. To meet the required capacity requirements of this customer connection, it was recommended that an additional new 230 kV double-circuit transmission line be constructed to connect to the existing 230 kV transmission lines east of Hydro One's Buchanan TS in the City of London, which has the available capacity to meet the remainder of the customer's connection requirements.

1.4. Approval Process and Regulatory Requirements

This section outlines the approval process required under the Class EA process as well as other regulatory requirements.

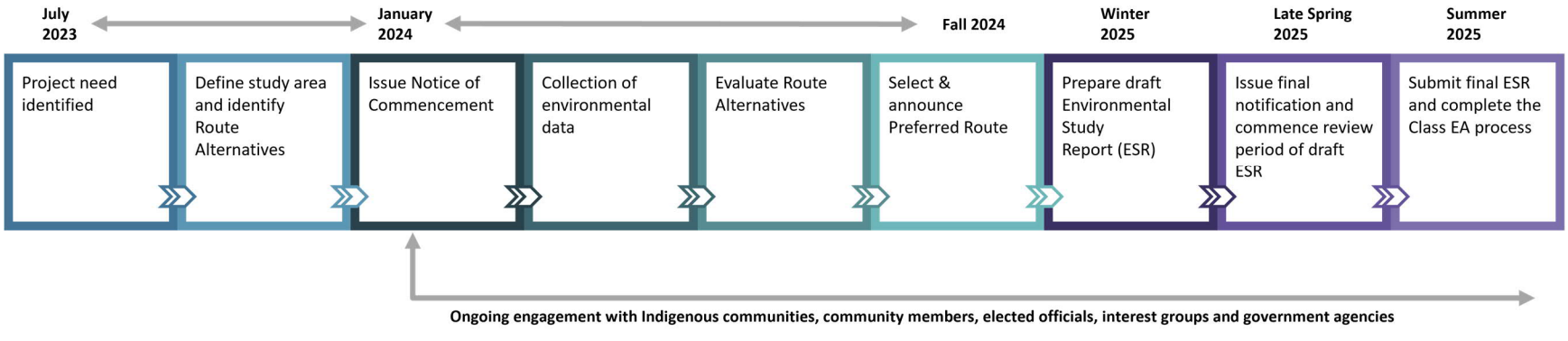
1.4.1. Class Environmental Assessment Process

This draft ESR has been prepared in accordance with the Class EA for Minor Transmission Facilities (Hydro One, July 2022) an approved planning process under the Ontario *EA Act*. Components of the process include:

- Establish need (**Section 1.1**);
- Identify and evaluate "alternatives to" the undertaking (**Section 1.3**);
- Define study area (**Section 2.0**);
- Issue initial notification (**Section 3.1**);
- Conduct an environmental inventory (**Section 4.0**);
- Identify and evaluate route alternatives (**Section 5.2 and Section 5.5**);
- Select the preferred route alternative (**Section 5.6**) and prepare the draft ESR;
- Issue Notice of Completion and the draft ESR for public review and comment (**Section 3.14**);
- File the final ESR and Class EA Statement of Completion with the Ministry of the Environment, Conservation and Parks (MECP) and proceed with the undertaking (**Section 3.14**); and,
- Conduct consultation and engagement throughout the process (**Section 3.0**).

The Class EA process is illustrated in **Figure 1-2**.

Figure 1-2: Class Environmental Assessment Process



Section 1.2 of the Class EA for Minor Transmission Facilities (Hydro One, July 2022) sets out the types of projects to which the Class EA applies:

1. Establishing a new or temporary transmission line that has a nominal operating voltage of equal to or greater than 115 kilovolts (kV) and less than 345 kV and is greater than 2 km in length; or are capable of operating at a nominal voltage of equal to or greater than 345 kV and is greater than 2 km and less than 75 km in length;
2. Refurbishing an existing transmission line that fall within the parameters mentioned above;
3. Establishing a new transmission station that has a nominal operating voltage of equal to or greater than 115 kV, and equal to or less than 500 kV; and
4. Expanding an existing transmission station, where the expansion involves the acquisition of land and the transmission station has a nominal operating voltage of equal to or greater than 115 kV, and equal to or less than 500 kV.

Section 1.3 of the Class EA sets out four project categories that determine the level of detail of assessment and consultation required to evaluate a project or whether a project is exempt from the *EA Act*:

1. Emergency Situations;
2. Projects Eligible for Exemption Subject to the Archaeological Screening Process;
3. Projects Eligible for Exemption Subject to the Class EA Screening Process; and
4. Projects Subject to the Full Class EA.

This Project meets the criteria for establishing a new transmission line that has a nominal operating voltage of equal to or greater than 115 kV and less than 345 kV and is greater than 2 km in length. The Project does not meet the eligibility for exemption from the Class EA process for emergency situations, archaeological screening or Class EA Screening. Therefore, the Project is subject to a full Class EA in accordance with the Class EA for Minor Transmission Facilities (July 2022).

Upon completion of the draft ESR, Hydro One will issue the Notice of Completion of the draft ESR and subsequent comment period to municipal, provincial and federal government officials and agencies, Indigenous communities consulted, potentially affected and interested persons, and interest groups. The draft ESR will be available for public review and comment for a period of 30 calendar days, from May 28, 2025, until

June 30, 2025. Hydro One will make best efforts to respond and resolve issues raised by concerned parties during the draft ESR review period. Issues and their respective responses will be documented and summarized in the final ESR.

As outlined in Section 3.4.4 of the Class EA, a request may be made to the MECP for an order requiring a higher level of study (i.e., requiring a comprehensive EA approval before being able to proceed) or that conditions be imposed (e.g., require further studies), only on the grounds that the requested order may prevent, mitigate or remedy adverse impacts on constitutionally protected Aboriginal or treaty rights. The MECP will not consider requests on other grounds.

A copy of the draft ESR will be placed on the Hydro One Project website (HydroOne.com/StThomasLine), as well as provided to the Environmental Assessment Branch (EAB) and the appropriate Regional EA Coordinator at MECP for filing. Once the final ESR and the Class EA Statement of Completion have been filed with MECP, the proposed Project will be considered acceptable and may proceed as outlined in the final ESR.

1.4.2. Other Permits, Licenses and Approvals

In addition to meeting *EA Act* requirements, there are several permits, licenses and approvals that may potentially be required under municipal by-laws and provincial and federal legislation and regulations. These are described in **Table 1-1**. In addition to the notifications and engagements described in this draft ESR, Hydro One or its contractors will continue to contact the appropriate regulatory agencies to ensure that the proposed Project will meet the regulatory requirements prior to construction. The proposed Project does not trigger a federal EA under the *Impact Assessment Act*, 2019.

As stated in Section 62(1) of the *Planning Act* (R.S.O. 1990, c. P.13), “An undertaking of Hydro One Inc. that has been approved under the *EA Act* is not subject to this Act.” While the proposed Project is not subject to the *Planning Act* after completion of the Class EA, Hydro One will continue to work with the City of London, County of Elgin, Municipality of Central Elgin, and City of St. Thomas during and after the Class EA process and will continue to consult with them regarding design, and the potential effects of Project construction on local traffic and nearby communities, as needed.

Table 1-1: Potentially Required Permits, Licenses and Approvals

Permit, License, or Approval	Primary Agency	Description
Transport Canada Aeronautical Assessment	Transport Canada	Required for the construction of the new transmission structures within 6 km of an aerodrome.
Nav Canada Land Use Assessment	Nav Canada	Required for the construction of the new transmission structures within 6 km of an aerodrome.
Environmental Activity and Sector Registry (EASR)/Permit to Take Water (PTTW)	MECP	May be required for construction dewatering.
Approvals and/or Permits under the *Endangered Species Act* (ESA), 2007	MECP	May be required for planned works that might affect species at risk and/or their habitat which are protected under the *Endangered Species Act, 2007*.
Approvals and/or Permits under the Species at Risk Act (SARA), 2022	Environment and Climate Change Canada (ECCC) / Canadian Wildlife Services (CWS)	May be required for planned works that might affect species at risk and/or their habitat which are protected under the *Species at Risk Act, 2022*.
Archaeological Acceptance Letters	Ministry of Citizenship and Multiculturalism (MCM)	Archaeological assessment (AA) is required prior to undertaking new ground disturbance in areas with archeological potential.

Permit, License, or Approval	Primary Agency	Description
Building and Land Use Permit and Encroachment Permit	Ministry of Transportation (MTO)	Building and Land Use Permit is required for project assets to be located close to or adjacent to a provincial highway. Encroachment permit is required for any installation or works, upon, under or within the limits of a provincial highway right-of-way.
Noise By-law Exemption	City of London, Elgin County and City of St. Thomas	An exemption may be required if the operation of construction equipment occurs outside of the Noise By-law curfew.
Road Entrance Permits	City of London, Elgin County and City of St. Thomas	Required to construct potential new entrances for access to a construction site from existing municipal roads.
Section 28 Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Permit	Upper Thames River Conservation Authority (UTRCA), Kettle Creek Conservation Authority (KCCA) and Catfish Creek Conservation Authority (CCCA)	Required for construction works within conservation authority regulated areas.
Fisheries Act Authorization	Fisheries and Oceans Canada (DFO)	May be required for in-water construction works or works with potential releases that have potential to adversely affect fish or fish habitat.
Crown Land Work Permit	Ministry of Natural Resources and Forestry (MNRF)	May be required if authorization under the *Fisheries Act* is required.
Notice of Work	Rail Companies	May be required for crossings of federally regulated rail lines.
Clearance Letter	Utility companies	Required to cross utilities (e.g., natural gas or oil pipelines, fibre optics).

In the event that other permits are identified as required, Hydro One and/or the Engineering, Procurement and Construction (EPC) contractor will work with the regulator to ensure compliance.

2.0 Study Area

At the outset of the Class EA, two study areas (Local Study Area and Project Study Area) were identified to consider potential natural and socio-economic environmental features and potential effects associated with each of the route alternatives (**Figure 2-1**).

As further described in **Section 5.2** at the beginning of the Class EA process, the Hydro One Project team completed a preliminary assessment to identify the technical and environmental constraints and opportunities for the proposed double-circuit 230 kV transmission line. This included mapping known environmental and technical feature constraints, identifying opportunities to parallel existing linear infrastructure, as well as utilization of existing easements and/or rights-of-way (ROW), where possible.

2.1. Project Study Area

A Project Study Area (PSA) was delineated to include lands within 120 m of each of the route alternative centre lines. The PSA encompasses the proposed length of the transmission line from the existing transmission lines east of the Buchanan TS to the new Centennial TS. The purpose of the PSA was to determine an area that would encompass the future asset location, associated ROW and abutting/directly adjacent lands such that technical studies and field investigations, for the purposes of documenting baseline existing conditions, could be appropriately scoped and planned.

2.2. Local Study Area

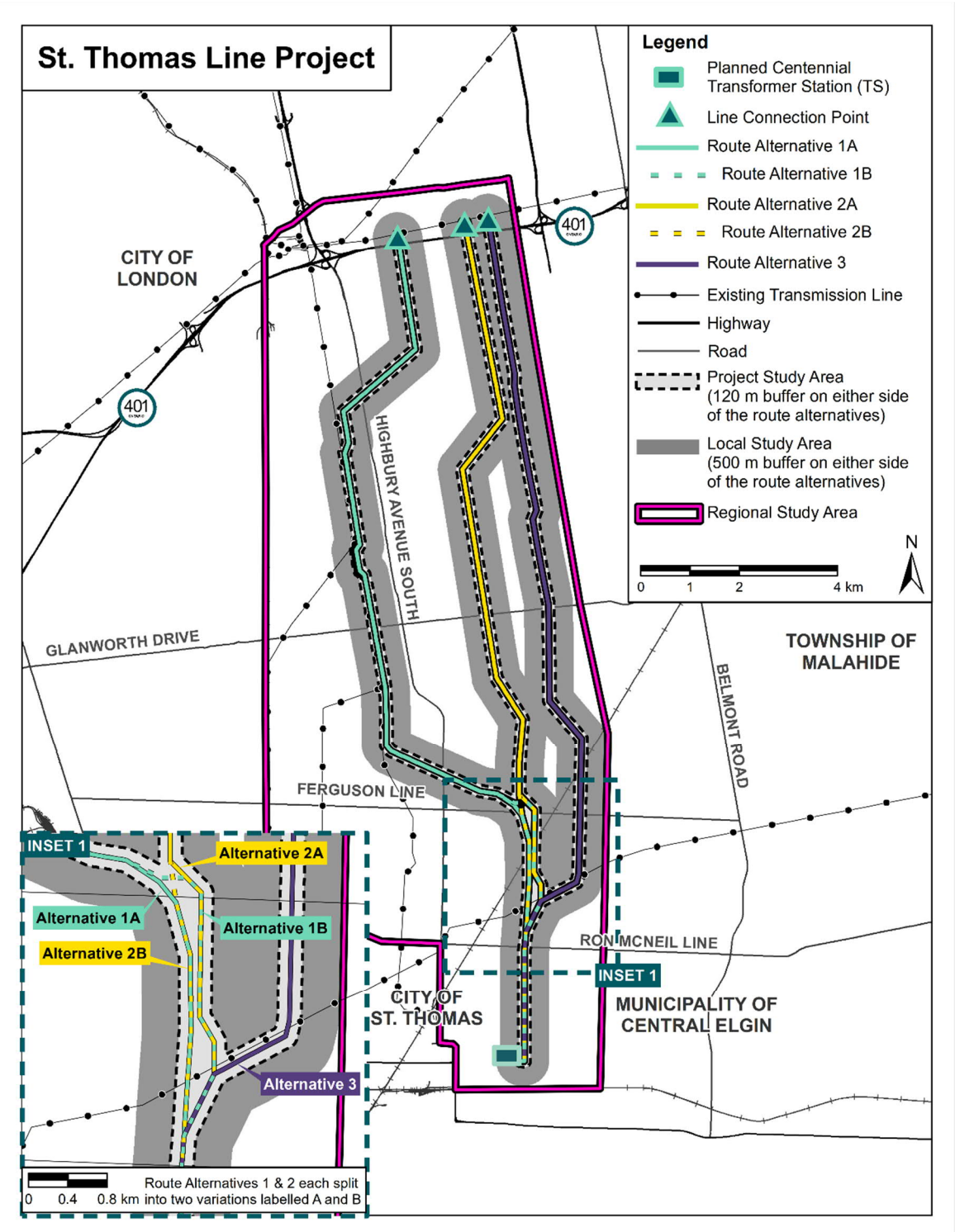
The Local Study Area (LSA) was delineated to include lands within 500 m of each of the route alternative centre lines. The LSA encompasses the proposed length of the transmission line route alternatives from the existing transmission lines east of the Buchanan TS to the new Centennial TS. The purpose of the LSA was to expand upon

the PSA to include an area of potential indirect Project effects on the natural and socio-economic environments associated with each of the route alternatives.

2.3. Regional Study Area

The Regional Study Area (RSA) was delineated to include a corridor of lands based on sufficient geographical area that would allow for the collection of applicable baseline information and the identification of a reasonable range of potential Route Alternatives. The northerly limit of the RSA follows Bradley Avenue from west of the Buchanan TS at the CN Rail line to approximately 500 m west of the Veterans Memorial Parkway interchange. The western limit of the RSA extends along existing linear infrastructure, including the CN Rail line from Bradley Avenue South to Ron McNeil Line. In the east, the RSA extends south from Bradley Avenue between Old Victoria Road and Veterans Memorial Parkway before ending at the CN Rail line north of Talbot Line. To the south, the RSA follows Ron McNeil Line, South Edgeware Line, and Centennial Avenue/ Highway 3 before following the CN Rail line north of Talbot Line.

Figure 2-1: Study Areas



3.0 Consultation

Consultation and engagement are an important component of the Class EA process by providing opportunities to meaningfully participate and provide input in the planning process. It also allows the proponent to learn about social, cultural, economic, and natural environment feedback and considerations related to the proposed Project. The key principles that have guided Hydro One's approach to consultation and engagement include:

- Ongoing, meaningful, and open engagement with residents and communities affected by or interested in the proposed Project;
- A transparent and flexible engagement process;
- Communicating Project information to support a two-way dialogue with Indigenous communities, local elected officials, federal, provincial, and municipal government agencies, local residents, farmers and property owners, interested persons, businesses, and interest groups;
- Ongoing opportunities for interested parties to learn about and provide meaningful input on the proposed Project; and,
- Full and fair considerations and documentation by the proponent of all input received during the consultation and engagement process and incorporation of such input, where feasible and reasonable, into Project planning.

To facilitate transparent and robust consultation and engagement, a variety of tools were implemented, consisting of:

- Early engagement with Indigenous communities;
- Notification letters to provide updates on the Project. Notices were sent via Canada Post Admail to available postal routes and PO boxes intersecting the RSA;
- Letters via registered mail (and in some cases delivered by hand) to potentially and directly affected landowners to provide updates on the Project and encourage any questions and feedback to be discussed with the appropriate Project representative;
- Newspaper, radio, and social media advertisements to provide updates on the Project and reminders of upcoming public engagement events;

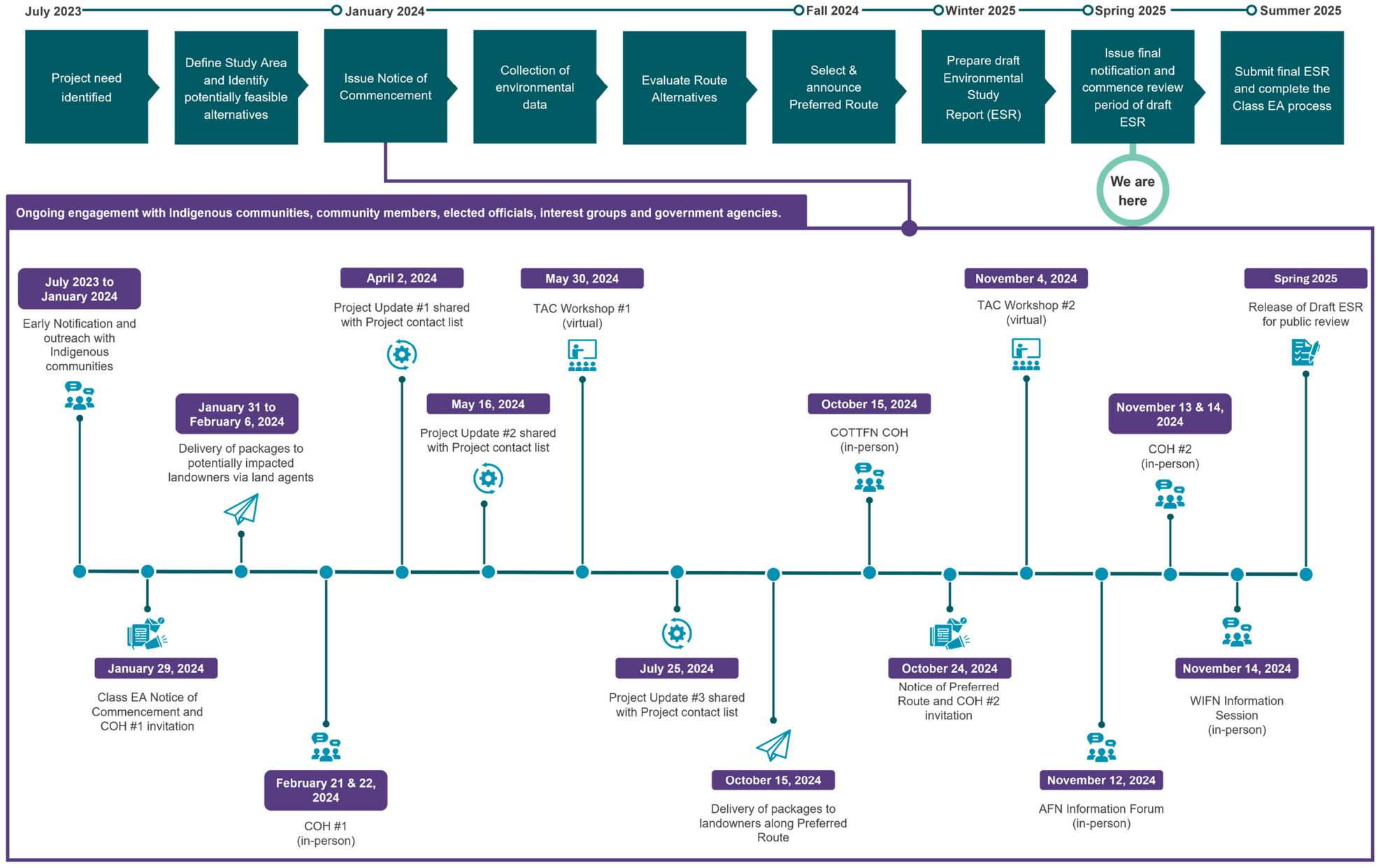
- Establishment of a Technical Advisory Committee (TAC), which consisted of workshops to provide input to the analysis of the Preferred Route (**Section 3.12)**;
- In-person community open houses (COH);
- Meetings and discussions with municipal, provincial and federal elected officials, agency and municipal staff, Indigenous communities, and residents;
- Virtual and in-person meetings, and correspondence with stakeholders who expressed specific interests, concerns and/or feedback;
- Establishment of a Project contact list, through which interested parties received Project updates via email, or via Canada Post Admail for those who requested accommodation;
- Dedicated Community Relations email address and phone number for receiving questions and feedback;
- Dedicated Indigenous Relations team to consult with Indigenous communities;
- Creation of a local community office staffed weekly for interested members of the public to drop-in and discuss Project details with team members; and,
- A website: HydroOne.com/StThomasLine with an interactive online mapping tool to help share Project information, obtain input from members of the public and provide updates.

The results of the consultation and engagement activities are summarized in the sections below. Feedback was considered by the Project team and incorporated where appropriate. Consultation and engagement materials are included in the following appendices:

- The Project contact list at the time of this report is provided in **Appendix B-1**;
- Copies of consultation and engagement materials such as notices, COH display panels, presentation slides and correspondence are included in **Appendix B-2**;
- Copies of consultation materials with Indigenous communities are included in **Appendix B-3**;
- Key correspondence with stakeholders is included in **Appendix B-4**;
- TAC consultation materials are included in **Appendix B-5**; and,
- A copy of the Project Record of Consultation is provided in **Appendix B-6.**

A high-level overview of the consultation and engagement timeline is outlined in **Figure 3-1** and further explained in the subsequent sections below.

Figure 3-1: Consultation Timeline



3.1. Notice of Commencement and Invitation to Community Open House #1

The combined Notice of Commencement and invitation for the COH #1 introduced the Project by providing details on the Project need, description, timelines, and study area and shared the Route Alternatives being studied. Included in the combined Notice was an overview of the Class EA process, COH #1 details, and Hydro One contact information. The combined Notice was distributed as follows:

- On January 18, 2024, Hydro One sent the combined Notice to Indigenous communities via email;
- The combined Notice was emailed to the Project contact list beginning the week of January 29, 2024;
- The combined Notice was distributed to approximately 6,700 homes and businesses within the RSA by Canada Post Admail beginning the week of January 29, 2024; and,
- On February 1, 2024, the combined Notice was published in the St. Thomas Times-Journal, The Elgin County Market, The London Free Press and the Londoner; and, Social media advertisements ran on Facebook and Instagram from February 1 to February 22, 2024, to promote COH #1. Each post was connected to the Project website.

Refer to **Appendix B-2** for a copy of the combined Notice of Commencement and invitation for COH #1.

In addition to the above, Hydro One sent packages to potentially affected landowners along each Route Alternative noting the specific property affected and specific Route Alternative(s) traversing these properties. The packages were hand delivered beginning January 31, 2024, and contained a letter sharing details on the Project as it related to their property(ies), the combined Notice, and property map(s). Any packages that could not be hand delivered were sent via registered mail. Refer to **Appendix B-4** for a copy of the property owner letter.

3.2. Interactive Project Map

On January 29, 2024, Hydro One posted an interactive map available through the Project website (HydroOne.com/StThomasLine). The interactive map allowed members of the public to turn on and off layers and to explore the Route Alternatives in more detail by zooming into specific locations. In addition, the interactive map provided the opportunity for members of the public to post comments and/or questions directly on the map under specific factor categories (e.g., natural environment, social and cultural environment, economic environment, technical considerations) or as general input. **Table 3-1** provides a summary of themes and comments made on the interactive map during the Project.

After the announcement of the Preferred Route on October 24, 2024, the Project's interactive map (HydroOne.com/StThomasLine) was updated to show only the selected Preferred Route (Alternative 3). The interactive map provided an interface for members of the public to leave comments and ask questions. The interactive map allowed members of the public to explore the Preferred Route in more detail by zooming in to specific locations. Members of the public were also able to post comments and/or questions directly on the interactive map.

Table 3-1: Summary of Interactive Map Comments and Concerns

Theme	Question/Comment	Response
Route direction, location, design (including towers, switching stations, etc.)	Is it possible to twin the proposed transmission lines with the existing Edgeware transmission lines west of Highbury Avenue?	• The existing transmission corridor that runs north and south to the west of Highbury Avenue has existing transmission lines that are currently energized and in-service. • Currently, there is insufficient spacing within the existing right-of-way (ROW) to accommodate a new transmission line. As such, Route Alternative 1 parallels the existing transmission lines for approximately 1/3rd of the way.
Route direction, location, design (including towers, switching stations, etc.)	Is it possible to upgrade the existing Edgeware transmission lines in the area instead of building a new transmission line?	• Upgrading the existing transmission line would require installing higher capacity wires, strengthening and replacing towers, and upgrading other major equipment. • When we received the connection request to energize the new facility, Hydro One evaluated how the additional power demand would connect to the electrical grid via a transmission line connection. This assessment considered factors such as capacity, reliability, stability, and the efficiency of the grid. As a part of that assessment, we looked at the other transmission lines in the area. However, it was determined that a new line would need to be built due to the capacity and impact to the grid as well as the magnitude of supply required.
Route direction, location, design (including towers, switching stations, etc.)	Is it possible to route the proposed St. Thomas transmission line west of the existing Edgeware transmission lines rather than to the east?	• Based on the station layout and coordination with the City of St. Thomas, the new 230 kV line entrance must be on the east side of the Centennial Transformer Station.
Route direction, location, design (including towers, switching stations, etc.)	Whether the proposed transmission line could be aligned to property boundaries rather than placing the bases in the middle of agricultural fields.	• When building linear infrastructure that spans such distances, there are technical challenges and considerations that limit our ability to weave and turn around individual property boundaries. However, where possible, opportunities for traversing properties closer to boundaries can be taken into consideration where it is both practical and feasible.
Route direction, location, design (including towers, stations, etc.)	Whether the terminus of the line has to enter from the east side of Centennial Transformer Station and whether it is related to the factory plan layout. Could the line enter from the north side to not cut through the wooded area?	• Based on the station layout and coordination with the City of St. Thomas, the new 230 kV line entrance must be on the east side of the Centennial Transformer Station.

Theme	Question/Comment	Response
Route direction, location, design (including towers, switching stations, etc.)	Please provide more information on how the few alternatives were chosen to be studied. Specifically, why was there not a more easterly option included that would consider a connection point south of the 401, then running south to the existing East-West corridor that runs south of Lyons Line?	• Locating the connection point close to the Buchanan TS located at Mills Pond Road in the City of London was a key consideration based on technical needs and how this additional load would connect to the electrical grid. As such, prior to the start of the Class EA, the Project team conducted preliminary work to identify route alternatives to build the new line between the new Centennial Transformer Station in St. Thomas to the existing transmission corridor north of Highway 401 in London. We considered known technical and environmental features and constraints, such as environmentally significant areas and residential and industrial properties. While looking for opportunities to parallel linear infrastructure such as existing transmission lines. Hydro One incorporated all these considerations and based on the information available, we developed three route alternatives and associated variations.
Impacts to Residential/ Agricultural Land	Members of the public suggested they felt that Alternative 1A would have the least impact to the environment and to productive farmland in the area.	• During the Class EA process, Hydro One will evaluate each Route Alternative to select a Preferred Route. Through the Class EA process, the Project team collects existing conditions data based on stakeholder feedback as well as field investigations. The existing conditions data helps inform the evaluation of the Route Alternatives to identify the Preferred Route. Hydro One's goal is to select a Preferred Route that balances the natural environment, socio-economic environment (which includes agricultural lands), and technical considerations.
Impacts to Residential/ Agricultural Land	Comments noting concerns related to soil compaction and disturbance, soil productivity, and agricultural yield loss due to the construction and maintenance of transmission towers on their properties.	• Effects to agricultural operations are top of mind for the Project team given the land use that we are traversing. • We've had the opportunity to learn about farming operations from other projects we've been working on to date, including having the opportunity to see first-hand the size of modern-day farming equipment. This type of feedback will be considered and recorded as part of our Class EA and used in consideration of the final solution used to deliver this Project. • As we continue our environmental and construction planning for this Project, we will look for opportunities to avoid, protect and prevent damage to environmental features including soil compaction and drainage, to every extent possible and, where necessary, make appropriate repairs.
Impacts to Residential/ Agricultural Land	Concerns to the impacts the Project would have on their property, home values and quality of life.	• Once we select the Preferred Route, Hydro One's real estate team will work closely with directly impacted property owners who have the transmission ROW on their property. Each impacted property owner will be presented with a formal offer based upon the information contained in a property specific independent third-party appraisal report. If deemed applicable by the independent third-party appraiser's property specific appraisal report, Hydro One's offer will include compensation for Injurious Affection.

Theme	Question/Comment	Response
Impacts to Residential/ Agricultural Land	Comments indicated concerns regarding commercial and agricultural losses due to Project works as well as potential impacts related to tile drain damage.	• Once the Preferred Route has been selected, a Hydro One's real estate team will work directly with impacted property owners who have the preferred ROW on their property. • During these one-on-one conversations with the property owners, we will collect key information specific to a property owner's concern, such as impacts to their business or operations. • On a case-by-case basis, Hydro One will consider whether unique or exceptional circumstances exist which require the payment of additional compensation.
Land Considerations & Natural Hazards	Several comments indicated areas of flooding and tile drainage.	• Hydro One owns and maintains transmission lines throughout the province of Ontario, in locations ranging from urban settings to extremely remote areas. Seasonal flooding around transmission lines is not an issue for our infrastructure.
Natural Environment	Several comments inquiring about the potential impacts the Project and associated works would have on natural heritage features including wetlands	• During the Class EA process, we are collecting existing conditions data for each of the Route Alternatives. This is being conducted using Rights-holder and stakeholder feedback, along with field investigations. The existing conditions data will help to inform the evaluation of the Route Alternatives to identify the Preferred Route. As part of the Class EA process, measures to minimize environmental effects will be identified and mitigation measures will be developed for the Preferred Route. The mitigation measures will be documented in the Project's ESR. Hydro One's goal is to select a Preferred Route that balances Indigenous land uses and interests, natural environment, socio-economic environment, and technical considerations. • Hydro One is working closely with government agencies to follow all the applicable legislation, and acquire any permits, approvals, or authorizations prior to beginning any work that would impact natural habitat.

Theme	Question/Comment	Response
Natural Environment	Comments inquiring about compensation lands needed if the Project were to impact local natural heritage features.	• During the Class EA process, we are collecting existing conditions data for each of the Route Alternatives. This is being conducted using Rights-holder and stakeholder feedback, along with field investigations. The existing conditions data will help to inform the evaluation of the Route Alternatives to identify the Preferred Route. We also plan to inquire further about the City of London's compensation lands. • Our goal is to select a Preferred Route that balances Indigenous land use and interests, natural environment, socio-economic environment, and technical considerations. • As part of the Class EA process, measures to minimize environmental effects (e.g., tree clearing), will be identified and we will look at mitigation measures that can be implemented for the Preferred Route. The mitigation measures will be documented in the Project's ESR. • Once the Preferred Route is selected, Hydro One will then be able to determine the property requirements for the Project and work with directly impacted property owners who have a proposed corridor on their property.
Natural Environment	Members of the public inquired about the impacts to City of London owned land that was bought as compensation lands for City of London projects. Members of the public noted that part of this land includes portions of a Provincially Significant Wetland.	• Hydro One is working closely with municipal and government agencies, including the City of London, throughout the Class EA process and will follow all the applicable legislation, and acquire any permits, approvals, or authorizations prior to beginning any work that would impact natural habitat. • Hydro One will continue to consult with the City of London throughout the Project.
Natural Environment	Members of the public posted comments regarding the biodiversity present in specific areas and general concerns for local flora and fauna should the Project traverse these areas.	• The Class EA is the planning process that is followed to ensure potential environmental effects including those related to the natural environment and the communities it's built in are considered. This process ensures that Hydro One is taking an objective lens and evaluating each route according to the same criteria factors. As part of the Class EA process, measures to minimize environmental effects will be identified and mitigation measures will be developed for the Preferred Route, once identified. The mitigation measures will be documented and included in the Project's ESR.

Theme	Question/Comment	Response
Natural Environment	Comments expressing concern for local portions of native Carolinian forest.	• The Class EA process will be followed to ensure that potential environmental effects, including natural environment effects, are considered. The Class EA process ensures that Hydro One is taking an objective lens and evaluating each route according to the same criteria factors. As part of the Class EA process, measures to minimize environmental effects will be identified and mitigation measures will be developed for the Preferred Route, once identified. The mitigation measures will be documented and included in the Project's ESR. • Hydro One is working closely with government agencies to follow all the applicable legislation, and acquire any permits, approvals, or authorizations prior to beginning any work that would impact natural habitat.
Natural Environment	Comments expressing concern for the preservation of water quality.	• The Class EA process will be followed to ensure that potential environmental effects, including effects to water quality are considered. The Class EA process ensures that Hydro One is taking an objective lens and evaluating each route according to the same criteria factors. As part of the Class EA process, measures to minimize environmental factors will be identified and mitigation measures will be developed for the Preferred Route, once identified. The mitigation measures will be documented and included in the Project's ESR. • Hydro One is working closely with government agencies, including Conservation Authorities, to follow all the applicable legislation, and acquire any permits, approvals, or authorizations prior to beginning any work that has the potential to impact water quality.
Natural Environment	Comments indicating the presence of a municipal drain and catch basins on Westminster Drive to Dingman Creek.	• The Class EA process will be followed to ensure that potential environmental effects, including effects to surface water features are considered. The Class EA process ensures that Hydro One is taking an objective lens and evaluating each route according to the same criteria factors. As part of the Class EA process, measures to minimize environmental factors will be identified and mitigation measures will be developed for the Preferred Route, once identified. The mitigation measures will be documented and included in the Project's ESR. • Hydro One is working closely with government agencies, including Conservation Authorities, to follow all the applicable legislation, and acquire any permits, approvals, or authorizations prior to beginning any work that has the potential to impact water quality.

Theme	Question/Comment	Response
Natural Environment	Comments noting areas of steep treed ravines.	• During the Class EA process, we are collecting existing conditions data for each of the Route Alternatives. This is being conducted using Rights-holder and stakeholder feedback, along with field investigations. The existing conditions data will help to inform the evaluation of the Route Alternatives to identify the Preferred Route. As part of the Class EA process, measures to minimize environmental effects will be identified and mitigation measures will be developed for the Preferred Route. The mitigation measures will be documented in the Project's ESR. Hydro One's goal is to select a Preferred Route that balances Indigenous land uses and interests, natural environment, socio-economic environment, and technical considerations. • Hydro One is working closely with government agencies to follow all the applicable legislation, and acquire any permits, approvals, or authorizations prior to beginning any work that would impact natural habitat.
Species at Risk (SAR) and/or species of special concern	Several comments indicated the presence of SAR and species of special concern along the proposed Route Alternatives and their variations.	• Through the Class EA process, the Project team will conduct existing condition investigations and surveys, including confirmed and potential SAR habitat investigations. The data from these investigations will be included and factored into the comparative route evaluation that will be completed to identify the Preferred Route for the Project. • SAR will be considered as important criteria in the evaluation of the alternative routes to select a Preferred Route. As part of the Class EA, Hydro One will work with the applicable agencies, Rights-holders and stakeholders to identify opportunities to avoid or mitigate adverse effects of the Project, including SAR and their habitat. • During construction, Hydro One and their construction partner will establish an environmental management plan, which will outline measures and actions that will be required throughout the construction of the transmission line to avoid and mitigate adverse effects of any SAR and their habitats.
Electromagnetic Fields (EMF)	Concerns about the effects of EMF on human health and over the proximity of the transmission towers and lines to the health of themselves, their families, and their livestock.	• Hydro One recognizes that some members of the public have concerns about safety in the corridor and Hydro One takes the responsibility seriously to understand, appropriately address, and share information on the issue of EMF. Hydro One has a dedicated team that regularly monitors global studies around EMF and ensures that Hydro One's infrastructure is built and maintained following best practices and industry standards. • Hydro One looks to Health Canada, the World Health Organization, and the International Commission on Non-Ionizing Radiation Protection, for guidance on EMF and Hydro One's approach. • Based on global studies which have and continue to be monitored regularly, Health Canada and the World Health Organization indicate that members of the public do not need to take precautions to protect themselves from fields produced by extremely low frequencies such as transmission lines.

Theme	Question/Comment	Response
Access	Several comments indicated that some landowners would not be willing to provide access to their properties for field investigations.	• The field investigations on private property require voluntary temporary access rights. These are not mandatory but would help inform the Class EA for the Project.
Access	Members of the public left comments inquiring about land access agreements for field studies, and suggested providing the Project team with a guided tour as an alternative to signing an all-access agreement.	• Our real estate team will contact select owners along the Route Alternatives to seek voluntary temporary access rights to complete environmental field studies. These non-intrusive environmental field studies will help to inform our Class EA for the Project. If you have any questions or concerns about the agreement, please don't hesitate to reach out to our team.
Socio-Economic	A member of the public indicated the presence of two existing solar arrays that are under contract with the Ontario Government and the need for the Project to avoid shadowing effects on these areas.	• As part of the Project's Class EA and route evaluation, the Project team will consider potential effects to surrounding land uses.
Socio-Economic	Comments indicating presence of agricultural businesses and/or plans to expand business facilities.	• Effects to agricultural operations are top of mind for the Project team given the land use that we are traversing. • The evaluation of the route alternatives will need to balance the impacts including potential impacts to agricultural operations, wildlife and wildlife habitat and residential/commercial property and information provided through the interactive map will be included in the evaluation as well as the ESR. • As we continue our environmental and construction planning for this Project, we will look for opportunities to avoid, protect and prevent damage to environmental features including soil compaction and drainage, to every extent possible and, where necessary, make appropriate repairs.
Socio-Economic	Questions regarding compensation for landowners who will be indirectly affected by the Project.	• Once the Preferred Route has been selected, a Hydro One's real estate team will work directly with impacted property owners who have the preferred ROW on their property. • During these one-on-one conversations with the property owners, we will collect key information specific to a property owner's concern, such as impacts to their business or operations. • On a case-by-case basis, Hydro One will consider whether unique or exceptional circumstances exist which require the payment of additional compensation.
Socio-Economic	Concerns about the aesthetic impacts of the Project on the area.	• During detailed design (selection of transmission structure placement), consideration will be given to proximity to nearby sensitive receptors, existing visual screening (e.g., vegetation), and existing infrastructure and other landscape characteristics, in order to mitigate the net visual change resulting from the new transmission structures.

3.3. Community Open House #1

COH #1 included two in-person events in St. Thomas and Belmont on February 21 and 22, 2024, respectively.

COH #1 provided stakeholders with the opportunity to attend an in-person event and speak to the Project team to learn more about the Project, the Route Alternatives being studied and the route selection process. COH #1 allowed the Project team to engage in one-on-one discussions with stakeholders and gather feedback/input on the Project. Display panels at COH #1 included information on the following:

- How the electricity system works;
- Why the Project is needed;
- The Class EA process and key components;
- The routes being studied and the route selection process;
- Details on building a new transmission line;
- How Hydro One is working with property owners and engaging with communities;
- Project milestones;
- How Hydro One is working with Indigenous communities; and
- Project timelines and next steps.

As shown in **Table 3-2**, approximately 220 individuals signed in at COH #1 over the two days. The number of COH attendees is approximate as registration through the sign-in sheets was voluntary. Attendees had the opportunity to sign-up for the Project contact list through the provided sign-in sheets and comment forms.

Table 3-2: February 2024 In-person COH #1 Events Participation

Date and Time	Venue	Number of Signed-in Attendees
February 21, 2024 3:00 p.m. to 8:00 p.m.	St. Anne's Parish Centre 20 Morrison Drive, St. Thomas	73
February 22, 2024 3:00 p.m. to 8:00 p.m.	Belmont Arena and Community Centre 14020 Belmont Road, Belmont	147
	Total COH #1 Sign-ins	220

A tabletop map was available for each day of COH #1 and depicted the three Route Alternatives and their variations, the planned Hydro One Centennial TS and existing Buchanan TS, the Yarmouth Yards Industrial Park boundary, the planned PowerCo Canada Inc. electric vehicle battery cell manufacturing facility, and existing transmission lines on aerial imagery. During COH #1, attendees directed the Project team to areas of interest or concern, and comments were also provided directly on the map. The comments captured on the tabletop map related to natural hazards (e.g., flooding), other features to consider, and routing questions, such as why utilizing the existing transmission lines west of Highbury Avenue was not feasible for this connection request.

During COH #1, the Project team also had tablets to help record stakeholder comments on the interactive map and to have more in-depth one-on-one conversations about specific areas or properties.

Overall, the COH #1 events were attended by approximately 220 participants and the key comments/concerns received focused on the following themes:

- Route direction, location and design;
- Suggestions to parallel the existing transmission line for its entirety;
- Suggestions to place the route along property boundaries;
- Concerns about impacts to residential land and future development on properties;
- Concerns about impacts to agricultural land, operations and potential business loss;
- Concerns about impacts to natural features in the area;
- Health and safety concerns such as electric and magnetic fields (EMF);
- Tower design, placement and maintenance;
- Existing transmission line infrastructure and capacity; and,
- Questions about the Class EA process and the comparative evaluation.

3.4. Notice of Preferred Route and Invitation to Community Open House #2

The combined Notice of Preferred Route and invitation for COH #2 was distributed as follows:

- On October 24, 2024, the combined Notice was emailed to the Project contact list;
- The combined Notice was distributed to approximately 3,011 homes and businesses within the RSA by Canada Post admail beginning the week of October 24, 2024;
- A media event was held on October 24, 2024, to present the Preferred Route and next steps; and,
- The combined Notice was published between November 1 and 12, 2024, in the St. Thomas Times-Journal, The Elgin County Market, and The London Free Press.

Refer to **Appendix B-2** for a copy of the combined Notice of Preferred Route and invitation for COH #2.

In addition to the above, property owners with property(ies) along the Preferred Route were sent a package by registered mail beginning October 15, 2024. The package contained the following:

- A letter notifying the property owner their property(ies) were affected by the Preferred Route;
- The contact information of their dedicated Hydro One Real Estate Representative;
- Route Selection Factsheet;
- The combined Notice;
- Property map(s); and,
- Information about compensation principles.

Refer to **Appendix B-4** for a copy of the property owner letter.

3.5. Community Open House #2

COH #2 provided stakeholders with the opportunity to attend an in-person event and speak to the Project team, to learn more about the Project, the route selection process, and the selected Preferred Route. COH #2 allowed the Project team to engage in

discussions with stakeholders and gather feedback/input on the Project. Display panels at COH #2 included information on the following:

- How the Electricity System Works;
- Project Overview;
- The Preferred Route Alternative;
- The Class EA Process;
- The Route Alternatives Assessed;
- How Feedback Informed the Route Evaluation;
- Evaluation of the Route Alternatives;
- Evaluation Summary and Results;
- Working with Property Owners;
- Mitigation and Restoration Opportunities;
- Designing the Transmission Line;
- Electric and Magnetic Fields; and,
- Project Timeline.

COH #2 included two in-person events, one in each Belmont and St. Thomas on November 13, and 14, 2024, respectively.

As shown in **Table 3-3,** approximately 56 individuals signed in at COH #2 over the two days. The number of COH attendees is approximate as registration through the sign-in sheets was voluntary. Attendees had the opportunity to sign-up for the Project contact list through the provided sign-in sheets and comment forms.

Table 3-3: November 2024 In-person COH #2 Events Participation

Date and Time	Venue	Number of Signed-in Attendees
November 13, 2024 3:00 p.m. to 8:00 p.m.	Belmont Arena and Community Centre 14020 Belmont Road, Belmont	40
November 14, 2024 3:00 p.m. to 8:00 p.m.	St. Anne's Parish Centre 20 Morrison Drive, St. Thomas	16
	Total COH #2 Sign-Ins	56

A tabletop map was available for each day of COH #2 and depicted the Preferred Route, the planned Centennial TS, the Yarmouth Yards Industrial Park boundary, the planned PowerCo Canada Inc. electric vehicle battery cell manufacturing facility and existing transmission lines on aerial imagery. During the COH #2, attendees directed the Project team to areas of interest and concern, and the tabletop map was available should attendees want to add comments or notes directly on the map. No comments or notes were added to the map during the COH #2 events. During COH #2, the Project team had tablets to help record stakeholders comments and have more in-depth one-on-one conversations with attendees.

A total of one comment form was submitted by COH #2 attendees and included questions and comments regarding the Project. The key comments / concerns during COH #2 focused on the following themes:

- Questions about why the Preferred Route cannot parallel existing infrastructure for its entirety;
- Questions about why the transmission line cannot be buried;
- Concerns about impacts to residential land;
- Concerns about visual impacts from indirectly impacted landowners;
- Concerns about impacts to natural features in the area;
- EMFs and health and safety concerns;
- Tower design, placement and maintenance;
- Existing transmission line infrastructure and capacity; and,
- Questions about the Class EA process and the comparative evaluation.

3.6. Indigenous Communities

Indigenous consultation is a legal requirement rooted in the constitutional duty of the Crown to consult, and where appropriate, accommodate Indigenous communities when rights may be impacted by a proposed project. Consultation with Indigenous communities is also an important part of the engagement requirements of the Class EA process. As such, the Crown's Duty to Consult requirements per Section 35 of the *Constitution Act* (1982) may be discharged (partially or fully) concurrent with the Class EA process. White the Crown holds the honour and responsibility for ensuring meaningful consultation, it can delegate certain procedural aspects of the process to proponents. Hydro One contacted the Ministry of Energy and Electrification (MOEE;

formerly Ministry of Energy) on August 25, 2023, to understand if the Crown's Duty to Consult was triggered by the proposed Project. Hydro One wished to confirm which Indigenous communities were to be consulted and if the Crown would be delegating procedural aspects of the consultation to Hydro One. In the correspondence Hydro One provided a description of the characteristics, general location and scope of the proposed Project.

On December 22, 2023, a letter from the MOEE provided specific delegation of procedural aspects of the Crown's Duty to Consult to Hydro One, and advised that the following communities were to be included in the consultation and engagement process (see **Appendix B-4** for the Hydro One inquiry letter to the Crown and the Crown Duty to Consult delegation letter):

- Aamjiwnaang First Nation (AFN);
- Bkejwanong (Walpole Island) First Nation (WIFN);
- Caldwell First Nation (CFN);
- Chippewas of Kettle and Stony Point First Nation (CKSPFN);
- Chippewas of the Thames First Nation (COTTFN);
- Oneida Nation of the Thames (Oneida); and,
- Six Nations of the Grand River First Nation (Six Nations):
  - Six Nations Elected Council; and,
  - Haudenosaunee Confederacy Chiefs Council (HCCC).

The letters outlined that the procedural aspects of the Duty to Consult had been delegated to Hydro One and provided Crown contacts for questions or comments regarding this delegation.

As part of Hydro One's commitment to early engagement with Indigenous communities, on July 17, 2023, prior to receiving the delegation, Hydro One sent an email to provide details on both the Centennial TS and Line Project Class EA screening and the St. Thomas Line Project with an offer to meet to the Indigenous communities listed above. The email detailed that in March 2023, the governments of Ontario and Canada had announced that the City of St. Thomas was selected as the preferred site for the new investment of the VW subsidiary, PowerCo Canada Inc.'s electric vehicle battery cell manufacturing facility. Project engagement, including capacity funding agreement

discussions, led up to a formal Notice of Commencement sent to the Indigenous communities notifying that Hydro One was officially initiating a Class EA for the Project.

Hydro One takes a community-led approach to engaging with Indigenous communities, as the input from the communities is integral to project planning. To support meaningful consultation and participation, early engagement was conducted and ensured Indigenous communities had multiple opportunities to provide input and feedback. This occurred through:

- Early notifications and the provision of project updates as it became available prior and throughout the Class EA process;
- Invitations and reminders of upcoming public open houses, and Indigenous in-community information events;
- Offers by the Hydro One Project team to meet with the community to present the proposed Project and to identify and address potential issues or concerns;
- Frequent meetings, correspondence, and discussions with designated staff/leaders from Indigenous communities;
- Dedicated Indigenous Relations Project representatives;
- The invitation to participate in the Technical Advisory Committee (TAC) workshops;
- The invitation to participate and review reports of archaeological assessments and Natural Environment field studies, including the sharing of survey locations to assist in the design of the Natural Environment field program to gather input in advance;
- A series of route evaluation documents were created and shared with the Indigenous communities to assist in gathering input on the route evaluation process;
- Invitation for community-led land use studies to provide input into the Project and route evaluation process;
- Establishment and maintenance of a Project website and interactive Project map (HydroOne.com/StThomasLine), allowing for the sharing of Project information and updates; and,
- Offering capacity funding to support monitoring and Project consultation and engagement activities.

Ongoing correspondence and records of engagement activities with Indigenous communities is included in the Record of Consultation (**Appendix B-6**).

3.6.1. Capacity Funding Agreements

The Indigenous communities identified by the Crown to be consulted by Hydro One (via delegation) are key contributors to the Project planning. Prior to the initiation of the Class EA process, Hydro One offered capacity through Capacity Funding Agreements (CFA) or addendums of existing multi-project CFAs with communities. The CFAs are meant to address the following aspects with communities:

- Outline agreed-upon principles of consultation and engagement, considering community-specific protocols and practices;
- Outline a jointly agreed-upon work plan and budget for each community to be meaningfully consulted on the Project, including adequate capacity and resources to participate;
- Outline a process for the sharing of information regarding the Project and associated studies, regulatory processes, and invoicing.

Hydro One recognizes that each community may wish to amend aspects of the agreement to reflect community consultation protocols that may already be established. Indigenous communities were requested to review the agreements or addendums if applicable and share revisions with Hydro One.

Capacity funding was offered to Indigenous communities within the agreements or addendums if there was interest to undertake or enhance existing Traditional Ecological Knowledge/Traditional Resource and Land Use studies (collectively referred to as Indigenous Knowledge).

3.6.2. Indigenous Community Participation in Field Surveys

Hydro One offered each Indigenous community the financial resources and the administrative capacity to hire a field monitor to participate in the field surveys conducted on behalf of the Project. All communities identified by the Crown were invited to participate in field programs and the review of the study reports. Representatives from COTTFN participated in some of the Natural Environment field surveys conducted during the 2024 field season. Indigenous communities will continue to be invited to participate and review the planned Archaeological Assessments in 2025.

3.6.3. Aamjiwnaang First Nation (AFN)

In addition to the consultation process outlined above, AFN received an early notification email from Hydro One detailing both the Centennial TS and Line Project Class EA Screening and the St. Thomas Line Project on July 17, 2023, requesting a meeting to discuss both projects and the community's preferred approach to consultation and engagement and capacity funding.

On August 1, 2023, Hydro One held a virtual meeting with AFN Environmental Department lead to present the project need, description, timelines, and regulatory requirements. Hydro One also discussed how AFN would like to be consulted on the project and offered capacity through an addendum to an existing multi-project CFA. Hydro One sent the CFA addendum to Aamjiwnaang on October 31, 2023. Correspondences regarding the CFA addendum and procurement opportunities followed.

Hydro One emailed AFN the combined Notice of Commencement and COH #1 on January 18, 2024. Hydro One offered to meet with AFN and provide an updated briefing on the Project and how AFN could participate throughout the lifecycle of the Project. On February 21, 2024, Hydro One followed up with AFN by email and offered to coordinate a virtual presentation to discuss the Project in more detail.

On May 6, 2024, Hydro One invited AFN to the TAC Workshop #1, and included some information and materials prior to the workshop. AFN representative emailed back and provided contact information for the TAC invite. On May 21, 2024, Hydro One sent an invitation to the TAC members, including AFN, for the Socio-economic and Natural Environment workshop in support of the Project's Class EA, to be held virtually on May 30, 2024. Hydro One also provided the link to a video introduction explaining the weighted Multi-Criteria Decision-Making framework, as well as the initial criteria list that Hydro One planned to apply during the Class EA to evaluate the Route Alternatives and select the Preferred Route.

On May 24, 2024, AFN emailed Hydro One and noted they were unable to attend the TAC and requested the TAC materials. Hydro One forwarded the TAC presentation and survey to AFN by email on May 31, 2024. Hydro One sent follow up emails to TAC members from AFN to complete the survey on June 6 and 13, 2024.

On June 6, 2024, WSP emailed AFN seeking any feedback, information, background documents, and/or oral histories relating to Cultural Heritage in the project study area while undertaking the Cultural Heritage Existing Conditions (CHEC) report and Preliminary Heritage Impact Assessment (PHIA). A map was provided to AFN with study area details. No response has been received by WSP from AFN regarding Cultural Heritage to date.

Hydro One sent a follow up email to AFN on June 14, 2024, to provide the Stage 1 Archaeological Assessment (AA) and the tentative natural environment study schedule. Hydro One welcomed feedback on the Stage 1 AA and noted they would be happy to discuss AFN's participation and monitoring involvement in the environmental studies. AFN emailed Hydro One on June 17, 2024, and indicated they would let Hydro One know if there was anyone available to participate in the studies and requested an update on the Project. AFN provided the contact details for their Consultation Worker and Environment Coordinator. AFN noted that the Stage 1 AA would be provided to the AFN Environment Committee on July 2, 2024, and that they would provide any comments received following the meeting.

Hydro One emailed AFN on June 17, 2024, and offered to coordinate a meeting to discuss the Project scope and details. Hydro One provided the contact details for Dillon Consulting Limited (Dillon) whose team AFN could contact should they want to participate in environmental studies or other field studies.

Hydro One emailed AFN on July 17, 2024, and invited them to have a meeting with the Project team to go over the Project in more detail. Hydro One provided an outline of the Project status, noting that it was in the route selection process and undergoing some environmental studies. Hydro One invited AFN to provide any feedback they may have on the proposed Route Alternatives.

On August 27, 2024, Hydro One emailed AFN and informed them that the Project was approaching the end of the route selection process. Hydro One invited AFN to provide comments on the alternative routes.

On October 8, 2024, AFN emailed an invitation to Hydro One to participate in the Industry Community Information Forum, held on November 12, 2024. On

October 10, 2024, Hydro One emailed AFN confirming they would participate in the information forum to present major projects, including St. Thomas Line Project.

On October 21, 2024, Hydro One emailed TAC members, including AFN, a meeting invitation for the second TAC workshop. Hydro One noted that the purpose of the virtual TAC is for Hydro One to present the results of the evaluation of the Route Alternatives for the Project. Hydro One shared the planned date for the upcoming Preferred Route announcement and planned COHs.

Hydro One emailed AFN on October 24, 2024, and notified them that they had reached a milestone in the Project with the selection of the Preferred Route, Alternative Route 3. Hydro One offered to brief AFN on the milestone and noted that they would be in the community on November 12, 2024. Hydro One provided AFN with a Notice and a factsheet with details about the route evaluation process, a map of the Preferred Route, and an invitation to the COHs.

On November 4, 2024, Hydro One held the second TAC Workshop with AFN and other TAC members to provide a Project update and present the Preferred Route. The workshop included a review of the survey results from TAC Workshop #1 and provided an overview of how TAC input was incorporated into the final Natural Environment and Socio-Economic criteria weighting. The virtual meeting included a presentation which covered topics, including an overview of the comparative evaluation results, a presentation of the Preferred Route, and Project next steps. An opportunity for discussion was provided following the presentation.

Hydro One attended an AFN Industry Community Information Forum on November 12, 2024. The Information Forum provided community members with an opportunity to learn about proponents who are developing projects within their treaty and traditional territory. Hydro One had a booth with information, pamphlets, and panels for several of their projects, including the St. Thomas Line Project and the selected preferred route. The key verbal comments/concerns expressed to Hydro One staff attending the booth focused on the following themes:

- Information on Hydro One's First Nations 50/50 Equity Partnership Model;
- Design and construction of the transmission lines;
- Employment opportunities;

- Project need and description;
- Biodiversity initiatives within existing Hydro One corridors; and,
- Information about the EV battery cell manufacturing plant in the City of St. Thomas.

On November 14, 2024, TMHC emailed AFN regarding interest in participating in the Stage 2 AA.

On March 6, 2025, Hydro One emailed AFN and provided Project updates. Hydro One provided the Cultural Heritage Existing Conditions for review and comment, requesting that AFN provide comment within 30 days. Hydro One advised AFN that the Stage 2 AA field work was tentatively scheduled for as early as April 2025 and natural environment field surveys were tentatively scheduled for June to August 2025.Hydro One welcomed AFN monitors for both sets of field work. Hydro One indicated that the draft ESR would be released for a 30-day public review period in the Spring. Hydro One requested that AFN inform them if they would like to review and comment. Hydro One stated that they were providing capacity funding for consultation and to take part in the Project. Hydro One offered to provide a more in-depth brief on the Project to AFN.

On March 17, 2025, TMHC emailed AFN for participation for Stage 2 AA field work.

3.6.4. Bkejwanong (Walpole Island) First Nation (WIFN)

In addition to the consultation process outlined above, WIFN received an early notification email from Hydro One detailing both the Centennial TS and Line Project Class EA Screening and the St. Thomas Line Project on July 17, 2023, requesting a meeting to discuss both projects and the community's preferred approach to consultation and engagement. On September 8, 2023, Hydro One held a meeting with WIFN to discuss the details of both projects.

Hydro One emailed WIFN the Notice of Commencement and COH #1 on January 18, 2024. Hydro One offered to meet with WIFN and provide an updated briefing on the Project and how WIFN could participate throughout the lifecycle of the Project. On February 21, 2024, Hydro One followed up with WIFN by email and offered to coordinate a virtual presentation or in person meeting to discuss the Project in more detail. Hydro One called WIFN on March 28, 2024, and left a message for leadership

indicating they were following up on previous communications and inquiring about WIFN's interest in participating in the Project.

On May 6, 2024, Hydro One emailed an invite and information regarding the TAC Workshop #1, and included some materials prior to the workshop.

On May 21, 2024, Hydro One sent an invitation to the TAC members, including WIFN, for the Socio-economic and Natural Environment workshop in support of the Project's Class EA, to be held virtually on May 30, 2024. Hydro One also provided the link to a video introduction explaining the weighted Multi-Criteria Decision-Making framework, as well as the initial criteria list that Hydro One planned to apply during the Class EA to evaluate the Route Alternatives and select the Preferred Route. Hydro One followed up with TAC members by email on May 31, 2024, and provided a copy of the TAC presentation and survey. Hydro One sent follow up emails to TAC members from WIFN to complete the survey on June 6 and 13, 2024.

On June 6, 2024, WSP emailed WIFN seeking any information, background documents, and/or oral histories relating to Cultural Heritage for the Project. No response has been received by WSP from WIFN regarding Cultural Heritage to date.

Hydro One emailed WIFN on June 14, 2024, to follow up on the Notice of Commencement and to inquire about the interest in meeting to discuss or learn more about the Project. Hydro One provided the Stage 1 AA report for review, and the tentative environmental study schedule.

On August 27, 2024, Hydro One emailed WIFN and informed them that the Project was approaching the end of the route selection process. Hydro One invited WIFN to provide comments on the alternative routes.

On October 21, 2024, Hydro One emailed TAC members, including WIFN, a meeting invitation for the second TAC workshop. Hydro One noted that the purpose of the virtual TAC is for Hydro One to present the results of the evaluation of the Route Alternatives for the Project. Hydro One shared the planned date for the upcoming Preferred Route announcement and planned COHs.

Hydro One emailed the newly elected WIFN Chief on October 24, 2024, to introduce them to the Project and inform them of the selection of the Preferred Route, route

alternative 3. Hydro One provided the Chief with an outline of the selection of the Preferred Route, and an invitation to the November 2024 COHs. Hydro One provided the Notice of Commencement for the Project for the Chief's information and the continuity of consultation. On October 28, 2024, the Chief of WIFN emailed Hydro One requesting a meeting prior to the COH. Hydro One and the Chief's executive assistant exchanged several emails to organize a meeting, however a time was not available prior to the COH to meet specific to St. Thomas Line Project.

On November 14, 2024, TMHC emailed WIFN to invite participation regarding the Stage 2 AA.

On November 14, 2024, Hydro One attended a dedicated Information Session in WIFN for all Hydro One projects in southwestern Ontario. The St. Thomas Line Project was featured with panels, handouts, and comment forms. The preferred selected route was the main Project update. The key comments/concerns from the WIFN Information Session on all Hydro One projects focused on the following themes:

- Information on Hydro One's First Nations 50/50 Equity Partnership Model;
- Design and Construction of the transmission lines;
- Smart meters, including their use and long-term health effects;
- Employment opportunities;
- Duty to Consult; and,
- Project need.

On March 6, 2025, Hydro One emailed WIFN and provided Project updates. Hydro One provided the Cultural Heritage Existing Conditions for review and comment, requesting that WIFN provide comment within 30 days. Hydro One advised WIFN that the Stage 2 AA field work was tentatively scheduled for as early as April 2025 and natural environment field surveys were tentatively scheduled for June to August 2025.Hydro One welcomed WIFN monitors for both sets of field work. Hydro One indicated that the draft ESR would be released for a 30-day public review period in the Spring. Hydro One requested that WIFN inform them if they would like to review and comment. Hydro One stated that they were providing capacity funding for consultation and to take part in the Project. Hydro One offered to provide a more in-depth brief on the Project to WIFN.

On March 17, 2025, TMHC emailed WIFN for participation for Stage 2 AA field work.

3.6.5. Caldwell First Nation (CFN)

In addition to the consultation process outlined above, CFN received an early notification email from Hydro One detailing both the Centennial TS and Line Project Class EA Screening and the St. Thomas Line Project on July 17, 2023, requesting a meeting to discuss both projects and the community's preferred approach to consultation and engagement. On August 21, 2023, Hydro One sent a follow up email to CFN offering a briefing to discuss the projects. On November 2, 2023, Hydro One sent an email to a CFN representative providing when to expect the Notice of Commencement for St. Thomas and welcomed CFN to participate in the route selection process and offered to meet to discuss the project, including capacity funding.

Hydro One emailed CFN the Notice of Commencement and COH #1 on January 18, 2024. Hydro One offered to meet with CFN and provide a briefing on the Project and how CFN could participate throughout the lifecycle of the Project. On January 19, 2024, CFN emailed Hydro One and confirmed receipt of the Notice of Commencement. On February 21, 2024, Hydro One followed up with CFN by email and offered to coordinate a virtual presentation or in person meeting to discuss the Project in more detail. Following direction from CFN, Hydro One emailed the CFN Consultation Department on February 21, 2024, to coordinate a meeting to discuss the Project. An introduction meeting was held with CFN on March 12, 2024, which included a presentation on the Project scope and anticipated timelines. Hydro One also discussed capacity funding and upcoming environmental study schedules and possible archaeological studies later in the Project.

On April 5, 2024, Hydro One emailed CFN and provided information on the Natural Environment Field work opportunities for the Project. On April 26, 2024, CFN responded that they have been able to have monitors participating in the field studies.

On May 6, 2024, Hydro One emailed an invite and information regarding the TAC Workshop #1, and included some materials prior to the workshop.

On May 21, 2024, Hydro One sent an invitation to the TAC members, including CFN, for the Socio-economic and Natural Environment workshop in support of the Project's Class EA, to be held virtually on May 30, 2024. Hydro One also provided the link to a video introduction explaining the weighted Multi-Criteria Decision-Making framework, as

well as the initial criteria list that Hydro One planned to apply during the Class EA to evaluate the Route Alternatives and select the Preferred Route. Hydro One followed up with TAC members by email on May 31, 2024, and provided a copy of the TAC presentation and survey. Hydro One sent follow up emails to TAC members from CFN to complete the survey on June 6 and 13, 2024.

On June 14, 2024, Hydro One emailed CFN and provided the Project's Stage 1 AA for review and comment as well as the suggested Capacity Funding Agreement.

On July 2, 2024, Hydro One emailed CFN and provided the preliminary criteria for the "Indigenous Culture, Values and Land Use" portion of the assessment and requested feedback. Hydro One explained that the criteria outlines the itemized areas of consideration for their consultant to measure the impact to the Indigenous Culture, Values and Land Use, and the list will include a weighting to quantify these considerations as they go into the later stages of the assessment process.

On August 14, 2024, Hydro One emailed CFN and inquired if CFN wanted Hydro One to suggest some dates and times to meet for a Project update. Between August 14 and 21, 2024 Hydro One and CFN emailed regarding the Project and Capacity Funding Addendum. On August 19, 2024, CFN confirmed they reviewed the preliminary criteria to be debriefed with a new hire.

Hydro One emailed CFN on August 27, 2024, to inform them of the approaching end of the route selection process for the Project. Hydro One invited CFN to provide comments on the alternative routes.

On October 21, 2024, Hydro One emailed CFN and TAC members a meeting invitation for the second TAC workshop. Hydro One noted that the purpose of the virtual TAC is for Hydro One to present the results of the evaluation of the Route Alternatives for the Project. Hydro One shared the planned date for the upcoming Preferred Route announcement and planned COHs.

Hydro One emailed CFN on October 24, 2024, and notified them that they had reached a milestone in the Project with the selection of the Preferred Route, alternative route 3. Hydro One offered to brief CFN on the milestone and the details of the selection of the Preferred Route. Hydro One provided CFN with a Notice and a factsheet with details about the route evaluation process, a map of the Preferred Route, and an invitation to the COHs.

On November 14, 2024, TMHC emailed CFN to reach out regarding participating in the Stage 2 AA. CFN responded on November 14, 2024, noting their interest in attending the field work and that TMHC may feel free to use the 2024 template they had sent. Between November 14 and 20, 2024, CFN and TMHC emailed regarding agreements.

Hydro One emailed CFN on November 19, 2024, and provided CFN with the requested copy of the Record of Consultation.

On November 29, 2024, CFN emailed Hydro One and expressed their concerns about lack of capacity to track energy projects. CFN noted they would revisit Hydro One projects when they have more staff.

On March 6, 2025, Hydro One emailed CFN to provide Project updates, Hydro One provided the Cultural Heritage Existing Conditions for review and comment, requesting that CFN provide comment within 30 days. Hydro One advised CFN that the Stage 2 AA field work was tentatively scheduled for as early as April 2025 and natural environment field surveys were tentatively scheduled for June to August 2025. Hydro One welcomed CFN to participate in both sets of field work. Hydro One indicated that the draft ESR would be released for a 30-day public review period in the Spring. Hydro One requested that CFN inform them if they would like to review and comment. Hydro One stated that they were providing capacity funding for consultation and to take part in the Project. Hydro One offered to provide a more in-depth brief on the Project to CFN.

On March 17, 2025, TMHC emailed WIFN for participation for Stage 2 AA field work.

3.6.6. Chippewas of Kettle and Stony Point First Nation (CKSPFN)

CKSPFN identified interest in participating in the Project with support from Three Fires Group, who manages consultation and participation in major projects on behalf of the First Nation. Throughout the engagement detailed below, Three Fires Group may be referenced.

In addition to the consultation process outlined above, CKSPFN and Three Fires Group, received an early notification email from Hydro One detailing both the Centennial TS and Line Project Class EA Screening and the St. Thomas Line Project on July 17, 2023, requesting a meeting to discuss both projects and the community's preferred approach to consultation and engagement. On July 18, 2023, CKSPFN emailed Hydro One and provided updated consultation contact information. CKSPFN emailed Hydro One on July 20, 2023, to provide availability for a Project introductory meeting with Hydro One. On August 4, 2023, Hydro One met with CKSPFN in person to present an early engagement and introductory presentation.

Hydro One emailed CKSPFN the Notice of Commencement and COH #1 on January 18, 2024. Hydro One offered to meet with CKSPFN and provide a briefing on the Project and how CKSPFN could participate throughout the lifecycle of the Project. On February 21, 2024, Hydro One followed up with CKSPFN by email and offered to coordinate a virtual presentation or in person meeting to discuss the Project in more detail.

On March 28, 2024, Hydro One called CKSPFN and inquired if there was any interest in participating in the Project. CKSPFN expressed interest in taking the conversation further and requested that Hydro One resend the Notice of Commencement. Hydro One emailed CKSPFN following the phone call and provided the Notice of Commencement. CKSPFN emailed Hydro One on the same day and indicated they would review the Project details more closely and get back to Hydro One.

On May 6, 2024, Hydro One emailed an invite and information regarding the TAC Workshop #1, and included some materials prior to the workshop.

On May 21, 2024, Hydro One sent an invitation to the TAC members, including CKSPFN and Three Fires Group, for the Socio-economic and Natural Environment workshop in support of the Project's Class EA, to be held virtually on May 30, 2024. Hydro One also provided the link to a video introduction explaining the weighted Multi-Criteria Decision-Making framework, as well as the initial criteria list that Hydro One

planned to apply during the Class EA to evaluate the Route Alternatives and select the Preferred Route.

On May 30, 2024, Hydro One held the first TAC workshop for the Project's Multi-Criteria Decision-Making framework approach for the comparative evaluation. Hydro One followed up with TAC members by email on May 31, 2024, and provided a copy of the TAC presentation and survey. Hydro One sent follow up emails to TAC members to complete the survey on June 6 and 13, 2024.

On June 6, 2024, WSP emailed CKSPFN seeking any information, background documents, and/or oral histories relating to Cultural Heritage for the Project. No response has been received by WSP from CKSPFN regarding Cultural Heritage to date.

On June 14, 2024, Hydro One emailed CKSPFN and provided the Project's Stage 1 AA for review and comment as well as the proposed environmental studies schedule. On June 28, 2024, CKSPFN emailed Hydro One and indicated their interest in participating in the Project and requested that they work with Three Fires Group.

On June 28, 2024, CKSPFN emailed Hydro One to indicate their interest in participating in the Project with support from Three Fires Group. CKSPFN requested a meeting to discuss capacity funding and monitoring opportunities. Hydro One responded to CKSPFN on June 28, 2024, noting they would be happy to set up a meeting with CKSPFN and provided their availability and the preliminary criteria from the TAC Workshop for their review and input.

On July 8, 2024, Hydro and CKSPFN and the Three Fires Group met to discuss the project, the environmental field studies schedule for participation, and capacity funding.

On August 9, 2024, CKSPFN emailed Hydro One to follow up on their July meeting and provided a copy of their proposed capacity budget and consultation activities for the Project. Hydro One emailed CKSPFN on August 20, 2024, and provided a suggested CFA that incorporated their proposal and a copy of the slide deck from their previous meeting.

On August 27, 2024, Hydro One emailed CKSPFN and informed them that the Project was approaching the end of the route selection process. Hydro One invited AFN to provide comments on the alternative routes.

Hydro One emailed CKSPFN on September 11, 2024, and indicated it would be ideal to have their route selection feedback and comments before October 1, 2024, to ensure it is included in the preferred route selection process. Hydro One stated that there had been a request for shapefiles for a number of Hydro One transmission projects as part of a Traditional Land Use study conducted by the Three Fires Group, and Hydro One noted they would provide the files directly to the noted contact. On September 24, 2024, a member of Three Fires Group representing CKSPFN emailed Hydro One and notified them they were aiming to provide the comments on the route selection by the end of that week. On September 30, 2024, a Three Fires Group representative of CKSPFN emailed Hydro One and provided a letter memo with comments to consider for the route evaluation. Hydro One responded to Three Fires and CKSPFN and thanked them for providing the letter of comments. Hydro One acknowledged that CKSPFN had included questions for the Project team and Hydro One indicated that they work to provide responses. Hydro One noted they look forward to continuing to work with CKSPFN and Three Fires Group and to discuss opportunities for restoration and community investment development.

On October 21, 2024, Hydro One emailed TAC members, including CKSPFN and Three Fires Group, a meeting invitation for the second TAC workshop. Hydro One noted that the purpose of the virtual TAC is for Hydro One to present the results of the evaluation of the Route Alternatives for the Project. Hydro One shared the planned date for the upcoming Preferred Route announcement and planned COHs.

Hydro One emailed CKSPFN and Three Fires Group on October 24, 2024, and thanked them for providing a memo from the broader Traditional Use Study that included feedback and comments from the community which were included in the Projects route evaluation process. Hydro One provided a response letter to CKSPFN and Three Fires Group’s questions, concerns, and opportunities raised in the memo. Hydro One noted that they would be happy to meet to continue the dialogue on the findings from their community engagement, including how their comments and feedback were incorporated into the evaluation and weighting of the alternative routes.

On the same day, Hydro One emailed CKSPFN and Three Fires Group and notified them that they had reached a milestone in the Project with the selection of the Preferred Route, alternative route 3. Hydro One offered to brief CKSPFN and Three Fires Group

on the milestone and the details of the selection of the Preferred Route. Hydro One provided the Notice and a factsheet with details about the route evaluation process, a map of the Preferred Route, and an invitation to the COHs.

CKSPFN emailed Hydro One on November 1, 2024, and thanked them for providing updates and for preparing a response letter to their memo. CKSPFN noted they were looking forward to their continued collaboration. On the same day, CKSPFN emailed Hydro One and thanked them for advising of the milestone of the selection of the Preferred Route and for providing supporting documents. CKSPFN noted they looked forward to participating in the upcoming TAC the following week.

On November 4, 2024, Hydro One held the second TAC Workshop with Three Fires Group and other TAC members to provide a Project update and present the Preferred Route. The workshop included a review of the survey results from TAC Workshop #1 and provided an overview of how TAC input was incorporated into the final Natural Environment and Socio-Economic criteria weighting. The virtual meeting included a presentation which covered topics, including an overview of the comparative evaluation results, a presentation of the Preferred Route, and Project next steps. An opportunity for discussion was provided following the presentation.

On November 14, 2024, TMHC emailed Three Fires Group to reach out regarding the Stage 2 AA. Throughout November 2024, TMHC and Three Fires Group emailed regarding the agreement.

On March 6, 2025, Hydro One emailed CKSPFN and Three Fires Group to provide Project updates. Hydro One provided the Cultural Heritage Existing Conditions for review and comment, requesting that CKSPFN provide comment within 30 days. Hydro One advised CKSPFN and Three Fires Group that the Stage 2 AA field work was tentatively scheduled for as early as April 2025 and natural environment field surveys were tentatively scheduled for June to August 2025. Hydro One welcomed CKSPFN to participate in both sets of field work. Hydro One indicated that the draft ESR would be released for a 30-day public review period in the Spring. Hydro One requested that CKSPFN inform them if they would like to review and comment. Hydro One stated that they were providing capacity funding for consultation and to take part in the Project. Hydro One offered to provide a more in-depth brief on the Project to CKSPFN. On

March 13, 2025, Three Fires Group emailed Hydro One indicating that they would like to review the assessment documents and be interested in participating in the upcoming studies and provided updates about capacity funding. On March 19, 2025, Hydro One responded with directions about capacity funding.

On March 17, 2025, TMHC emailed WIFN for participation for Stage 2 AA field work followed by several emails coordinating monitoring agreements.

3.6.7. Chippewas of the Thames First Nation (COTTFN)

In addition to the consultation process outlined above, COTTFN received an early notification email from Hydro One detailing both the Centennial TS and Line Project Class EA Screening and the St. Thomas Line Project on July 17, 2023, requesting a meeting to discuss both projects and the community's preferred approach to consultation and engagement. On August 21, 2023, Hydro One sent an email to COTTFN representatives indicating that the project is in its early development stage and that additional details will be provided at a later time. Hydro One also uploaded early project information on COTTFN consultation software. On September 6, 2023, COTTFN emailed Hydro One a response letter and provided their consultation protocols. On September 12, 2023, Hydro One emailed COTTFN and acknowledged the consultation protocols and offered to meet to discuss both projects. On September 28, 2023, Hydro One met with COTTFN to discuss both projects and the CFA. Hydro One emailed COTTFN on October 25, 2023, and provided a capacity funding addendum for consideration and the meeting minutes along with an update on upcoming engagement.

Between November 2023 and January 2024 Hydro One and COTTFN corresponded over email regarding the details of the capacity addendum.

Hydro One emailed COTTFN the Notice of Commencement and COH #1 on January 18, 2024. Hydro One offered to meet with COTTFN and provide a briefing on the Project and how COTTFN could participate throughout the lifecycle of the Project.

On April 5, 2024, Hydro One emailed COTTFN to provide information regarding the environmental field studies. On April 16, 2024, COTTFN emailed Dillon regarding the natural environment field studies and requested a contract with Dillon. On April 29, 2024, Dillon emailed COTTFN and provided information on the upcoming field studies.

Between April 29 and May 6, 2024, Dillon and COTTFN corresponded over email regarding the schedule for the Project's natural environment field studies. COTTFN and Dillon continued to correspond by email throughout May and June 2024 for upcoming surveys and monitoring.

On May 6, 2024, Hydro One emailed information regarding the TAC Workshop #1, and included some materials prior to the workshop. COTTFN emailed Hydro One on May 7, 2024, to confirm the attendee at the upcoming TAC.

Between May 16 and May 30,2024, COTTFN and Hydro One communicated regarding the specifics of the project ownership.

On May 21, 2024, Hydro One sent an invitation to the TAC members, including COTTFN, for the Socio-economic and Natural Environment workshop in support of the Project's Class EA, to be held virtually on May 30, 2024. Hydro One also provided the link to a video introduction explaining the weighted Multi-Criteria Decision-Making framework, as well as the initial criteria list that Hydro One planned to apply during the Class EA to evaluate the Route Alternatives and select the Preferred Route.

On May 30, 2024, Hydro One held the first TAC workshop for the Project's Multi-Criteria Decision-Making framework approach for the comparative evaluation. Hydro One followed up with TAC members by email on May 31, 2024, and provided a copy of the TAC presentation and survey. Hydro One sent follow up emails to TAC members from COTTFN to complete the survey on June 6, 2024.

On May 31, 2024, COTTFN emailed Hydro One to suggest moving the previously proposed June open house in COTTFN to September 2024 and noted about providing input into the route selection process.

On June 6, 2024, WSP emailed COTTFN seeking any information, background documents, and/or oral histories relating to Cultural Heritage for the Project. On August 1, 2024, COTTFN emailed WSP providing a letter that noted Cultural Heritage Landscapes of cultural and environmental significance to COTTFN.

On June 14, 2024, Hydro One emailed COTTFN and provided the Project's Stage 1 AA for review and comment.

On July 2, 2024, Hydro One emailed COTTFN and provided the preliminary criteria for the “Indigenous Cultures, Values and Land Use” portion of the assessment and requested feedback. Hydro One explained that the criterion outlines the itemized areas of consideration for their consultant to measure the impact to the Indigenous, Culture, Values and Land Use, and the list will include a weighting to quantify these considerations as they go into the later stages of the assessment process.

On July 3, 2024, COTTFN emailed Hydro One noting the Stage 1 AA and requested more information on archaeology reporting. Hydro One emailed COTTFN on July 18, 2024, and noted they appreciated their review of the AA for the Project. Hydro One provided a link for the additional reports that COTTFN had requested. On August 1, 2024, COTTFN emailed Hydro One and provided a response letter and noted they would be sending an invoice based on their time to engage in the consultation process.

On August 1, 2024, COTTFN emailed Hydro One and provided comments and input on the route selection process. Additionally, COTTFN noted that they were organizing an open house with PowerCo Canada Inc. in September 2024 and that they wanted to include Hydro One. COTTFN indicated that PowerCo Canada Inc. would be providing an overview presentation with some focus on environmental and employment opportunity questions. On August 19, 2024, Hydro One called COTTFN to discuss how their letter of comments regarding Cultural Heritage Landscapes was included in the route selection process. Hydro One and COTTFN discussed an upcoming COH and an early briefing of the Preferred Route. On August 20, 2024, Hydro One emailed COTTFN and confirmed the timing for a COH planned for October 2024 and to provide a response to their comments on the alternative route selection process.

On August 28, 2024, COTTFN emailed Hydro One and provided a copy of the Big Bear Creek Land Selection Area and discussed further arrangement for a COH. Hydro One emailed COTTFN on August 28, 2024, and thanked them for the map. Hydro One indicated that the Indigenous communities would be notified of the Preferred Route around the same time as the proposed open house with PowerCo Canada Inc. Hydro One provided the options to either have an open house in September 2024, or to coordinate an open house with PowerCo Canada’s availability in October 2024 after the selection of the Preferred Route. Hydro One indicated that for the latter option, comments from community members would be retroactive in the route selection

process, but would still be in the Record of Consultation. Hydro One stated that they would be happy to have an early briefing with COTTFN's consultation team in September 2024 on the route selection process before the Preferred Route is selected in addition to an open house in October 2024.

Hydro One and COTTFN emailed throughout September 2024 to confirm open house logistics and details. On September 16, 2024, Hydro One noted in an email to COTTFN that they would be presenting the Preferred Route at that time, however any comments received will still be considered overall.

On October 15, 2024, an open house was held for COTTFN with PowerCo Canada Inc. and Project team staff in attendance. Following a presentation from PowerCo Canada Inc., Hydro One provided a presentation on the Project, which included an update on the selection of the Preferred Route. A summary of the live Q&A questions and responses are included in **Table 3-4** below.

Table 3-4: COTTFN October 2024 Open House Q&A

Question	Response
What type of capacity funding is/will be available to First Nations? What employment opportunities will come from this transmission line?	Capacity funding mentioned as part of the presentation relate to capacity funding for consultation on the transmission line project. However, Hydro One does have programs and commitments to Indigenous procurement and employment opportunities. Hydro One provided the participant with a brochure of Hydro One initiatives.
Did you consider Indigenous recognition of spirit of the land in the evaluation of your routes?	A variety of studies and inputs are considered in the EA including Traditional Knowledge Studies and criteria to consider Indigenous values. COTTFN noted that Spirit of the land is something they would like Hydro One to acknowledge regardless of its consideration in the EA evaluation.

Other items discussed during one-on-one conversations with COTTFN related to Indigenous procurement and employment and where the Project crosses the Kettle Creek River Valley.

On October 21, 2024, Hydro One emailed COTTFN and other TAC members a meeting invitation for the second TAC workshop. Hydro One noted that the purpose of the virtual TAC is for Hydro One to present the results of the evaluation of the Route Alternatives

for the Project. Hydro One shared the planned date for the upcoming Preferred Route announcement and planned COHs.

Hydro One emailed COTTFN on October 24, 2024, and notified them that they had reached a milestone in the Project with the selection of the Preferred Route, alternative route 3. Hydro One offered to brief COTTFN on the milestone and the details of the selection of the Preferred Route. Hydro One provided COTTFN with a Notice and a factsheet with details about the route evaluation process, a map of the Preferred Route, and an invitation to the COHs.

On November 4, 2024, Hydro One held the second TAC Workshop with COTTFN and other TAC members to provide a Project update and present the Preferred Route. The workshop included a review of the survey results from TAC Workshop #1 and provided an overview of how TAC input was incorporated into the final Natural Environment and Socio-Economic criteria weighting. The virtual meeting included a presentation which covered topics including an overview of the comparative evaluation results, a presentation of the Preferred Route, and Project next steps. An opportunity for discussion was provided following the presentation.

On November 14, 2024, TMHC emailed COTTFN to reach out regarding the Stage 2 AA. Throughout November 2024, TMHC and COTTFN emailed regarding the agreement for the Project.

On March 6, 2025, Hydro One emailed COTTFN to provide Project updates, Hydro One provided the Cultural Heritage Existing Conditions for review and comment, requesting that COTTFN provide comment within 30 days. Hydro One advised COTTFN that the Stage 2 AA field work was tentatively scheduled for as early as April 2025 and natural environment field surveys were tentatively scheduled for June to August 2025. Hydro One welcomed COTTFN to participate in both sets of field work. Hydro One indicated that the draft ESR would be released for a 30-day public review period in the Spring. Hydro One requested that COTTFN inform them if they would like to review and comment. Hydro One stated that they were providing capacity funding for consultation and to take part in the Project. Hydro One offered to provide a more in-depth brief on the Project to COTTFN.

On March 17, 2025, TMHC emailed COTTFN regarding participation for Stage 2 AA field work followed by several emails coordinating monitoring agreements.

3.6.8. Haudenosaunee Confederacy Chiefs Council (HCCC), Haudenosaunee Development Institute (HDI)

In addition to the consultation process outlined above, HCCC and HDI received an early notification email from Hydro One detailing both the Centennial TS and Line Project Class EA Screening and the St. Thomas Line Project on July 17, 2023, requesting a meeting to discuss both projects and the community's preferred approach to consultation and engagement. On October 26, 2023, Hydro One sent an email offering to meet for early engagement on the project, indicating that the notice of commencement is scheduled early 2024.

Hydro One emailed HCCC and HDI the Notice of Commencement and COH #1 on January 18, 2024. Hydro One offered to meet with HCCC and HDI to provide a briefing on the Project and how they could participate throughout the lifecycle of the Project. On February 21, 2024, Hydro One followed up with HCCC and HDI by email and offered to coordinate a virtual presentation to discuss the Project in more detail. Hydro One met with HCCC and HDI on March 18, 2024, to discuss new and ongoing projects. HDI followed up by email on April 2, 2024, to provide a copy of the agreement for field participation.

On May 6, 2024, Hydro One emailed an invitation and provided information regarding the TAC Workshop #1, and included some materials prior to the workshop.

On May 21, 2024, Hydro One sent an invitation to the TAC members, including HDI, for the Socio-economic and Natural Environment workshop in support of the Project's Class EA, to be held virtually on May 30, 2024. Hydro One also provided the link to a video introduction explaining the weighted Multi-Criteria Decision-Making framework, as well as the initial criteria list that Hydro One planned to apply during the Class EA to evaluate the Route Alternatives and select the Preferred Route. Hydro One followed up with TAC members by email on May 31, 2024, and provided a copy of the TAC presentation and survey. Hydro One sent follow up emails to TAC members to complete the survey on June 6 and 13, 2024.

On June 6, 2024, WSP emailed HDI seeking any information, background documents, and/or oral histories relating to Cultural Heritage for the Project.

On June 14, 2024, Hydro One emailed HDI to inquire if HDI had any interest in meeting to discuss the Project. Hydro One provided the Stage 1 AA and tentative natural environment study schedule. Hydro One welcomed feedback on the Stage 1 AA and noted that they would be happy to discuss HDI's participation and monitoring involvement in the environmental studies.

On August 27, 2024, Hydro One emailed HDI and informed them that the Project was approaching the end of the route selection process. Hydro One invited HCCC to provide comments on the alternative routes.

On October 21, 2024, Hydro One emailed TAC members, including HDI, a meeting invitation for the second TAC workshop. Hydro One noted that the purpose of the virtual TAC is for Hydro One to present the results of the evaluation of the Route Alternatives for the Project. Hydro One shared the planned date for the upcoming Preferred Route announcement and planned COHs.

Hydro One emailed HDI on October 24, 2024, and notified them that they had reached a milestone in the Project with the selection of the Preferred Route, alternative route 3. Hydro One offered to brief HDI on the milestone and the details of the selection of the Preferred Route. Hydro One provided HDI with a Notice and a factsheet with details about the route evaluation process, a map of the Preferred Route, and an invitation to the COHs.

On November 14, 2024, TMHC emailed HDI to reach out regarding the Stage 2 AA.

Between January 7, 2025, and March 6, 2025, Hydro One and HDI corresponded coordinating an in person meeting to discuss monitoring on Hydro One projects and project updates.

On March 6, 2025, Hydro One met HDI to discuss monitoring agreements, upcoming monitoring opportunities and project updates.

The same day, Hydro One emailed HDI to provide the Cultural Heritage Existing Conditions report for review and comment, requesting that HDI provide comment within 30 days. Hydro One advised HDI that the Stage 2 AA field work was tentatively

scheduled for as early as April 2025 and natural environment field surveys were tentatively scheduled for June to August 2025. Hydro One welcomed HDI to participate in both sets of field work. Hydro One indicated that the draft ESR would be released for a 30-day public review period in the Spring. Hydro One requested that HDI inform them if they would like to review and comment. Hydro One stated that they were providing capacity funding for consultation and to take part in the Project. Hydro One offered to provide a more in-depth brief on the Project to HDI.

On March 14, 2025, HDI emailed Hydro One to confirm interest in archaeology and field studies and requested more information for coordinating monitoring. Hydro One emailed HDI on March 17, 2025, to provide more information on monitoring coordination.

On March 17, 2025, TMHC emailed HDI regarding participation for Stage 2 AA field work followed by several emails coordinating monitoring agreements.

3.6.9. Oneida Nation of the Thames (Oneida)

In addition to the consultation process outlined above, Oneida received an early notification email from Hydro One detailing both the Centennial TS and Line Project Class EA Screening and the St. Thomas Line Project on July 17, 2023, requesting a meeting to discuss both projects and the community's preferred approach to consultation and engagement. On August 21, 2023, Hydro One sent a follow up email to Oneida offering to meet for early engagement on the project, indicating that the notice of commencement is scheduled early 2024.

Hydro One emailed Oneida the Notice of Commencement and COH #1 on January 18, 2024. Hydro One offered to meet with Oneida and provide a briefing on the Project and how they could participate throughout the lifecycle of the Project. On February 21, 2024, Hydro One followed up with Oneida by email and offered to coordinate a virtual presentation to discuss the Project in more detail.

On May 6, 2024, Hydro One emailed an invitation and information regarding the TAC Workshop #1, and included some materials prior to the workshop.

On May 21, 2024, Hydro One sent an invitation to the TAC members, including Oneida, for the Socio-economic and Natural Environment workshop in support of the Project's Class EA, to be held virtually on May 30, 2024. Hydro One also provided the link to a

video introduction explaining the weighted Multi-Criteria Decision-Making framework, as well as the initial criteria list that Hydro One planned to apply during the Class EA to evaluate the Route Alternatives and select the Preferred Route. Hydro One followed up with TAC members by email on May 31, 2024, and provided a copy of the TAC presentation and survey. Hydro One sent follow up emails to TAC members to complete the survey on June 6 and 13, 2024.

On June 6, 2024, WSP emailed Oneida seeking any information, background documents, and/or oral histories relating to Cultural Heritage for the Project. On June 14, 2024, Hydro One emailed Oneida to inquire if they had any interest in meeting to discuss the Project. Hydro One provided the Stage 1 AA and tentative natural environment study schedule. Hydro One welcomed feedback on the Stage 1 AA and noted that they would be happy to discuss Oneida's participation and monitoring involvement in the environmental studies.

On July 2, 2024, Hydro One called Oneida to follow up on the continued outreach efforts pertaining to the Project. Hydro One was unable to get a hold of the appropriate point of contact and left a message with the political office including contact information and reason for the call.

On August 27, 2024, Hydro One emailed Oneida and informed them that the Project was approaching the end of the route selection process. Hydro One invited Oneida to provide comments on the alternative routes.

On October 21, 2024, Hydro One emailed TAC members, including Oneida, a meeting invitation for the second TAC workshop. Hydro One noted that the purpose of the virtual TAC is for Hydro One to present the results of the evaluation of the Route Alternatives for the Project. Hydro One shared the planned date for the upcoming Preferred Route announcement and planned COHs.

Hydro One emailed Oneida on October 24, 2024, and notified them that they had reached a milestone in the Project with the selection of the Preferred Route, alternative route 3. Hydro One noted potential capacity issues limiting Oneida engagement in the Project and offered to meet to discuss capacity . Hydro One offered to brief Oneida on the milestone and details of the selection of the Preferred Route. Hydro One provided Oneida with a Notice and a factsheet with details about the route evaluation process, a

map of the Preferred Route, and an invitation to the COHs. Hydro One offered to hold a COH in Oneida for community members to drop-in to learn more, hear about next steps, speak with the Project team, and provide feedback.

On November 14, 2024, TMHC emailed Oneida to reach out regarding the Stage 2 AA.

On March 6, 2025, Hydro One emailed Oneida to provide Project updates. Hydro One provided the Cultural Heritage Existing Conditions report for review and comment, requesting that Oneida provide comment within 30 days. Hydro One advised Oneida that the Stage 2 AA field work was tentatively scheduled for as early as April 2025 and natural environment field surveys were tentatively scheduled for June to August 2025. Hydro One welcomed Oneida to participate in both sets of field work. Hydro One indicated that the draft ESR would be released for a 30-day public review period in the Spring. Hydro One requested that Oneida inform them if they would like to review and comment. Hydro One stated that they were providing capacity funding for consultation and to take part in the Project. Hydro One offered to provide a more in-depth brief on the Project to Oneida.

On March 17, 2025, TMHC emailed Oneida regarding participation for Stage 2 AA field work.

3.6.10. Six Nations of the Grand River (Six Nations)

In addition to the consultation process outlined above, Six Nations received an early notification email from Hydro One detailing both the Centennial TS and Line Project Class EA Screening and the St. Thomas Line Project on July 17, 2023, requesting a meeting to discuss both projects and the community's preferred approach to consultation and engagement. On August 21, 2023, Hydro One sent a follow up email to Six Nations offering to meet for early engagement on the project, indicating that the notice of commencement is scheduled early 2024.

Hydro One emailed Six Nations the Notice of Commencement and COH #1 on January 18, 2024. Hydro One offered to meet with Six Nations and provide a briefing on the Project and how they could participate throughout the lifecycle of the Project. On February 21, 2024, Hydro One followed up with Six Nations by email and offered to coordinate a virtual presentation to discuss the Project in more detail. On March 28, 2024, Hydro One called Six Nations to inquire whether there was interest in participating

in the Project. Six Nations indicated there was an interest in further conversation and requested that Hydro One resend the Notice.

On May 6, 2024, Hydro One emailed information regarding the TAC Workshop #1, and included some materials prior to the workshop. On May 7, 2024, Six Nations emailed Hydro One to indicate that they would not participate in the TAC process at this time but appreciated the updated information and outreach.

On June 6, 2024, WSP emailed Six Nations seeking any information, background documents, and/or oral histories relating to Cultural Heritage for the Project. On June 14, 2024, Hydro One emailed Six Nations to inquire if they were interested in participating in the Project and provided the Stage 1 AA and tentative natural environment study schedule. Hydro One welcomed feedback on the Stage 1 AA and noted that they would be happy to discuss Six Nation's participation and monitoring involvement in the environmental studies.

On August 27, 2024, Hydro One emailed Six Nations and informed them that the Project was approaching the end of the route selection process. Hydro One invited Six Nations to provide comments on the alternative routes.

On October 21, 2024, Hydro One emailed TAC members, including Six Nations, a meeting invitation for the second TAC workshop. Hydro One noted that the purpose of the virtual TAC is for Hydro One to present the results of the evaluation of the Route Alternatives for the Project. Hydro One shared the planned date for the upcoming Preferred Route announcement and planned COHs. Representatives from Six Nations attended the TAC workshop.

Hydro One emailed Six Nations on October 24, 2024, and notified them that they had reached a milestone in the Project with the selection of the Preferred Route, alternative route 3. Hydro One offered to brief Six Nations on the milestone and the details of the selection of the Preferred Route. Hydro One provided Six Nations with a Notice and a factsheet with details about the route evaluation process, a map of the Preferred Route, and an invitation to the COHs.

On November 14, 2024, TMHC emailed Six Nations regarding the Stage 2 AA.

Hydro One met with Six Nations on March 4, 2025, to discuss Hydro One operations where Six Nations informed Hydro One they are not interested in work west of Woodstock, Ontario.

3.7. Federal Government and Agencies

As part of the consultation and engagement program for the Project, the following federal government representatives and agencies were contacted during the Class EA process:

- Agriculture and Agri-Food Canada (AAFC);
- Canadian National Railway (CN Rail);
- Ontario Southland Railway (OSR);
- Fisheries and Oceans Canada (DFO);
- NAV Canada;
- Transport Canada (TC);
- Members of Parliament (MP);
  - Karen Vecchio, MP for Elgin – Middlesex – London.

No concerns were raised by federal government representatives and agencies. Correspondence with these stakeholders is summarized below and included in the Record of Consultation (**Appendix B-6**).

3.7.1. Agriculture and Agri-Food Canada (AAFC)

Hydro One emailed the notices for the above-mentioned engagement opportunities to the AAFC, including invitations to participate in the TAC workshops. No comments or concerns were raised by the AAFC.

3.7.2. Canadian National Railway (CN Rail)

Hydro One emailed the notices for the above-mentioned engagement opportunities to CN Rail, including invitations to participate in the TAC workshops. No comments or concerns were raised by CN Rail.

3.7.3. Ontario Southland Railway (OSR)

Hydro One emailed the notices for the above-mentioned engagement opportunities to OSR, including invitations to participate in the TAC workshops. No comments or concerns were raised by OSR.

3.7.4. Fisheries and Oceans Canada (DFO)

Hydro One emailed the notices for the above-mentioned engagement opportunities to DFO, including invitations to participate in the TAC workshops. No comments or concerns were raised by DFO.

3.7.5. NAV Canada

Hydro One emailed NAV Canada the Notice of Commencement for the Project on January 29, 2024. NAV Canada emailed Hydro One on February 28, 2024, and provided the Land Use file number for the Project. No concerns were raised by NAV Canada.

3.7.6. Transport Canada (TC)

Hydro One emailed the Notice of Commencement to TC on January 29, 2024. On February 23, 2024, TC emailed Hydro One and indicated that they do not require receipt of all individual or Class EA notifications and requested that Hydro One complete self-assessments to verify if the Project will interact with a federal property and/or waterway, and if the Project will require approval and/or authorization under any Acts administered by TC. No concerns were raised by TC.

3.7.7. Karen Vecchio, MP for Elgin – Middlesex - London

Hydro One emailed the notices for the above-mentioned engagement opportunities to MP Vecchio. No concerns were raised.

3.8. Provincial Government & Agencies

As part of the consultation and engagement program for the Project, the following provincial government representatives and agencies were contacted during the Class EA process:

- Members of Provincial Parliament:
  - Rob Flack, Member of Provincial Parliament (MPP) for Elgin – Middlesex - London;
  - Teresa Armstrong MPP for London - Fanshawe;
- Infrastructure Ontario (IO);
- Catfish Creek Conservation Authority (CCCA);
- Kettle Creek Conservation Authority (KCCA);

- Upper Thames River Conservation Authority (UTRCA);
- Ministry of Agriculture, Food and Agribusiness (OMAFA);
- Ministry of Citizenship and Multiculturalism (MCM);
- Ministry of Economic Development, Job Creation and Trade (MEDJCT);
- Ministry of Energy and Electrification (MOEE);
- Ministry of Indigenous Affairs and First Nations Economic Reconciliation (MIAFNER);
- Ministry of Natural Resources (MNR);
- Ministry of the Environment, Conservation and Parks (MECP);
- Ministry of Tourism, Culture and Gaming (MTCG); and
- Ministry of Transportation (MTO).

Correspondence with provincial government and agencies is summarized below and included in the Record of Consultation (**Appendix B-6**).

3.8.1. Rob Flack, MPP for Elgin – Middlesex – London

Hydro One shared notices and updates by way of email throughout the Class EA process, and shared notices regarding the above-mentioned engagement opportunities, with MPP Flack.

Hydro One met with the office of MPP Flack on February 22, 2024, to provide a briefing on the Project, including the Route Alternatives and the route selection process. Hydro One emailed MPP Flack on April 2, 2024, to provide details on upcoming environmental study work, including aerial ground survey work.

Hydro One emailed MPP Flack on May 16, 2024, to provide Project updates, including notice of community drop-in sessions through the summer to continue gathering feedback on the proposed routes for the Project and of environmental studies.

On July 25, 2024, Hydro One emailed the office of MPP Rob Flack an update on the Project. Hydro One indicated that the Project team is evaluating and comparing the profiles of each route alternative, and that this involves collecting data from a variety of sources, including conducting environmental surveys and technical assessments, and analyzing and assessing the feedback received from Project stakeholders and the community.

Hydro One emailed MPP Rob Flack on October 24, 2024, and notified them of the selection of the Preferred Route for the Project and provided a notice with further information about the Preferred Route and COHs in November 2024.

On November 12, 2024, Hydro One had a phone call with MPP Flack's office and briefed the MPP's representative on the Project's EA, community and landowner feedback, the Preferred Route, how Hydro One's real estate team will work with land agents to begin one-on-one discussions with impacted landowners, and milestones including the November 2024 COHs. No comments or concerns regarding the selection of the Preferred Route were raised by MPP Flack.

3.8.2. Teresa Armstrong, MPP for London – Fanshawe

Hydro One shared the Notice of Commencement and information on the Project with the office of MPP Armstrong by way of email on February 5, 2024, and invited the MPP and their office to the Project's Community Open Houses. No comments or concerns were raised by MPP Armstrong.

3.8.3. Infrastructure Ontario

Hydro One emailed notices for the above-mentioned engagement opportunities to IO, including invitations to the TAC workshops. IO attended the TAC Workshop #1 on May 30, 2024, and TAC Workshop #2 for the Project on November 4, 2024.

In addition, regular status updates on the Project's Class EA process were provided by Hydro One during working group meetings with various government agencies, including IO. No comments or concerns were raised by IO.

3.8.4. Catfish Creek Conservation Authority (CCCA)

Hydro One emailed notices for the above-mentioned engagement opportunities to CCCA, including invitations to attend the TAC workshops.

On May 30, 2024, CCCA attended the TAC Workshop #1 for the Project.

No comments or concerns were raised by the CCCA.

3.8.5. Kettle Creek Conservation Authority (KCCA)

Hydro One shared notices via email for the above-mentioned engagement opportunities with KCCA, including invitations to attend the TAC workshops.

On February 5, 2024, KCCA emailed Hydro One and provided the KCCA comments submission for the Project. KCCA noted their appreciation for the opportunity to provide comments and looked forward to reviewing and comments on draft documents regarding KCCA's regulatory jurisdiction for risks to natural hazards. Hydro One emailed KCCA on February 20, 2024, to thank them for their comments and to note that it was Hydro One's understanding based on KCCA's preliminary review of natural hazards within the Kettle Creek watershed, that Route Alternative 3 appears to have the least potential impact upon hazardous lands.

On May 30, 2024, KCCA attended the TAC Workshop #1 for the Project.

On November 18, 2024, following a request from a KCCA staff member in attendance at the November 2024 COH #2, Hydro One emailed KCCA and provided a copy of the slides from the TAC #2 Workshop.

On December 10, 2024, Hydro One emailed KCCA inquiring about KCCA's permitting process. Hydro One had questions regarding whether separate permits or one combined permit would be required when planning to work in multiple regulated areas, and requested the latest shapefiles of KCCA's current regulated area mapping. On December 17, 2024, KCCA emailed Hydro One and requested more information on the Project, including a map with all sites that are within the regulated area and Project description. KCCA provided a copy of KCCA's Permit Application Information Package. KCCA indicated that the shapefile was available for a fee and provided the contact information for the KCCA representative that could provide the shapefiles.

No other comments or concerns were raised by KCCA.

3.8.6. Upper Thames River Conservation Authority (UTRCA)

Hydro One shared notices via email for the above-mentioned engagement opportunities with UTRCA, including invitations to attend the TAC workshops.

On April 4, 2024, UTRCA provided Hydro One with comments and a map depicting UTRCA Regulated Areas and owned properties along the proposed Route Alternatives.

Hydro One emailed UTRCA on April 12, 2024, and thanked them for the response and UTRCA mapping. Hydro One noted they would continue to send Project information and an invitation for the upcoming TAC workshop.

On May 30, 2024, UTRCA attended the TAC Workshop #1 for the Project. Dillon followed up with UTRCA by email on June 18, 2024, to request if the background data referenced by UTRCA in the TAC survey could be provided.

On November 4, 2024, UTRCA attended the TAC Workshop #2 for the Project.

Hydro One emailed the UTRCA on February 10, 2025, to request input regarding watercourse setback requirements. UTRCA responded to Hydro One on February 13, 2025, to provide setback requirements for watercourses and suggested Hydro One provide concept plans for the tower locations to review and provide preliminary comments based on site-specific hazards and features. Hydro One responded by email on February 20, 2025, and confirmed they will be in touch with more details as the design progresses.

No other comments or concerns were raised by UTRCA.

3.8.7. Ministry of Agriculture, Food and Agribusiness (OMAFA)

Hydro One shared notices via email for the above-mentioned engagement opportunities with the Ministry of Agriculture, Food and Agribusiness (OMAFA; formerly the Ministry of Agriculture, Food, and Rural Affairs), including invitations to attend the TAC workshops.

On May 6, 2024, Hydro One emailed information regarding the TAC Workshop #1, and included some materials prior to the workshop. On May 7, 2024, OMAFA indicated their interest in the Project, but noted they were not able to attend TAC #1 and inquired if they would still be contacted to provide input to the process. On the same day, Hydro One emailed OMAFA and confirmed they would provide OMAFA with the TAC #1 presentation slides as well as the survey link so that OMAFA could participate in the evaluation process. Hydro One emailed the TAC #1 presentation and survey to OMAFA and other TAC members on May 31, 2024.

Between July 3, 2024, and July 30, 2024, OMAFA and Hydro One corresponded by email regarding whether there was an agricultural buildings dataset that was available for consideration in the Project. No such dataset was able to be provided for the Project.

On November 4, 2024, OMAFA attended the TAC Workshop #2 for the Project.

No other comments or concerns were raised by OMAFA.

3.8.8. Ministry of Citizenship and Multiculturalism (MCM)

Hydro One shared notices via email for the above-mentioned engagement opportunities with MCM, including invitations to the TAC workshops.

On February 28, 2024, MCM emailed Hydro One and shared their initial letter for the Project. Hydro One emailed MCM on March 5, 2024, and confirmed they plan to conduct archaeological assessments and Cultural Heritage studies for the Project and would keep MCM informed as the Class EA progresses.

On May 6, 2024, Hydro One emailed information regarding the TAC Workshop #1, which included some materials prior to the workshop. On May 30, 2024, MCM attended TAC Workshop #1.

On May 31, 2024, the MCM emailed Hydro One and requested more information regarding the comparative evaluation process and inquired how previous Hydro One projects in southwestern Ontario have considered the cultural environment as part of the Weighted Multi-Criteria Decision-Making Analysis. Hydro One emailed the MCM on June 4, 2024, and provided information from previous projects and noted that the specific distances used for the St. Thomas Line Project's TAC presentation was based on what was recommended by a Cultural Heritage Specialist for previous southwestern projects. Hydro One noted the weighting for the St. Thomas Line Project may differ based on the TAC survey results and stakeholder feedback. In addition, Hydro One confirmed the criteria name will be updated from "Cultural Heritage" to "Built Heritage and Cultural Landscapes" to reflect MCM's feedback at the TAC.

On June 6, 2024, WSP emailed the MCM and noted they were being retained by Hydro One to complete a Cultural Heritage Existing Conditions and Preliminary Heritage Impact Assessment for the Project. WSP requested input from the MCM on the Project Study Area and provided a map with details for the MCM's consideration.

On June 11, and June 13, 2024, the MCM emailed Hydro One and WSP, respectively. The MCM provided recommended revisions to the proposed criteria and metrics for the Built Heritage Resources (BHR) and Cultural Heritage Landscapes (CHL) criterion,

noting that the revisions were consistent with the current legislation and the recently approved Waasigan Transmission Line Project. The MCM requested that if Hydro One did not agree with the revisions that they provide a rationale for the current proposed metric. The MCM also noted to Hydro One they would not be completing the TAC Workshop #1 survey. On July 4, 2024, Hydro One emailed MCM and provided rationale for the differences in metrics between the St. Thomas Line and the Waasigan Transmission Line projects.

On August 8, 2024, Hydro One met with the MCM to discuss the route evaluation criteria and metrics of measure for BHRs and CHLs, and Archaeological Resources. During the meeting, Hydro One explained the rationale for the metrics proposed for the St. Thomas Line Project reiterating why the Waasigan Comprehensive EA in northern Ontario should not be used as a baseline, as it is Hydro One's largest project, and the differences in geography with the southwestern projects do not warrant the same study area extents.

Hydro One emailed the MCM on August 27, 2024, to follow up on their August 8, 2024, meeting. Hydro One noted it was their understanding that the MCM was going to discuss internally and provide a response back regarding the rationale for the BHRs and CHRs, and Archaeological Resource metrics for the Project. On August 30, 2024, the MCM emailed Hydro One and thanked them for meeting with them on August 8, 2024. The MCM provided comments on Archaeological Resources, making recommendations to update the language included in the evaluation metrics. The MCM acknowledged that Stage 1 AAs were being completed for the Project. The MCM provided comments on BHRs and CHLs and noted that they support a 60-metre buffer beyond the ROW to consider impacts due to construction vibration and associated clearance. The MCM indicated that the 60-metre buffer does not account for additional impacts, including shadows that alter the appearance or change the visibility of a heritage attribute, isolation of a heritage attribute from its surrounding environment or context, and changing the character of a BHR or CHL through the obstruction of significant views or vistas. The MCM requested that Hydro One clarify how the Project will consider these potential impacts.

On October 2, 2024, Hydro One emailed the MCM and thanked them for additional comments on the Project's route evaluation. Hydro One provided a response to the

MCM from their Cultural Heritage consultant, WSP, regarding how potential impacts to BHRs and CHLs were being considered. Hydro One provided the draft Cultural Heritage Existing Conditions report to the MCM. Hydro One advised the MCM that they were planning to announce the selected Preferred Route in the following weeks and that they would send the MCM an invitation to attend the second virtual TAC Workshop.

The MCM emailed Hydro One on October 11, 2024, and indicated they had reviewed Hydro One's response and the Cultural Heritage Existing Conditions report for the Project and were unclear how the consultant concluded that a 120-metre buffer from the Project centre line would be sufficient to capture potential direct and indirect impacts to both known and potential BHRs and CHLs, consistent with MCM info Bulletin 3 – Heritage Impact Assessment for Provincial Heritage Properties. The MCM stated that a consistent approach across projects should be applied in the identification and evaluation of potential project impacts on BHRs and CHLs, and that at a minimum, the consultant's conclusion should be supported by references to established standards/guidance for transmission line projects. The MCM recommended updating the report to confirm the 120-metre buffer captures all direct and indirect impacts to both known and potential BHRs and CHLs. The MCM acknowledged that, given the size of the lots adjacent to the proposed transmission line alternatives, the 120-metre buffer may capture the majority of the potential impacts to BHRs and CHLs.

On October 25, 2024, Hydro One emailed the MCM and thanked them for their email and proposed a call with the MCM, Hydro One, and WSP to discuss the MCM's questions and comments. Hydro One requested the MCM provide specific standards and guidelines that may be applicable prior to the proposed meeting.

On November 4, 2024, MCM attended the TAC Workshop #2 for the Project.

On November 5, 2024, Hydro One and WSP met with the MCM to discuss the rationale for the buffers used in the Cultural Heritage Existing Conditions report for the Project. WSP presented their rationale as the subject matter experts, noting that there is no specific guidance on buffers to be used during the Cultural Heritage Existing Conditions for transmission line projects. The MCM acknowledged that they do not have guidance on buffers for transmission line projects and requested that WSP's rationale of the buffers used be incorporated into the report as a part of the methodology.

On November 18, 2024, Hydro One emailed the MCM and thanked them for attending the meeting on November 5, 2024, providing a copy of the meeting notes and draft wording for Section 3.0 of the Cultural Heritage Existing Conditions report. Hydro One invited the MCM to provide comments. On November 22, 2024, the MCM emailed Hydro One and thanked them for the meeting notes and draft wording for Section 3.0 of the report. The MCM noted they would review and provide a response.

On December 12, 2024, the MCM emailed Hydro One and provided their suggested revisions to Section 3.0 of the Cultural Heritage Existing Conditions report, noting there was also additional advice included in the comments.

No other comments or concerns were raised by the MCM.

3.8.9. Ministry of Economic Development, Job Creation and Trade (MEDJCT)

Hydro One shared notices via email for the above-mentioned engagement opportunities with the MEDJCT, including invitations to the TAC workshops.

MEDJCT attended TAC Workshop #1 on May 30, 2024, and TAC Workshop #2 on November 4, 2024.

In addition, regular status updates on the Project's Class EA process were provided by Hydro One during working group meetings with various government agencies, including MEDJCT.

Hydro One attended a meeting with MEDJCT and MECP on December 13, 2024, to discuss next steps regarding Species at Risk (SAR). On December 18, 2024, Hydro One emailed the MEDJCT and thanked them for meeting on December 13, 2024 and . Hydro One outlined the planned next steps for 2025 in regard to field assessments and permitting.

No other comments or concerns were raised by the MEDJCT.

3.8.10. Ministry of Energy and Electrification (MOEE)

Hydro One emailed the MOEE on August 25, 2023, and provided a Duty to Consult Delegation Inquiry Letter. On September 7, 2023, the MOEE requested additional information to inform their preliminary assessment of the Duty to Consult. The MOEE and Hydro One emailed throughout September and October 2023 regarding Hydro

One's submission to the MOEE and to confirm Hydro One's responses. The MOEE emailed Hydro One the Delegation Letter on December 22, 2023.

Hydro One shared notices via email for the above-mentioned engagement opportunities with the MOEE, including invitations to attend the TAC workshops. On May 30, 2024, MOEE attended the TAC Workshop #1 for the Project.

In addition, regular status updates on the Project's Class EA process were provided by Hydro One during working group meetings with various government agencies, including MOEE.

On November 12, 2024, the MOEE sent Hydro One an email they had received from OMAFA regarding the Project and outlined a landowner's inquiries about the alignment of the preferred route.

No comments or concerns were raised by MOEE during the Class EA.

3.8.11. Ministry of Indigenous Affairs and First Nations Economic Reconciliation (MIAFNER)

Hydro One shared noticed via email for the above-mentioned engagement opportunities with the Ministry of Indigenous Affairs and First Nations Economic Reconciliation (MIAFNER; formerly the Ministry of Indigenous Affairs), including invitations to the TAC workshops.

No comments or concerns were raised by the MIAFNER.

3.8.12. Ministry of Natural Resources (MNR)

Hydro One shared notices via email for the above-mentioned engagement opportunities with the Ministry of Natural Resources (MNR; formerly the Ministry of Natural Resources and Forestry), including invitations to the TAC workshops.

MNR emailed Hydro One on January 31, 2024, and provided a guiding document with an overview of MNR's mandated interests and comment role for projects subject to the *EA Act*. Hydro One emailed MNR on February 12, 2024, to thank them for their email and noted they have reviewed MNR's letter and will refer to the provided resources during the Class EA process.

No further comments or concerns were raised by the MNR.

3.8.13. Ministry of the Environment, Conservation and Parks (MECP)

Hydro One emailed notices for the above-mentioned engagement opportunities to the MECP, including invitations to the TAC workshops.

On February 14, 2024, MECP sent Hydro One a letter of acknowledgement, a preliminary screening guide for SAR and a document noting areas of interest in response to the Notice of Commencement for the Project. Hydro One emailed MECP on March 8, 2024, to confirm receipt of the documents and noted they would review the MECP's "Areas of Interest" document to ensure the items are addressed in the ESR and that they plan to follow the provided guide. Hydro One noted they had received a Letter of Delegation from the MOEE and have commenced engagement with the list of Indigenous communities specified.

On March 1, 2024, the MECP emailed Hydro One and notified them that the MECP had received a complaint from a member of the public on February 21, 2024. The MECP noted that the member of the public had concerns with the proposed transmission lines going through their property as there were SAR present on their land. The MECP copied their colleagues from the MECP SAR Branch on the email for their awareness. Hydro One emailed the MECP on March 7, 2024, and thanked them for informing Hydro One regarding the concern from the member of the public. Hydro One indicated that they would consult with the member of the public directly to understand their concerns regarding potential impacts to SAR.

The MECP attended TAC Workshop #1 on May 30, 2024, and TAC Workshop #2 on November 4, 2024.

In addition, regular status updates on the Project's Class EA process were provided by Hydro One during working group meetings with various government agencies, including MECP.

Hydro One attended a meeting with MEDJCT and MECP on December 13, 2024, to discuss next steps regarding SAR. On December 18, 2024, Hydro One emailed the MECP and thanked them for meeting and noted the 2024 natural environment field program findings for the Project and the planned next steps for 2025 in regard to field assessments and permitting.

No other comments or concerns were raised.

3.8.14. Ministry of Tourism, Culture and Gaming (MTCG)

Hydro One emailed notices for the above-mentioned engagement opportunities to the Ministry of Tourism, Culture and Gaming (MTCG; formerly the Ministry of Tourism, Culture and Sport), including invitations to the TAC workshops.

MTCG attended TAC Workshop #1 on May 30, 2024, and TAC Workshop #2 on November 4, 2024.

No comments or concerns were raised by the MTCG.

3.8.15. Ministry of Transportation (MTO)

Hydro One emailed notices for the above-mentioned engagement opportunities to the MTO, including invitations to the TAC workshops.

MTO attended TAC Workshop #1 on May 30, 2024, and TAC Workshop #2 on November 4, 2024.

No comments or concerns were raised by the MTO.

3.9. Municipal Governments

As part of the consultation and engagement program for the Project, Hydro One contacted municipal staff and elected officials from the following municipal governments:

- City of St. Thomas;
- City of London;
- Municipality of Central Elgin;
- Middlesex County; and,
- County of Elgin.

For each of the aforementioned, the Mayor, Deputy Mayor, Ward Councillors, Chief Administrative Office (CAO), Clerk, and/or key department staff (e.g., Engineering, Public Works, Planning) were contacted, where appropriate. Correspondence with Municipal Governments is summarized below and included in the Record of Consultation (**Appendix B-6**).

3.9.1. City of St. Thomas – Municipal Staff

Hydro One emailed notices for the above-mentioned engagement opportunities to the City of St. Thomas municipal staff, including invitations to the TAC workshops.

On May 30, 2024, the City of St. Thomas attended TAC Workshop #1 for the Project.

In addition, regular status updates on the Project's Class EA process were provided by Hydro One during working group meetings with various government agencies, including the City of St. Thomas.

Between June 6, 2024, and June 11, 2024, WSP and City of St. Thomas municipal staff corresponded regarding the Cultural Heritage reports that were completed for the City's Yarmouth Yards Industrial Park, in which a portion of the Project is proposed to be located within.

On November 4, 2024, the City of St. Thomas attended TAC Workshop #2 for the Project.

The City of St. Thomas and Hydro One exchanged emails throughout November and December 2024 regarding minor variances to the Airport By-Law and details of the proposed towers for the Project. Hydro One noted on December 10, 2024, via email that the tower heights had not yet been confirmed and that they are subject to change. Between January 20, 2025, and February 3, 2025, Hydro One and the City of St. Thomas corresponded via email regarding the Project's proposed tower heights and locations, as well as the airport minor variance required for the Project.

No other comments or concerns were raised.

3.9.2. City of St. Thomas – Elected Officials

Hydro One shared notices and updates by way of email throughout the Class EA process, and shared notices regarding the above-mentioned engagement opportunities, with elected officials at the City of St. Thomas.

Hydro One met with Mayor Preston, councillors, and municipal staff on January 23, 2024, to provide a Project overview and invitation to COH #1. Elected officials from the City of St. Thomas had questions regarding electricity capacity, Duty to Consult, and how the Project will benefit the community. No comments or concerns were raised.

Hydro One followed up by email on January 25, 2024, and shared the Notice of Commencement and an overview of the distribution of the Notice.

Hydro One emailed Mayor Preston and City of St. Thomas Councillors on April 2, 2024, to provide details on upcoming environmental study work, including aerial ground survey work. Another Project update email was sent by Hydro One on May 16, 2024, to inform the City of St. Thomas of community drop-in sessions through the summer to continue gathering feedback on the proposed routes and of environmental studies.

On July 25, 2024, Hydro One emailed Councillor Herbert an update on the Project. Hydro One indicated that the Project team is evaluating and comparing the profiles of each route alternative, and that this involves collecting data from a variety of sources, including conducting environmental surveys and technical assessments, and analyzing and assessing the feedback received from Project stakeholders and the community.

On October 8, 2024, Hydro One emailed Mayor Preston of the City of St. Thomas and indicated that Hydro One had reached a milestone in the Project with the selection of the Preferred Route for the Project. Hydro One noted that they would welcome the opportunity to brief the Mayor prior to the announcement, about the Preferred Route and plans for engaging nearby community members and impacted landowners.

On October 15, 2024, Hydro One met with a representative from Mayor Preston's office and briefed the representative on the following:

- The Project EA;
- The Route Alternatives assessed;
- Community and landowner feedback;
- The Preferred Route;
- How Hydro One's real estate team will work with land agents to being one-on-one discussions with impacted landowners; and,
- Milestones - including information about the November 2024 COHs.

On October 15, 2024, Hydro One emailed the office of Mayor Preston and inquired if the Mayor would be interested in providing a quote in the media release announcing the Preferred Route for the Project. Hydro One provided a draft quote to the Mayor. On October 15, 2024, Mayor Preston emailed Hydro One and confirmed the provided quote was good to include it in the media release.

3.9.3. City of London – Municipal Staff

Hydro One emailed notices for the above-mentioned engagement opportunities to City of London municipal staff, including invitations to the TAC workshops.

City of London municipal staff emailed Hydro One on March 1, 2024, with comments on the Project regarding Planning and Development, Water Engineering, Municipal Drains and the Drainage Act, Stormwater Engineering, Heritage, Parks and Forestry, and Municipal Housing. Hydro One emailed City of London municipal staff on April 3, 2024, with a response letter.

On April 19, 2024, City of London municipal staff emailed Hydro One, and provided several figures which were requested in Hydro One's previous response letter.

Hydro One emailed the City of London on April 2, 2024, to provide details on upcoming environmental study work, including aerial ground survey work for the Route Alternatives.

On May 30, 2024, municipal staff from the City of London attended TAC #1 Workshop.

On August 19, 2024, Dillon emailed the City of London and inquired about updated flood modelling for Dingman Creek and whether it could be provided. On August 26, 2024, the City of London emailed Dillon and noted that they did not have the model yet but may have preliminary results later in the year.

The City of London attended TAC Workshop #2 held on November 4, 2024.

Between February 10 and February 21, 2025, Hydro One emailed the City of London regarding municipal drains and whether they have setback requirements for the City to perform routine maintenance.

No other comments or concerns were raised.

3.9.4. City of London – Elected Officials

Hydro One shared notices regarding the above-mentioned engagement opportunities with elected officials at the City London.

Hydro One emailed Councillor Hillier on February 5, 2024, to request confirmation of whether the councillor wanted a meeting regarding the Project.

Hydro One emailed elected officials on April 2, 2024, to provide details on upcoming environmental study work, including aerial ground survey work. Another Project update email was sent by Hydro One on May 16, 2024, to inform the City of London elected officials of community drop-in sessions through the summer to continue gathering feedback on the proposed routes and of environmental studies.

On October 8, 2024, Hydro One emailed Mayor Morgan of the City of London and indicated that Hydro One had reached a milestone in the Project with the selection of the Preferred Route. Hydro One noted that they would welcome the opportunity to brief the Mayor, prior to the announcement, about the Preferred Route and plans for engaging nearby community members and impacted landowners.

Hydro One met with Mayor Morgan on October 15, 2024, to brief the Mayor on the following:

- The Project's EA;
- Community and landowner feedback;
- The Preferred Route;
- How Hydro One's real estate team will work with land agents to begin one-on-one discussions with impacted landowners; and,
- Milestones – including the November 2024 COHs.

Hydro One followed up after the meeting by email on October 15, 2024, and provided Mayor Morgan with a Project update, including information about the upcoming November 2024 COHs, as well as the Community Relations contact information. Hydro One provided a summary of the engagement with the community which included notifying impacted landowners and mailing out the Notice of Preferred Route to all nearby community members.

No comments or concerns were raised.

3.9.5. Municipality of Central Elgin – Municipal Staff

Hydro One shared notices, via email, for the above-mentioned engagement opportunities to the Municipality of Central Elgin, including invitations to the TAC workshops.

The Municipality of Central Elgin attended TAC Workshop #1 on May 30, 2024, and TAC Workshop #2 on November 4, 2024, for the Project.

No comments or concerns were raised.

3.9.6. Municipality of Central Elgin – Elected Officials

Hydro One emailed notices regarding the above-mentioned engagement opportunities with elected officials at the Municipality of Central Elgin.

Hydro One met with Councillor Graham at the Rural Ontario Municipal Association conference on January 23, 2024, to introduce them to the Project. The Councillor raised questions regarding EMF and potential health impacts, engagement with KCCA, public meetings, and impacted Indigenous communities.

Hydro One email elected officials on January 25, 2024, and shared the Notice of Commencement and an overview of the distribution of the Notice. Hydro One followed up by email on February 5, 2024, to confirm if elected officials would like to meet to discuss the Project.

Hydro One had a phone call with Councillor Baughman on February 7, 2024, to brief the Councillor on the Project, its necessity, the Route Alternatives, and the selection process for the Preferred Route. Hydro One followed up with Councillor Baughman by email on February 7, 2024, and provided a presentation deck and FAQ. Hydro One also provided contact information for the Project team.

On February 16, 2024, Hydro One had a phone call with Councillor Graham and discussed the location of the Route Alternatives and why they could not follow existing infrastructure more closely.

Councillor Graham emailed Hydro One on March 7, 2024, to request a meeting with the Mayor and Hydro One. Councillor Graham also inquired about the decision timeline for the Project and whether input from the municipality's Council will be sought before this decision is made. Hydro One emailed Councillor Graham on March 8, 2024, and noted they anticipate a Preferred Route will be selected by fall 2024. Hydro One provided the COH panels and mapping, and noted they would welcome any feedback or comments from Council prior to the selection of the Preferred Route. Hydro One also provided an overview of the route selection process. Hydro One and Councillor Graham exchanged emails throughout March 2024 to schedule a meeting.

Hydro One emailed the Municipality of Central Elgin on April 2, 2024, to provide details on upcoming environmental study work, including aerial ground survey work. Another Project update email was sent by Hydro One on May 16, 2024, to inform the municipality of community drop-in sessions through the summer to continue gathering feedback on the proposed routes and of environmental studies.

Hydro One held a delegation meeting with the Municipality of Central Elgin Council on May 27, 2024, to share details on the Project and answer any questions Council had. Hydro One emailed the Municipality of Central Elgin on May 29, 2024, to respond to Council's questions regarding the number of property owners each Route Alternative would impact.

Councillor Graham emailed Hydro One on June 3, 2024, and inquired about the number of property owners affected by each of the proposed Route Alternatives. Hydro One emailed Councillor Graham on June 4, 2024, to respond to their question.

On October 8, 2024, Hydro One emailed Councillor Graham and Mayor Sloan and indicated that Hydro One had reached a milestone in the Project with the selection of the Preferred Route. Hydro One noted that they would welcome the opportunity to brief the Councillor and Mayor, prior to the announcement, about the Preferred Route and plans for engaging nearby community members and impacted landowners.

On October 16, 2024, Hydro One met with Mayor Sloan of the Municipality of Central Elgin and briefed the Mayor on the following:

- The Project's EA;
- Community and landowner feedback;
- The Preferred Route;
- How Hydro One's real estate team will work with land agents to begin one-on-one discussions with impacted landowners; and,
- Milestones – including the November 2024 COHs.

On November 6, 2024, Hydro One emailed Councillor Graham and offered to meet with the Councillor to review the data and scoring of the Route Alternatives evaluation so they could help answer any questions more efficiently. Hydro One met with the Councillor and Deputy Mayor Noble on November 13, 2024, and reviewed the COH

display panels. Hydro One walked the Councillor and Deputy Mayor through the Preferred Route evaluation data and factsheet.

On November 20, 2024, Hydro One emailed Councillor Graham and Deputy Mayor Noble of the Municipality of Central Elgin and thanked them for meeting with them ahead of the COHs. Hydro One provided information to the Councillor and Deputy Mayor that was requested regarding the TAC Workshops. Hydro One provided the contact information for a representative from the IESO.

No other comments or concerns were raised.

3.9.7. County of Elgin – Municipal Staff

Hydro One emailed notices for the above-mentioned engagement opportunities to County of Elgin municipal staff, including invitations to TAC workshops.

No comments or concerns were raised.

3.9.8. County of Elgin – Elected Officials

Hydro One emailed notices for the above-mentioned engagement opportunities to County of Elgin elected officials.

Hydro One email elected officials on January 30, 2024, and shared the Notice of Commencement and an overview of the distribution of the Notice. Hydro One emailed the County of Elgin on April 2, 2024, to provide details on upcoming environmental study work, including aerial ground survey work for the Route Alternatives.

Another Project update email was sent by Hydro One on May 16, 2024, to inform the County of Elgin elected officials of community drop-in sessions through the summer to continue gathering feedback on the proposed routes and of environmental studies. Hydro One emailed the County of Elgin on July 25, 2024, to provide a third Project update.

No comments or concerns were raised.

3.10. Potentially Affected and Interested Groups, Businesses, School Boards and Utilities

Consultation and engagement opportunities were provided to potentially affected and interested groups, businesses, school boards and utilities throughout the Class EA process.

As part of the consultation and engagement program, approximately 40 potentially affected and interested groups, businesses, school boards and utilities were contacted during the Class EA process. A complete list of the interest groups is provided in **Appendix B-1**.

Correspondence with potentially affected and interested groups, businesses, school boards and utilities are summarized below and included in the Record of Consultation (**Appendix B-6**).

3.10.1. Christian Farmers Federation of Ontario

Hydro One shared notices for the above-mentioned engagement opportunities to the Christian Farmers Federation of Ontario.

On February 9, 2024, the Christian Farmers Federation of Ontario emailed Hydro One and noted they would discuss internally on how to communicate the Project to their members.

No other comments or concerns were raised.

3.10.2. National Farmers Union (NFU)

Hydro One shared notices for the above-mentioned engagement opportunities to the NFU.

No comments or concerns were raised.

3.10.3. Ontario Federation of Agriculture (OFA)

Hydro One shared notices for the above-mentioned engagement opportunities to the OFA, including invitations to the TAC workshops.

On February 7, 2024, the OFA emailed Hydro One and requested a meeting to discuss the Route Alternatives. Hydro One and the OFA had a meeting on February 13, 2024,

during which Hydro One introduced the Project, shared details on the Project need, the Class EA and next steps. Hydro One emailed the OFA on the same day and provided the briefing deck.

Representatives from the OFA were in attendance at the COH #1 sessions held on February 21 and 22, 2024.

Hydro One emailed the OFA on April 2, 2024, to provide details on upcoming environmental study work, including aerial ground survey work.

Hydro One emailed the OFA on April 24, 2024, and provided responses to their questions related to tower design, why power lines cannot be buried, the announcement date of the Preferred Route, whether another option could appear for the Route Alternatives, land acquisition and compensation.

The OFA emailed Hydro One on April 26, 2024, and provided a list of questions that was forwarded to them by a member of the public. On May 10, 2024, Hydro One emailed the OFA and provided responses to the questions. The OFA was included in the follow-up correspondence between Hydro One and the member of the public regarding their questions about the route alternatives and the Preferred Route, and concerns about impacts to agricultural lands.

A Project update email was sent by Hydro One on May 16, 2024, to inform the OFA of community drop-in sessions through the summer to continue gathering feedback on the proposed Route Alternatives and of environmental studies.

On May 28, 2024, Hydro One emailed the OFA and offered to set up a virtual meeting to discuss the Project's progress and the community engagement that Hydro One had conducted with the OFA to date. OFA members had questions for Hydro One regarding the location of the proposed Route Alternatives and why they could not be located closer to existing infrastructure. Hydro One corresponded over email with the OFA and offered to set up a virtual meeting. A meeting with the OFA was held on June 13, 2024, and the locations of the proposed Route Alternatives were discussed.

The OFA attended TAC Workshop #1 held on May 30, 2024.

On July 25, 2024, Hydro One emailed the OFA an update on the Project. Hydro One indicated that the Project team is evaluating and comparing the profiles of each route

alternative, and that this involves collecting data from a variety of sources, including conducting environmental surveys and technical assessments, and analyzing and assessing the feedback received from Project stakeholders and the community. In the email, Hydro One provided responses to similar questions received at the COHs.

On October 11, 2024, Hydro One met with the OFA and provided an update on the Preferred Route announcement and discussed the Project's EA process, community and landowner feedback, the Preferred Route, how Hydro One's real estate team will work with land agents to begin one-on-one discussions with impacted landowners, and Project milestones.

The OFA attended TAC Workshop #2 held on November 4, 2024.

Representatives from the OFA were in attendance at the COH #2 sessions held on November 13 and 14, 2024.

No other comments or concerns were raised.

3.10.4. Lake Huron & Elgin Area Water Supply Systems

On October 16, 2024, the Lake Huron & Elgin Area Water Supply Systems and Hydro One corresponded over email regarding a terminal reservoir that is owned, operated, and maintained by Lake Huron & Elgin Area Water Supply Systems on South Edgeware Road. Hydro One confirmed that the Preferred Route would not impact the property.

No other comments or concerns were raised.

3.10.5. Enbridge Gas Inc. (Enbridge)

Hydro One shared notices for the above-mentioned engagement opportunities to Enbridge, including invitations to the TAC workshops.

No comments or concerns were raised.

3.11. Property Owners/Residents/General Members of the Public

As outlined in **Section 3.0**, property owners, residents, and general members of the public within the RSA were provided Project notifications by means of email, Canada Post admail, advertisements in local newspapers, radio, social media, and the Project website. Three admail campaigns with over 3,000 recipients in each campaign were

administered throughout the Class EA process. Hydro One also received feedback and comments by phone, email to their Community Relations team, and through the Project interactive map.

As noted under **Section 3.1**, prior to COH #1, Hydro One sent packages to potentially affected landowners along each Route Alternative noting the specific property affected and specific Route Alternative(s) traversing the property(ies). The packages included a combined Notice of Commencement and invitation to COH #1, property map(s), and contact information for any further questions. These were delivered via hand delivery by land agents and registered mail campaigns.

As noted under **Section 3.4**, prior to the announcement of the Preferred Route and COH #2, property owners with a property(ies) along the Preferred Route were sent a package by registered mail beginning October 15, 2024. The package contained the following:

- A letter notifying the property owner their property/properties were affected by the Preferred Route;
- The contact information of their dedicated Hydro One Real Estate Representative;
- Route Selection Factsheet;
- The combined Notice of Preferred Route and COH #2;
- Property map(s); and,
- Information about compensation principles.

Refer to **Appendix B-4** for a copy of the property owner letters.

Additionally, Hydro One held community drop-in sessions every Tuesday and Wednesday from May 21 until August 28, 2024, at the Holiday Inn Express & Suites in St. Thomas. Community members could walk in or schedule an appointment to meet the Project team and provide their feedback or have their questions answered.

Throughout the Class EA process, Hydro One had over 700 interactions with property owners, residents, and general members of the public via phone, email, through the interactive Project map, and virtual/in-person meetings.

Table 3-7 Error! Reference source not found. in **Section 3.13** summarizes the comments received and the responses provided by Hydro One through the Class EA process.

3.12. Technical Advisory Committee

Two TAC workshops were held during the Class EA process. The purpose of the TAC was to provide a platform for Hydro One to present information, hold discussions and draw upon the wide variety of technical knowledge and experience of representatives of organizations that have the technical expertise and local knowledge within the Study Area, including Indigenous communities, government agencies, municipalities, and interest groups. This knowledge-sharing forum helped to inform the planning and Class EA process for the Project. Specifically, Hydro One drew upon the technical knowledge represented by TAC organizations to help inform the comparative evaluation used to select the Preferred Route for the Project.

To facilitate participation from a wide range of participants, the TAC workshops were held virtually. A summary of each workshop is outlined below.

3.12.1. TAC Workshop #1

The purpose of the first TAC Workshop was to introduce the Project, confirm the evaluation criteria, and to determine the criteria weighting for the Natural Environment and Socio-Economic Environment categories to construct a route evaluation and selection framework that considers the unique environmental features, values, and priorities of the Study Area.

The TAC Workshop #1consisted of three components, including:

1. Video presentation and handout provided ahead of the virtual meeting;
2. Virtual meeting consisting of a presentation, discussion, and practice criteria weighting survey; and,
3. Digital survey circulated following the TAC Workshop #1 to collect feedback on the criteria weighting for the comparative analysis of the Route Alternatives.

On May 6, 2024, Hydro One invited potential members to participate in the TAC by email. Hydro One followed up by email on May 21, 2024, and provided a background

video presentation to review prior to the TAC Workshop and the preliminary evaluation criteria and weighting.

Video Presentation

The video presentation covered the following:

- Project Overview;
- Class EA process;
- Weighted Multi-Criteria Decision Making Analysis; and,
- Next Steps.

The intent of the video presentation was to provide an overview of the Project, the Route Alternatives, and the evaluation process that will be used to identify the preferred solution for the Project.

Virtual Meeting

The TAC Workshop #1 was held on May 30, 2024, and included one session that focused on both the Natural Environment and Socio-Economic Environment factor areas and their associated criteria. The TAC Workshop was held virtually, and participants could join via video or phone. There were 22 attendees at TAC Workshop #1. **Table 3-5** below summarizes TAC Workshop #1.

Table 3-5: Summary of Virtual TAC Workshop #1 Moderated Conference Call

Date and Time	Virtual Forum	Number of Attendees
May 30, 2024 9:30 a.m. to 12:30 p.m.	Microsoft Teams	22

The virtual meeting included a presentation which included the following topics:

- Project and Class EA overview;
- Overview of the Route Alternatives;
- Re-cap of the Route Evaluation process;
- Confirmation of the Evaluation Criteria and Metrics for Measure;
- Practice Criteria Weighting Survey;
- Discussion; and
- Next Steps.

During the virtual meeting, an interactive discussion was held with TAC attendees to gather input, feedback, questions, and any concerns on the evaluation criteria. An interactive discussion was also held to review the results of the practice criteria weighting survey.

Confirmation of the Evaluation Criteria and Metrics for Measure

TAC members raised comments, questions, and concerns during the discussion to confirm the evaluation criteria for both the Natural Environment and Socio-Economic Environment factor areas (refer to **Table 3-6**).

Table 3-6: Summary of Comments, Questions and Concerns on Evaluation Criteria and Metrics

Factor Area	Comments, Questions & Concerns
Natural Environment	How a water crossing was defined and what a water span crossing is versus a regular span.
	If towers would need to be in the valleylands or in any of the Conservation Authority watercourses, and about the maintenance and access of towers that span watercourses.
	Discussed incompatible versus compatible vegetation under transmission lines, and about long-term natural feature maintenance practices underneath the corridor.
	Discussed what happens if there are known SAR at a location along a Route Alternative and how it is considered in the routing.
	How “Designated Natural Areas” would be measured.
Socio-Economic Environment	Discussed long-term cost of maintenance and how the routing considers these inputs.
	Discussed how all Route Alternatives cross Highway 401 and they all vary in distance from the Highbury Avenue interchange. It was noted that the preference would be to have the transmission line further from the interchange.
	Discussed land uses in the study area and some TAC members noted they would provide information to the Project team to reflect potential updates and changes when available.
	It was noted that the “Cultural Resources” criterion name should be changed to “Built Heritage Resources and Cultural Heritage Landscapes”. Discussed the cultural studies being completed for the Project and received an inquiry about how the distances in the criterion’s measures were identified.
	It was noted that the “Archaeological Resources” weighting should be consistent with other southwestern Ontario projects.

Factor Area	Comments, Questions & Concerns
	Discussed Archaeological Assessments being completed for the Project and how “Archaeological Resources” would be measured.

Practice Criteria Weighting Surveys

A practice survey was provided to TAC members to fill out during the workshop. The practice weighting included the criteria for both the Natural Environment and Socio-Economic Environment. The intent of the practice survey was to give participants an opportunity to ask questions about the weighting process before taking it back to their larger respective organizations for more collaborative input. The results and the weighting outcomes of the preliminary survey were reviewed and discussed with TAC attendees.

Criteria Weighting Survey

Following the virtual TAC Workshop, Hydro One distributed the survey link to TAC members. It was available to all TAC participants from May 31 to June 19, 2024. The survey comprised of three sections:

- Natural Environment Criteria Weighting;
- Socio-Economic Environment Criteria Weighting; and
- Workshop Feedback.

The intent of the survey was to gather input on weighting the relative importance of each of the Natural Environment and Socio-Economic Environment criterion. Using the survey, participants were asked to weight each of the criterion under their respective factor areas (Natural Environment and Socio-Economic Environment) using the weighting scale of 1 to 10, with 1 being least important and 10 being most important. If TAC members felt they could not provide input on either or both Natural Environment and Socio-Economic Environment criteria weighting due to their organization’s mandate, they had the option to skip providing a weighting for each criterion.

In addition, the survey included a section asking TAC members to provide any additional comments or feedback on the Project and the workshop format. TAC members were asked to submit one survey on behalf of their organization.

TAC Workshop #1 – Findings and Conclusion

Through the criteria weighting survey, the TAC members assigned weights to identify the Natural Environment and Socio-Economic Environment criteria most important to the local community.

For the Natural Environment, TAC members identified the following as the most important Natural Environment criteria:

1. Wetlands, Natural Hazards, and Floodplain Areas;
2. Surface Water Resources and Aquatic Habitat; and
3. Species at Risk.

Vegetation and Vegetation Communities was identified as the least important criterion under Natural Environment.

For the Socio-Economic Environment, TAC members identified the following as the most important Socio-Economic Environment criteria:

1. Co-Location of Existing Infrastructure;
2. Source Water Protection;
3. Commercial, Industrial, Institutional, Recreational, Business, and Facilities; and
4. Archaeological Resources.

Aggregate Resource Extraction Areas / Operations (Pits / Quarries) was identified as the least important criterion under Socio-Economic Environment.

3.12.2. TAC Workshop #2

The purpose of TAC Workshop #2 was to provide a Project update and present the Preferred Route. The second TAC workshop included a review of the survey results from TAC Workshop #1 and provided an overview of how TAC input was incorporated into the final Natural Environment and Socio-Economic criteria weighting. This weighting was used in the comparative evaluation that led to the selection of the Preferred Route.

On October 21, 2024, Hydro One sent TAC members an email invitation to attend the workshop.

TAC Workshop #2 was held virtually on November 4, 2024, from 1:00 p.m. to 3:00 p.m. and participants could join via video or phone. The second TAC workshop had 32 attendees.

The virtual meeting included a presentation which covered the following topics:

- Review of the Class EA process;
- Project overview and update;
- Overview of the route evaluation process;
- Review of the TAC Workshop #1 weighting exercise results;
- Review of the final criteria weighting;
- Overview of the comparative evaluation results;
- Presentation of the Preferred Route; and,
- Next steps.

An opportunity for discussion was provided following the presentation. No members of the TAC raised any points for discussion. The meeting ended early as no questions or concerns were raised from any of the attendees.

3.13. Summary of Stakeholder Comments and Concerns

Table 3-7 provides a consolidated summary of the comments and concerns raised from the interested parties throughout the Class EA consultation process. Since the selection of the Preferred Route, Hydro One's real estate representatives have continued to work with directly affected landowners on matters specific to their property.

Table 3-7: Summary of Stakeholder Comments and Concerns

Theme	Question/Comment	Response
Project Information (General)	Is it possible to upgrade or twin the existing lines instead of building new transmission lines?	Upgrading the transmission line would require installing higher capacity wires, strengthening and replacing towers, and upgrading other major equipment. When we received the connection request to energize the new facility, Hydro One evaluated how the additional power demand would connect to the electrical grid via a transmission line connection. This assessment considered factors such as capacity, reliability, stability, and the efficiency of the grid. As a part of that assessment, we looked at the other transmission lines in the area. However, it was determined that a new line would need to be built due to the capacity and impact to the grid as well as the magnitude of supply required. The existing transmission corridor that runs north and south to the west of Highbury Avenue has existing transmission lines that are currently energized and in-service. Right now, there is insufficient spacing within the existing ROW to accommodate a new transmission line. As such, Route Alternative 1 parallels the existing transmission lines for approximately 1/3rd of the way.
Project Information (General)	Is it possible for Volkswagen to pull out of the Project?	This Project is being completed as a customer connection for the new Volkswagen Battery Manufacturing Facility in the City of St. Thomas.
Project Information (General)	Suggestion to copy the windmill electrical corridor along HWY #21 north of Forest.	Prior to the start of the Class EA, the Hydro One Project team conducted preliminary work to identify Route Alternatives to build the new line from the future Centennial Transformer Station in the City of St. Thomas to the existing transmission corridor north of Highway 401 in the City of London. Hydro One considered known technical and environmental features and constraints and looked for opportunities to parallel linear infrastructure such as existing transmission lines. Based on that information, Hydro One developed three Route Alternatives and associated variations.
Real Estate	Can there be alternatives to the current Hydro One landowner access agreements for the field program? Members of the public requested Hydro One consider a one-time guided access tour of their land rather than access “at any and all times”.	Our real estate team will contact select owners along the Route Alternatives to seek voluntary temporary access rights to complete environmental field studies. These non-intrusive environmental field studies will help to inform our Class EA for the Project. If you have any questions or concerns about the agreement, please don’t hesitate to reach out to our team.

Theme	Question/Comment	Response
Real Estate	Concerns related to property value once the transmission lines are in place.	Once we select the Preferred Route, Hydro One's real estate team will work closely with directly impacted property owners who have the transmission ROW on their property. Each impacted property owner will be presented with a formal offer based upon the information contained in a property specific independent third-party appraisal report. If deemed applicable by the independent third-party appraiser's property specific appraisal report, Hydro One's offer will include compensation for Injurious Affection.
Real Estate	Comment regarding overhead versus underground cost and noting this as industry benchmarks. There are agricultural benefits with underground.	When burying power lines in a tunnel or a duct bank there are many factors that need to be taken into consideration. This includes technical practicality, disruption to the surface environment, and cost. Burying transmission lines can be highly disruptive to the environment given the magnitude of construction work that would be required. It comes at significantly higher costs, presents maintenance challenges as it takes significantly more time than overhead equipment to repair in case of an emergency, and has a shorter lifespan.
Towers	What is the size (both land area occupied and height) of the towers proposed for this transmission line?	Once we begin detailed design, we will have a greater understanding of the specifics around tower locations and structure design. Depending on the design: The typical span length between towers can range from 300 ft. (approximately 91.5 m) to 1100 ft. (approximately 335 m), The typical tower footprint can range between 26 ft. (approximately 7.9 m) by 26 ft. to 46 ft. (approximately 14 m) by 46 ft., and; The typical height of a tower for this Project can range between 130 ft (approximately 40 m) tall to 180 ft (approximately 55 m) tall. It is important to note that the design of the transmission line can vary depending on a number of factors, such as land topography, road crossings, and environmental constraints among others, and there could be variances and adjustments required to the typical footprint, spacing and heights.
Towers	Will there be a larger tower where the transmission line turns direction?	Detail design will begin once the Preferred Route has been selected. Through this process we will have a greater understanding of potential tower structure locations and design. It is important to note that tower type can vary based on topography and local conditions. We will continue to provide an update on these details through ongoing engagement opportunities.

Theme	Question/Comment	Response
Routing & Route Locations	Is it possible to alter Alternative Route 2 to turn east instead of west north of Truman Line to follow Old Victoria Road north to the connection point?	As a part of the Project, we are conducting a Class EA. As part of this process, we need to evaluate a diverse set of Route Alternatives. That is why Hydro One conducted a preliminary assessment to identify feasible routes for the new transmission line that will both meet the need of the Project and are technically viable. We mapped out known technical and environmental features such as waterbodies, dense residential areas, environmentally significant areas, areas in close proximity to existing infrastructure, etc., and looked for opportunities to parallel linear infrastructure. In the case of Route Alternative 2 vs. Route Alternative 3, each of these routes cross different elevations which have differing impacts for things like constructability, natural environment implications, and number of properties impacted. As such, evaluating three distinct routes will ensure that we can comprehensively evaluate and compare these impacts.
Routing & Route Locations	Is it possible to bury the transmission lines?	When burying power lines in a tunnel or a duct bank there are many factors that need to be taken into consideration. This includes technical practicality, disruption to the surface environment, and cost. Burying transmission lines can be highly disruptive to the environment given the magnitude of construction work that would be required. It comes at significantly higher costs, presents maintenance challenges as it takes significantly more time than overhead equipment to repair in case of an emergency, and has a shorter lifespan.
Routing & Route Locations	Can the new transmission line use the existing Hydro corridor?	Right now, there is insufficient spacing within the existing ROW to accommodate a new transmission line. As such, Route Alternative 1 parallels the existing transmission lines for approximately a third of the way. It is important to note that the team did look at whether we could follow the corridor for a greater distance. In our review, we determined that there are a number of constraints that created challenges to parallel the entire length of the corridor. These included: Lack of sufficient space required for the approximate 150 ft wide corridor at the north end of the route, as it would directly cross over several industrial buildings. There were also technical constraints due to the Highway 401 overpass and industrial parks to the south of freeway. Lack of sufficient space required for the approximate 150 ft wide corridor at the south end of the route, as it would directly cross over several residential dwellings. Significantly greater impact to the Dalewood and Dan Patterson Conservation Areas. Resulting in extensive mature vegetation clearing and fragmentation.

Theme	Question/Comment	Response
Routing & Route Locations	Is it possible to build the Project transmission lines within existing, abandoned rail corridors? Suggestion to build hydro corridor on a rail corridor and to engineer the pole lines not only for hydro corridor but also for the pole line on an electrified canary rail line.	To build the transmission line there needs to be enough space to accommodate the corridor and ROW. The Route Alternatives and their variations were selected based on known technical and environmental features and constraints and looked for opportunities to parallel linear infrastructure such as existing transmission lines.
Impacts to Residential/ Agricultural Land	How would landowners be compensated for the loss of farmland and agricultural yields?	Once the Preferred Route has been selected, a Hydro One's real estate team will work directly with impacted property owners who have the preferred ROW on their property. During the one-on-one conversations, Hydro One will collect key information specific to a property owner's concern, such as impacts to their business or operations. On a case-by-case basis, Hydro One will consider whether unique or exceptional circumstances exist which require the payment of additional compensation.
Impacts to Residential/ Agricultural Land	Request to keep in mind the timing of construction and its potential impacts to farming.	Effects to agricultural operations are top of mind for the Project team and through the Class EA process, avoidance and mitigation measures will be identified to address potential effects to the socio-economic environment, as applicable. The mitigation measures will be documented and included in the Project's ESR.
Impacts to Residential/ Agricultural Land	Are there ways to lessen the impacts to farmland?	As the Project advances to design, flexibility may be considered on a property-by-property basis to best mitigate effects to properties traversed by the line where practical and feasible.
Impacts to Residential/ Agricultural Land	When infrastructure corridors are brought to the public's attention the removal of farm lands along with environmental issues must be considered.	Hydro One's goal is to select a Preferred Route that balances the natural environment, socio-economic environment (which includes impacts to farmlands), and technical considerations.
Impacts to Residential/ Agricultural Land	Expressing concerns of impacts to farmland as well as the value of nearby homes.	Once the Preferred Route is selected; Hydro One's real estate team will work closely with directly impacted property owners who have the transmission ROW on their property. Each impacted property owner will be presented with a formal offer based upon the information contained in a property specific independent third-party appraisal report. If deemed applicable by the independent third-party appraiser's property specific appraisal report, Hydro One's offer will include compensation for Injurious Affection. An Injurious Affection payment is offered when reductions to the market value on the remainder of the property occur as a result of Hydro One's use and interest in the property.

Theme	Question/Comment	Response
Natural Environment	Route Alternatives 1B and 2A would cut across heavy forest and low-lying flood plains.	Hydro One's goal is to select a Preferred Route that balances the natural environment, socio-economic environment, and technical considerations. Hydro One will work closely with government agencies to follow all the applicable legislation, and acquire any permits, approvals or authorizations prior to beginning any work that would impact natural habitat. Through the Class EA process, avoidance and mitigation measures will be identified to address potential effects to the natural environment, as applicable. The mitigation measures will be documented and included in the Project's ESR.
Natural Environment	Alternative Route 1A and 2B would impact a watershed area on Mapleton Line (Salt Creek) and impact local wildlife in the area. There are wild turkey, deer and aquatic wildlife.	Hydro One's goal is to select a Preferred Route that balances the natural environment, socio-economic environment, and technical considerations. Hydro One will work closely with government agencies to follow all the applicable legislation, and acquire any permits, approvals or authorizations prior to beginning any work that would impact natural habitat. Through the Class EA process, avoidance and mitigation measures will be identified to address potential effects to the natural environment, as applicable. The mitigation measures will be documented and included in the Project's ESR.
Natural Environment	Alternative 1B and 2B would impact rare Tall Grass Habitat.	Hydro One's goal is to select a Preferred Route that balances the natural environment, socio-economic environment, and technical considerations. Hydro One will work closely with government agencies to follow all the applicable legislation, and acquire any permits, approvals or authorizations prior to beginning any work that would impact natural habitat. Through the Class EA process, avoidance and mitigation measures will be identified to address potential effects to the natural environment, as applicable. The mitigation measures will be documented and included in the Project's ESR.
Natural Environment	How will the Project work to protect Provincially Significant Wetlands impacted by the Route Alternatives?	Hydro One will work closely with government agencies to follow all the applicable legislation, and acquire any permits, approvals or authorizations prior to beginning any work that would impact natural habitat. Through the Class EA process, avoidance and mitigation measures will be identified to address potential effects to the natural environment, as applicable. The mitigation measures will be documented and included in the Project's ESR.

Theme	Question/Comment	Response
Class EA Process	Can more details of the route selection and decision-making process be published and shared with the public?	An EA is a regulated decision-making tool and a key step for the planning and building of transmission infrastructure in Ontario. Rooted in engagement and consultation, the EA ensures that potential natural, economic, social and cultural effects are thoroughly considered before a project begins. A Class EA includes assessing the project study area, identifying and evaluating alternatives associated with the project, consultation with stakeholders and rights-holders, identifying potential effects, mitigation measures and approvals, and documenting the process, studies, decisions and commitments into a report. The mitigation measures will be documented and included in the Project's ESR. Hydro One is reviewing known technical and environmental considerations by collecting data from a variety of sources such as existing reports and plans, conducting environmental field surveys and technical assessments. Engagement is vital to the planning process. Hydro One is meeting with Indigenous communities, members of the public, businesses, government agencies and other interested parties to better understand the region and local interests. Using feedback and information collected, each route will be evaluated and compared based on their effects to the natural, socio-economic and cultural environment along with each of their technical requirements and cost factors. Feedback collection is ongoing throughout the Class EA process and not limited to official engagement events like COHs, which will continue to be planned in Fall 2024. There will be an opportunity to review and comment on the draft ESR during the 30-day public review period in 2025.
EMF	What are the known health impacts of electromagnetic fields from living close to high-voltage power lines?	Based on global studies which have and continue to be monitored regularly, Health Canada and the World Health Organization indicate that members of the public do not need to take precautions to protect themselves from fields produced by extremely low frequencies such as transmission lines.
Renewable Energy	Will Hydro One consider renewable energy such as wind turbines and/or solar panels to augment their potential?	The St. Thomas Line Project is a client driven project to electrify the new electric vehicle battery manufacturing facility, as such Hydro One is not pursuing wind or solar energy through this Project.
Technical Considerations	Comment regarding the Amazon plant and tapping off that circuit. Inquired why this circuit can't be used?	When we received the connection request to energize the new facility, Hydro One evaluated how the additional power demand would connect to the electrical grid via a transmission line connection. This assessment considered factors such as capacity, reliability, stability, and the efficiency of the grid. As a part of that assessment, we looked at the other transmission lines in the area. However, it was determined that a new line would need to be built due to the capacity and impact to the grid as well as the magnitude of supply required.

3.14. Notice of Completion and Draft ESR Review Period

The draft ESR is made available for a public review period, from **May 28 to June 30, 2025**, to allow sufficient time for review and comment on this draft ESR. Written comments regarding the draft ESR can be submitted to:

Jennifer Trotman, Environmental Planner, Hydro One Networks Inc.
483 Bay Street, North Tower,
14th Floor, Toronto, ON M5G 2P5
Phone: 1-877-345-6799 (Community Relations hotline)
Email: Community.Relations@HydroOne.com

The draft ESR will be available electronically on the Hydro One St. Thomas Line Project webpage: https://www.hydroone.com/about/corporate-information/major-projects/st-thomas.

Copies of the draft ESR will also be available in print at the following locations:

Belmont Public Library	St. Thomas City Hall	Pond Mills Public Library
14134 Belmont Road	545 Talbot Street	1166 Commissioners Road E.
Belmont, ON	**St. Thomas, ON**	**London, ON**
N0L 1B0	N5P 3V7	N5Z 4W8
519-644-1560	519-631-1680	519- 685-1333

On May 28, 2025, the Notice of Completion of draft ESR was distributed to all interested parties including Indigenous communities, municipal, provincial and federal government officials and agencies, potentially affected and interested persons, and interest groups presented in **Section 3.0** (see contact list in **Appendix B-1**). The notification indicated that the draft ESR was complete, and that the public review and comment period would run between May 28, 2025, and June 30, 2025. The Notice was published in the St. Thomas Times-Journal, The Elgin County Market, The London Free Press and the Londoner; local community papers on May 29, 2025, and was posted on the Project website www.HydroOne.com/StThomasLine (see **Appendix B-2** for the notice and newspaper ad).

Comments and concerns received by Hydro One during the draft ESR review period will be recognized, considered, addressed and documented. The ESR will be finalized for the proposed Project in accordance with the Class EA. Upon completion of the Class EA process, the final ESR will be filed with the MECP, and will be made available on the Project website www.HydroOne.com/StThomasLine. The Project will then be considered acceptable to proceed as outlined in the ESR.

A request may be made to the MECP for an order requiring a higher level of study (i.e., requiring comprehensive EA approval before being able to proceed), or that conditions be imposed (e.g. require further studies), only on the grounds that the requested order may prevent, mitigate or remedy adverse effects on constitutionally protected Aboriginal and treaty rights. The MECP will not consider requests on other grounds.

Requests should include the requester’s contact information and full name, as well as specify what kind of order is being requested (request for conditions or comprehensive EA), how an order may prevent, mitigate or remedy potential adverse effects on Aboriginal and treaty rights, and any information in support of the statements in the request. This will allow an efficient review of the request. The request should be sent in writing or email to:

Minister of the Environment, Conservation and Parks
777 Bay Street, 5th Floor
Toronto ON M7A 2J3
Email: minister.mecp@ontario.ca

Director, Environmental Assessment Branch
Ministry of the Environment, Conservation and Parks
135 St. Clair Ave. W, 1st Floor
Toronto ON, M4V 1P5
Email: EABDirector@ontario.ca

Requests should also be copied to Hydro One per the contact information provided above.

4.0 Environmental Inventory

The following sections summarize the environmental baseline conditions in the study areas. Information presented below was obtained through published documents, government agency resource databases and mapping tools, municipal websites, government planning and guidance documents, relevant project documents, reports commissioned by Hydro One, primary data collection through targeted field surveys, and input received through consultation with Indigenous communities, stakeholders, property owners, and members of the public.

In accordance with Section 3.3.4 of the Class EA document (Hydro One, 2022), information for the below factors was collected for the purposes of defining existing conditions:

- Agricultural resources;
- Forestry resources;
- Cultural heritage resources (i.e., archaeological resources, built heritage resources, and cultural heritage landscapes);
- Land Use and communities (formerly referred to as Human settlements;
- Mineral resources;
- Natural environment resources (e.g., air, land, water, wildlife, etc.);
- Recreational resources; and,
- Visual and aesthetic resources (i.e., appearance of the landscape).

Natural and Socio-Economic environment baseline conditions are described in the following sections. Desktop information for the Natural and Socio-Economic Environment was generally collected within the LSA, while Natural Environment field surveys were completed within the PSA (see **Section 2.0**). Field surveys were completed between December 2023 and July 2024 to assess baseline environmental conditions and significant natural values to inform the Class EA. Natural heritage field surveys were conducted in accordance with the Natural Environment Field Program Methodology (Dillon, 2024). Where private property access was granted in advance of the field programs, field studies occurred within or directly adjacent to natural heritage features. Where private property access was not granted and the property was associated with a natural feature(s), field data was collected from the public road

allowance, Hydro One's existing transmission ROW and/or from property limits where access was granted. Field data collected from adjacent lands was supplemented with information collected through aerial imagery interpretation and secondary data sources. The results of the natural heritage field surveys are summarized in **Section 4.6.7** below. Additional field studies will be completed in 2025.

Supplementary information beyond the PSA is provided for some environmental features (such as the Socio-Economic Environment and Cultural Heritage Resources), where appropriate.

4.1. Agricultural Resources and Operations

The Canada Land Inventory (CLI) classifies soil types across Canada and categorizes agricultural land capability into seven classes. Class 1 is the highest agricultural capability and Class 7 is the lowest capability. More specifically, Class 1 to Class 3 lands are considered Prime Agricultural Land. Class 1 to Class 3 and Class 4-7 land capability descriptions for agriculture are as follows (Government of Canada, 2013):

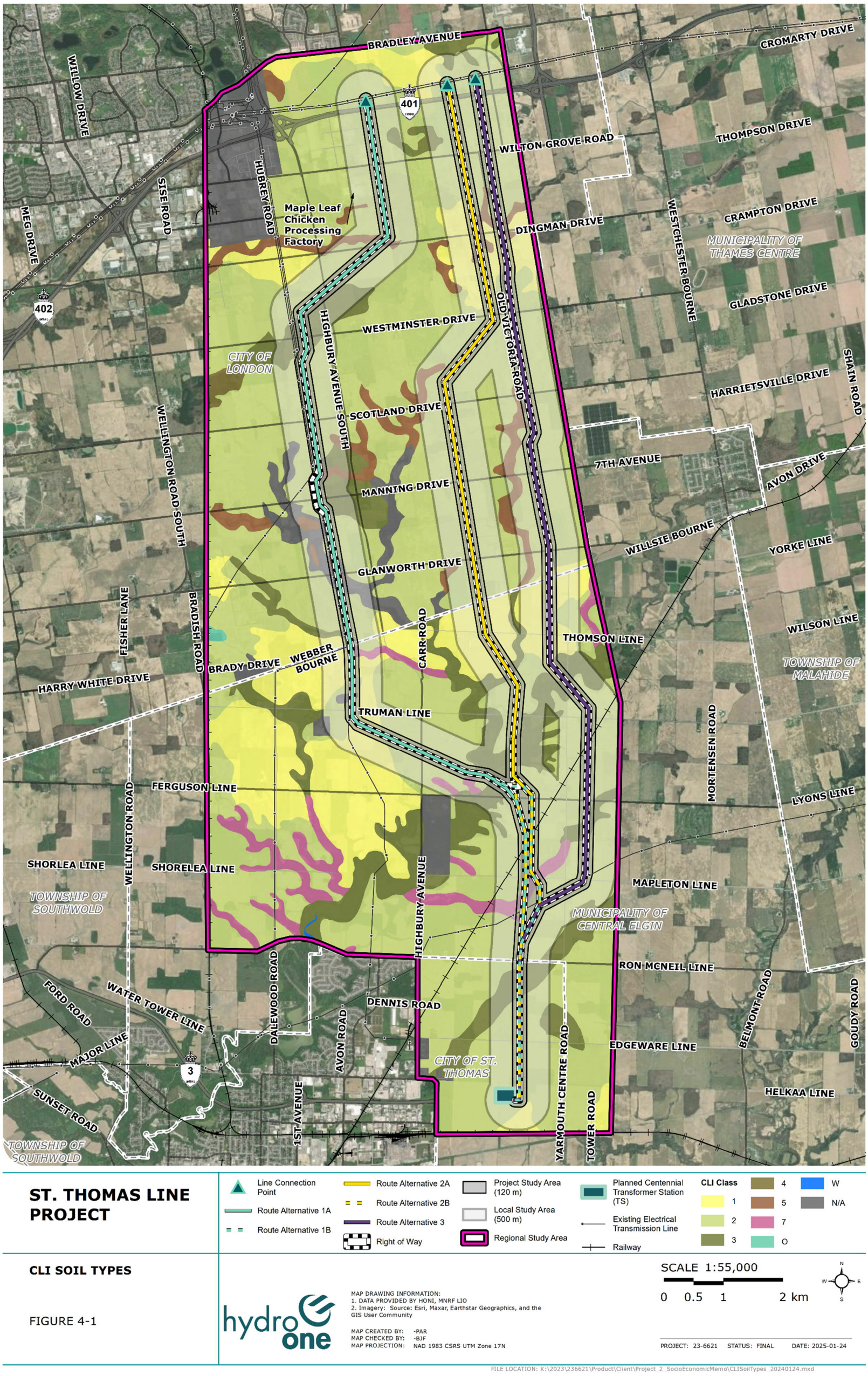
- Class 1: no significant limitations in use for crops;
- Class 2: moderate limitations that restrict the range of crops or require moderate conservation practices;
- Class 3: moderate to severe limitations that restrict the range of crops or require conservation practices; and,
- Class 4-7: severe limitations that restrict the range of crops and the capability to produce perennial forage crops. Class 7 soils have no capacity for arable culture or permanent pasture.

Agriculture land use comprises the majority of the land base within the PSA along each Route Alternatives, with the PSA being predominantly Prime Agricultural Land (**Figure 4-1**). The agricultural sector plays a significant role in economic prosperity for both the City of London and the Municipality of Central Elgin. According to the Agricultural Census from the Ministry of Agriculture, Food and Agribusiness (OMAFA; formerly OMAFRA), there were 271 farms in Central Elgin and 163 farms in the City of London in 2021. No data on the number of farms were available for the City of St. Thomas. Additionally, poultry and pigs are the most common form of livestock within the Municipality of Central Elgin (OMAFRA, 2023). The three most common types of crops

(hectares) within the PSA are corn (35%), soybeans (35%), and winter wheat (10%) (Agriculture and Agri-Food Canada, 2023).

A large portion of the agricultural fields for lands within and beyond the PSA have a field tile drainage system, using a random or systematic design (LIO, 2019). Impacts to field tile drains and associated mitigation measures will be considered as part of the EA process (**Section 7.1.6**).

Figure 4-1: Agricultural Soil Classes



4.2. Forestry Resources

Timber harvesting in Ontario occurs on both Crown and private land. Forest harvesting on Crown land occurs according to the *Crown Forest Sustainability Act*. Private land harvest occurs at the discretion of landowners or municipalities that have tree removal bylaws.

While there are several woodlands located within the PSA, they fall outside of Forestry Management Units, Agreement Forest Areas, Forest Cover Units, Forest Resource Inventory Areas, or Wood Use Areas Forest Resources as identified through the MNRF Forest Resource Inventory (MNRF, 2024). As such, there is no potential for the proposed Project to affect the productivity or utilization of the land for timber harvesting.

4.3. Cultural Heritage Resources

Provincial heritage properties include three types of cultural heritage resources: Built Heritage Resources (BHR), Cultural Heritage Landscapes (CHL), and archaeological sites (MHSTCI, 2010). As requested through consultation with MCM, archaeological sites will be referred to as Archaeological Resources.

4.3.1. Archaeological Resources

Timmins Martelle Heritage Consultants Inc. (TMHC) was retained by Hydro One to conduct a Stage 1 Archaeological Assessment for the Project. The need for archaeological assessment work was determined through Hydro One's internal environmental review of the Project lands, as per the Class EA. Archaeological consulting activities were performed in accordance with the Ministry of Citizenship and Multiculturalism (MCM) Standards and Guidelines for Consultant Archaeologists (2011) by a licenced archaeologist. The Project Area for the assessment comprised of lands within 100 m of the centre line of each Route Alternative. The results of the Stage 1 Archaeological Assessment were provided to the MCM and entered into the Ontario Public Register of Archaeological Reports. The Stage 1 Archaeological Assessment (TMHC, 2024; PIF #P324-0921-2024) determined that the majority of the Project Area exhibits potential for the discovery of archaeological sites due to proximity (within 300m) to:

- Registered archaeological sites;
- Watercourses and wetlands (including Dingman Creek, Kettle Creek, Nineteen Creek);
- Mapped 19th-century structures in Westminster and Yarmouth Townships;
- Known cemeteries (McColl Cemetery and Kilmartin Cemetery); and
- Historic 19th-century transportation routes (including the early settlement roads of Wilton Grove Road, Dingman Drive, Westminster Drive, Scotland Drive, Manning Drive, Glanworth Drive, Thomson Line, Truman Line, Ferguson Line, Mapleton Line, Ron McNeil Line, Edgeware Line, Highbury Avenue, Yarmouth Centre Road and Old Victoria Road).

It was recommended that a Stage 2 Archaeological Assessment be completed for the Preferred Route for lands that have not been previously assessed. Hydro One commits to completing the Stage 2 Archaeological Assessment for these identified areas of archaeological potential along the Preferred Route prior to construction and invite Indigenous monitors to participate and review reports.

A copy of the Stage 1 Archaeology Assessment report is provided in **Appendix C-1**.

4.3.2. Built Heritage Resources and Cultural Heritage Landscapes

WSP Canada Inc. (WSP) was retained by Hydro One to provide a Cultural Heritage Existing Conditions (CHEC) report for the Project, identifying known and potential BHRs and CHLs within the PSA (WSP, 2025). The CHEC report was completed following guidance outlined in Hydro One's Cultural Heritage Identification and Evaluation Process (2019) and by the MCM. The study area for the CHEC report was defined as a buffer of 120 m on either side of each Route Alternative and their respective variation centrelines. The CHEC report identified 51 properties and two waterways with known or potential Cultural Heritage Value or Interest (CHVI).

Through the CHEC, an inventory of identified CHVI was determined for each Route Alternative. It is noted that 12 of the CHVI intersect with more than one Route Alternative.

- 21 properties and two waterways of known or potential CHVI along Route Alternatives 1A and 1B;

- 22 properties and two waterways of known or potential CHVI along Route Alternatives 2A and 2B; and,
- 20 properties and two waterways of known or potential CHVI along Route Alternative 3.

Following the selection of the Preferred Route, a Cultural Heritage Preliminary Impact Assessment (PIA) is being conducted by WSP to identify potential direct and indirect impacts from the Preferred Route on the known and potential BHRs and CHLs identified in the CHEC (WSP, 2025). Once completed, the conclusions of the PIA will be incorporated into environmental mitigation for the Project as per **Section 7.4** of the ESR.

A copy of the CHEC is provided in **Appendix C-1**.

4.4. Land Use and Communities

The LSA includes human settlement areas located within the City of London, the Municipality of Central Elgin and the City of St. Thomas. The majority of the LSA falls within the Municipality of Central Elgin. The LSA is predominantly designated as agricultural land as identified in the Official Plans (OP) for the City of London, the Municipality of Central Elgin, and the City of St. Thomas.

The City of London is comprised of an urban centre, located within the northern portion of the LSA. In 2021, the City (Census subdivision [CSD]) had a population of 422,324 (City of London, 2024; Statistics Canada, 2022).

The Municipality of Central Elgin is comprised of several hamlets and urban and rural settlement areas, although none are located within the LSA. In 2021, the Municipality (CSD) had a population of 13,746 (Municipality of Central Elgin, 2022; Statistics Canada, 2022).

The City of St. Thomas is an urban centre at the south end of the LSA. In 2021, the City (CSD) had a population of 42,840 (City of St. Thomas, 2020; Statistics Canada, 2022).

It is noted that the populations above for the City of London, the Municipality of Central Elgin and the City of St. Thomas include geographic areas that extend beyond the LSA.

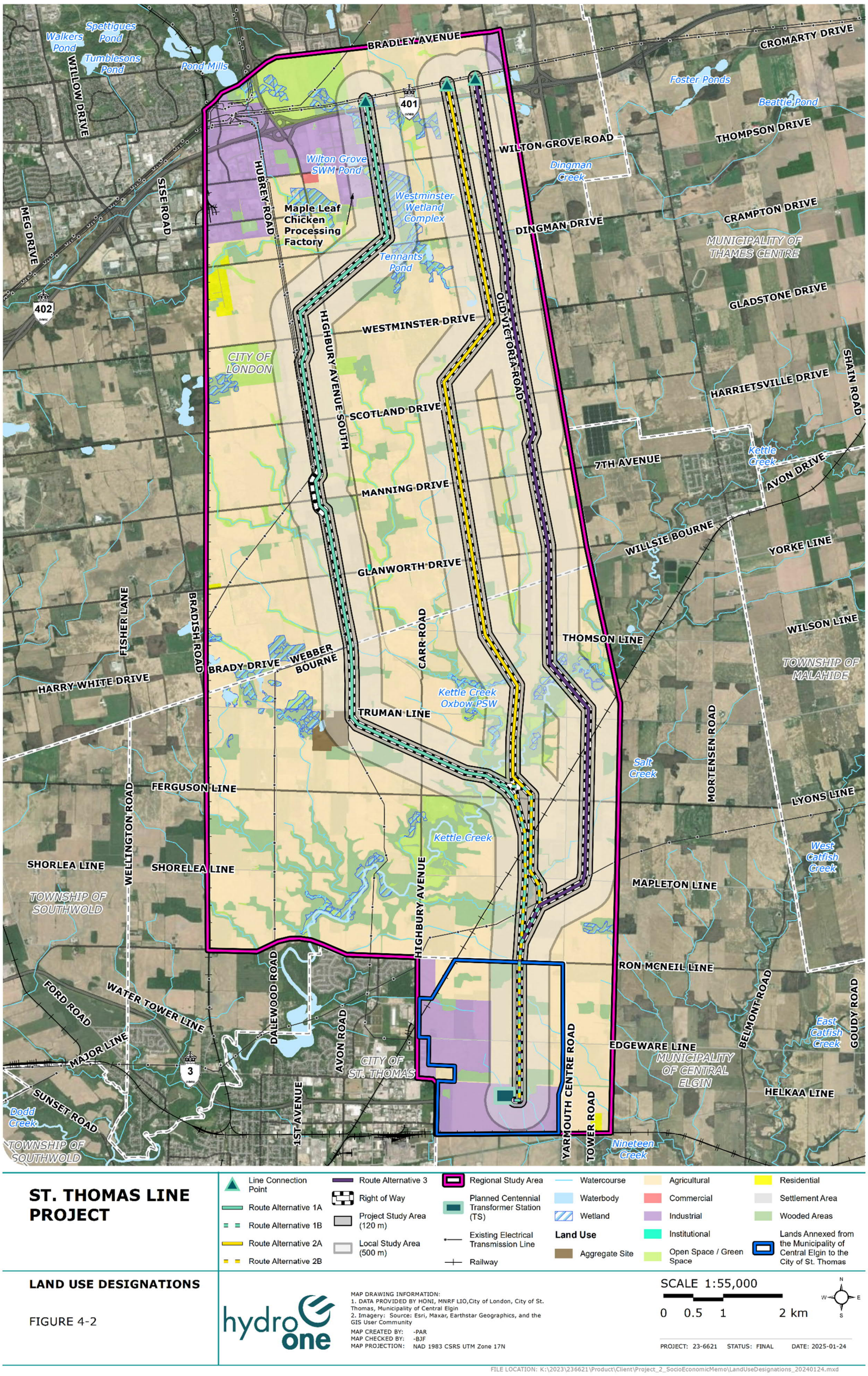
The Thames Valley District School Board and London District Catholic School Board serve residents in the LSA, but there are no schools located within the LSA.

4.4.1. Land Use Planning

The OPs for the City of London, the Municipality of Central Elgin, and the City of St. Thomas apply to the Project's LSA. Land use planning and development in the LSA is also guided by the Provincial Planning Statement (PPS).

The land use designations within and beyond the LSA are shown on **Figure 4-2.**

Figure 4-2: Land Use Designations



4.4.1.1. Provincial Planning Statement (2024)

The PPS is issued under the authority of Section 3 of the Ontario *Planning Act* and the most recent updated version came into effect on October 20, 2024. Section 3 of the *Planning Act* requires that decisions affecting planning matters "shall be consistent with" the PPS. The PPS provides policy direction on matters of Provincial interest, such as infrastructure, employment, and environment. Section 3.3 of the PPS (Transportation and Infrastructure Corridors) and Section 3.8 of the PPS (Energy Supply) includes protection and consideration for transmission lines and facilities. The relevant clauses of the PPS are described below:

- Section 3.3.1: Planning authorities shall plan for and protect corridors and rights-of-way for infrastructure, including transmission systems, to meet current and projected needs;
- Section 3.3.4: Preservation and reuse of abandoned corridors for purposes that maintain the corridor's integrity and continuous linear characteristics should be encouraged, wherever feasible;
- Section 3.3.5: Co-location of linear infrastructure should be promoted, where appropriate; and
- Section 3.8.1 Planning authorities should provide opportunities for the development of energy supply including electricity generation facilities and transmission and distribution systems, energy storage systems, district energy, renewable energy systems, and alternative energy systems, to accommodate current and projected needs.

Additionally, the PPS includes guidance for development in agricultural areas, including Section 4.3.2 (Permitted Uses). Permitted uses in prime agricultural areas include agricultural uses, agriculture-related uses and on-farm diversified uses based on provincial guidance. The PPS definition of on-farm diversified uses include electricity generation facilities, transmission systems, and energy storage systems.

4.4.1.2. The London Plan (Consolidated 2024)

The London Plan, the City of London's OP, provides the framework for growth and development within the City of London to a planning horizon of 2035. It describes land use types across the City and guides the type of development that can occur within those areas. Appendix 1 of the OP shows that lands within the LSA are predominantly

designated as Farmland (prime agricultural land), with some pockets of Green Space and Environmental Review. Environmental Review is defined as areas that are protected until appropriate studies can be undertaken to determine if they qualify as part of the City's Natural Heritage System. Lands near Highway 401 at the north side of the LSA are designated as Light Industrial and Future Industrial Growth. The following uses are permitted within each of the land use designations:

- Farmland (Clause 1182): Agricultural uses, agricultural-related industrial uses that provide direct services to farm operations as a primary activity, and limited non-agricultural uses that are consistent with the guidance provided in the PPS;
- Environmental Review (Clause 784 and 785): Existing uses are permitted until an evaluation of the land is completed. Essential utilities and services that have been the subject of an Environmental Assessment process or an environmental impact study in conformity with the policies of the OP may also be permitted;
- Light Industrial (Clause 1110): Innovation parks and industries generating more minimal planning impacts; and
- Future Industrial Growth (Clause 1156): Industrial land use types will be assigned to these areas once further studies have been completed.

There are two Specific Policy Areas within and adjacent to the northern section of the LSA that allow for additional industrial uses at 1497, 1543, 1577, and 1687 Wilton Grove Road. Such uses include:

- 1497 and 1543 Wilton Grove Road (Clause 778): transport terminal, truck sales and service establishment, and warehouse establishments; and
- 1577 and 1687 Wilton Grove Road (Clause 1134A): food, tobacco, and beverage processing industries.

The OP also includes policies for civic infrastructure, including utilities. Clause 463 states that compatible uses such as agriculture, recreation and outdoor storage may be permitted in utility corridors where applicable. Clause 234 notes that the co-location of utility infrastructure is encouraged near streetscapes to minimize impacts on the public realm.

In addition to specific land use policies, one of the OP's priorities is to protect agricultural resources and support long-term sustainability for farmland (Clause 1175).

Clause 46 of the OP lists hydro-electric power facilities and transmission lines as a permitted use in all areas of the City, provided they are authorized through an EA process and the preferred location for the infrastructure is clearly demonstrated.

As of March 2025, one current planning application (City of London, 2025) was identified within LSA portion the City of London:

- Official Plan Application (O-6408): This application is part of the Airport Road South Area Study, located north of Highway 401 and on lands adjacent to the Veterans Memorial Parkway. Part of the northern extent of the LSA for Route Alternative 3 overlaps with this application; however, no direct impacts are anticipated.

4.4.1.3. Municipality of Central Elgin Official Plan (2022)

The Municipality of Central Elgin is a lower tier municipality of Elgin County. However, the Municipality of Central Elgin has its own OP. The Municipality of Central Elgin OP sets policy guidelines for growth and development in the municipality, with a planning horizon to 2046. Schedule A of the Municipality of Central Elgin's OP depicts Agricultural Areas the primary form of land use within the municipality. Section 2.1.5 of the OP notes that the Agricultural Area consists mainly Class 1-4 soils as defined by the CLI soil capability, which is considered prime agricultural lands in the OP. As noted above in **Section 4.4.1.1**, prime agricultural lands also have protections under the PPS. In addition to Agricultural areas, the OP also identified Natural Heritage features and areas within the LSA.

Permitted uses within these land use designations include:

- Agricultural Area (Section 4.1.1): agricultural uses, agriculture-related uses, and on-farm diversified uses and normal farm practices;
- Natural Heritage (Section 3.1.1): passive open space, walking/biking trails, forest and resource management uses, conservation uses, erosion and flood control, low-intensity public and private recreation uses, existing agricultural uses, and accessory buildings and structures.

Section 2.8.6 of the OP outlines policies for implementing utilities within the municipality, including:

- Collaborating with other agencies to plan for the efficient and sustainable provision of utility infrastructure;
- Ensuring the establishment of sufficient utility networks to serve anticipated development within the municipality in a cost-effective manner; and
- Guiding the design and location of large, above-ground utility infrastructure to be compatible with the surrounding environment.

Section 2.8.6 also notes that public and private utilities will be permitted in all land use designations and will be installed, where possible, within a public road allowance or within appropriate easements.

Section 4.1 of the Municipality of Central Elgin's OP notes that the agricultural sector is an essential part of the municipality and that the protection of these lands and the natural environment are important components for economic sustainability. Additionally, Section 2.2 notes that the municipality is projecting an increase in jobs in the Industrial Sector, including utilities, from 2006 to 2026.

As of March 2025, one current planning application (Municipality of Central Elgin, 2025) was identified within the LSA portion of the Municipality of Central Elgin:

- Aggregate Resources Act: Macpherson Pit – Talbot Sand and Gavel Ltd. On Truman Line. Part of the LSA for Route Alternative 1 overlaps with this application for a proposed pit (refer to **Section 4.5**).

4.4.1.4. City of St. Thomas Official Plan (Consolidated 2020)

The City of St. Thomas is geographically located within Elgin County. However, it is a separate City and has its own OP, which is currently in the process of being reviewed and updated. The City of St. Thomas OP guides development, re-development, and intensification within the City, with a planning horizon of 2046. According to Schedule A of the OP, lands within the LSA are predominantly designated as Employment Lands, with some Natural Heritage lands. Permitted uses within these land use designations include:

- Employment Lands (Section 5.10.4): manufacturing, the processing of goods and raw materials, warehousing, transportation, communications and utilities, and bulk storage of goods; and

- Natural Heritage (8.3.2.3): passive open space, walking/biking trails, forest and resource management uses, conservation uses, erosion and flood control, low-intensity public and private recreation uses, necessary public utilities, infrastructure and services, existing agricultural use and accessory buildings and structures.

The entire city is also marked as a Community Improvement Area under Schedule D of the OP. The Community Improvement Area designation indicates areas that require redevelopment, maintenance, and/or improvements to the City's infrastructure.

According to Section 4.8 of the OP, public utilities essential to support the population or land use activities are permitted in any land use designation. This section also states that utilities shall be designed and located in a way that is compatible with its surrounding environment. Section 9.7 of the OP outlines policies for electric power; it notes that the infrastructure should sufficiently meet the projected demand of the City of St. Thomas and that an orderly expansion of electricity distribution and supply lines will be permitted.

Bill 63, *St. Thomas – Central Elgin Boundary Adjustment Act, 2023*, was enacted by the Ministry of Municipal Affairs and Housing (MMAH) in 2023 to annex approximately 1,500 acres of land from the Municipality of Central Elgin to the City of St. Thomas (MMAH, 2023). This land is located northeast of the City of St. Thomas and its exact extent is described in Schedule 1 of the bill. The purpose of this annexation is to consolidate land for the new Industrial Park, where the electric vehicle battery cell manufacturing facility will be constructed. As such, planning policies in this area may be updated to guide future development in and around this land. The Draft Plan of Subdivision for the Industrial Park proposes to update the zoning for the lands to "EL – Employment Lands Zone" with site specific permissions. There is an exception for an approximate 10 hectare woodlot which will maintain its Natural Heritage zoning.

No information about other active development applications within the City of St. Thomas portion of the LSA were identified as of March 2025.

4.4.2. Transportation

The PSA is comprised of a local and regional road network, as well as the provincial Highway 401 that travels east-west through the north end of the PSA. Road classifications within the PSA are summarized in **Table 4-1**.

Table 4-1: Road Classifications within the PSA

Municipality	Road Classification
City of London	• Provincial Highway (Highway 401) • Rural Thoroughfare • Rural Connector • Civic Boulevard • Urban Thoroughfare
Municipality of Central Elgin	• Municipal Local • Municipal Collector • County Road
City of St. Thomas	• Major Arterial with Bike Lane • Minor Collector

Source(s): The London Plan: Map 3 (2024); Municipality of Central Elgin OP: Schedule A1 (2022); City of St. Thomas OP: Schedule B (2020).

There are two airports within the general vicinity of the Project. The St. Thomas Municipal Airport is approximately 2 km southeast of where all Route Alternatives connect to Hydro One's planned Centennial TS. The London International Airport is approximately 9.5 km north of Route Alternatives 1A and 1B, 9 km northeast of Route Alternatives 2A and 2B, and approximately 8.75 km north of Route Alternative 3.

The City of St. Thomas By-Law 36-2019 shows that the PSA is within the Outer Surface, which is a 4 km radius around each runway threshold and situated at an elevation of 45 m above the Airport Reference Point. Development within the Outer Surface must comply with the policies described in the by-law (City of St. Thomas, 2019). Similarly, the London Airport Zoning Regulations C.R.C., c.93 outlines the application of its regulations to the lands adjacent to or in the vicinity of the airport, which restricts development on any land to which the Regulations apply (Government of Canada, 2024). However, the PSA is not located within this zoned area.

Through public consultation, an airstrip was identified near 44509 Thompson Line, Central Elgin, which is within the PSA for Route Alternatives 2A and 2B and approximately 150 m west of Route Alternative 3. There are specific requirements for developing near airports and airstrips, such as airport-specific zoning regulations and land use regulations from Transport Canada.

One rail line runs northeast-southwest through the LSA and is operated by Ontario Southland Railway Inc. (OSR) (Ontario, 2017). All Route Alternatives cross the OSR line. As such, technical requirements for crossing railways have been incorporated into the comparative analysis process. Two other rail lines are located immediately adjacent and outside of the LSA. These two rail lines are operated by Canadian National Railway (CN Rail): one is west of Highbury Avenue near Wellington Road South, and the other is north of Talbot Line.

There are regional and local bus routes near the urban areas but limited public transit routes available in more rural areas.

4.4.3. First Nations Lands and Interests

As outlined in **Section 3.5** several Indigenous communities were consulted in parallel and as part of the Class EA process. There are no First Nation reserve lands situated within the PSA or LSA. Of the Indigenous communities identified by the Crown, the closest community to the PSA is Oneida Nation of the Thames, located approximately 15 km west of the LSA, and COTTFN located approximately 21 km west of the LSA.

As identified in the Ministry of Energy and Electrification's (MOEE; formerly Ministry of Energy [MOE]) letter confirming Indigenous communities to be consulted on the Project, Indigenous communities were consulted on the basis that they have or may have constitutionally protected Aboriginal and/or treaty rights that may be adversely affected by the Project.

Section 3.5 provides additional information regarding consultation with Indigenous communities.

Although there are no First Nation reserve lands located within the PSA, **Section 7.8** summarizes the potential environmental effects and subsequent mitigation and/or avoidance measures in association with Indigenous Culture, Values and Land Use.

4.5. Mineral Resources

Based on the Ministry of Natural Resources' (MNR; formerly Ministry of Natural Resources and Forestry [MNRF], 2019) Pits and Quarries database, there is one active aggregate pit located within the LSA, along Route Alternative 1, and one application for a pit directly west of the active pit. Although there is only one active pit, there are many areas within the LSA identified as an Area of Potential Aggregate Resource in Schedule A3 of the Municipality of Central Elgin OP and within the City of London through the Ontario Geological Survey (**Appendix C-2**). Three abandoned petroleum wells intersect with the LSA of each of Route Alternative. No petroleum pools exist within the LSA.

No active or abandoned mines were identified within the PSA or on adjacent lands (Ministry of Energy and Mines, 2024).

4.6. Natural Environment Resources

Natural environment features including air, land, water, wildlife and wildlife habitat resources and features were factors considered within the PSA.

This section addresses physical and biological features in the PSA including baseline information for the following:

- Physical environment;
- Atmospheric environment;
- Surface and groundwater resources;
- Designated or special natural areas; and,
- Natural heritage features.

4.6.1. Physical Environment

Bedrock Geology of the PSA is illustrated on **Figure 4-3** (MOM, 2024). Bedrock deposits within the PSA are characterized as limestone, dolostone, and shale (ENDM, 1991) of the Dundee Formation of the Middle Devonian period (ENDM, 1991).

Quaternary geology of the PSA is depicted on **Figure 4-4** (MNRF, 1997). The PSA consists mainly of Port Stanley Till, and glaciolacustrine deposits (MNRF, 1997). The overburden thickness varies and is generally thicker in the centre and southern portions of the PSA near the City of St. Thomas (between 72 m and 88 m) and becomes thinner near the City of London (between 50 m and 68 m), with a band of thinner overburden thickness along Kettle Creek (approximately 70 m) (Ontario Geological Survey, 2024).

The till in the majority of the PSA, extending from the City of St. Thomas to the City of London, is described as clay to silt-textured till derived from the glaciolacustrine deposits, or shale. Within the centre of the PSA and associated with natural heritage features such as Kettle Creek, the surficial geology consists of modern alluvial deposits with clay, silt, sand, gravel, and may contain organic remains. Small portions within the centre of the PSA include glaciofluvial deposits of river deposits and delta topset facies. Spread throughout portions of the centre of the PSA are areas of coarse-textured glaciolacustrine deposits with sand, gravel, and minor silt and clay (Ministry of Mines[MOM], 2022).

The PSA extends across the Mount Elgin Ridges physiographic region of Ontario and small portions of the Ekfrid Clay Plain physiographic region (MOM, 2024). The Mount Elgin Ridges encompass the majority of the PSA, spanning from the City of St. Thomas to the south of the City of London, whereas the Ekfrid Clay Plain includes an outcrop on the centre-western portion of the PSA (MOM, 2024). The Mount Elgin Ridges is made up of several prominent moraines which give the region a rolling topography (Dillon Consulting Limited and Golder and Associates, 2004).

Figure 4-3: Bedrock Geology

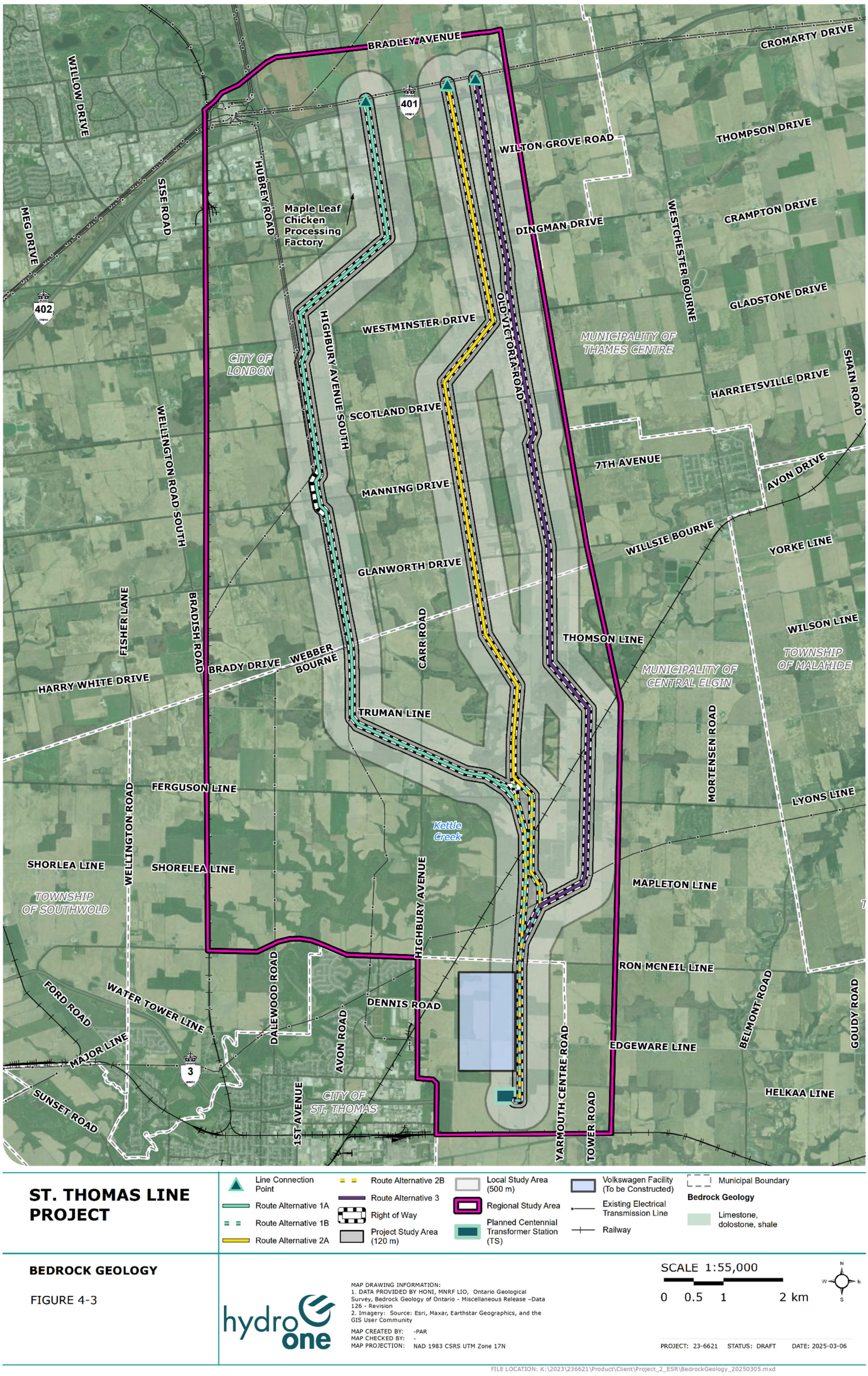
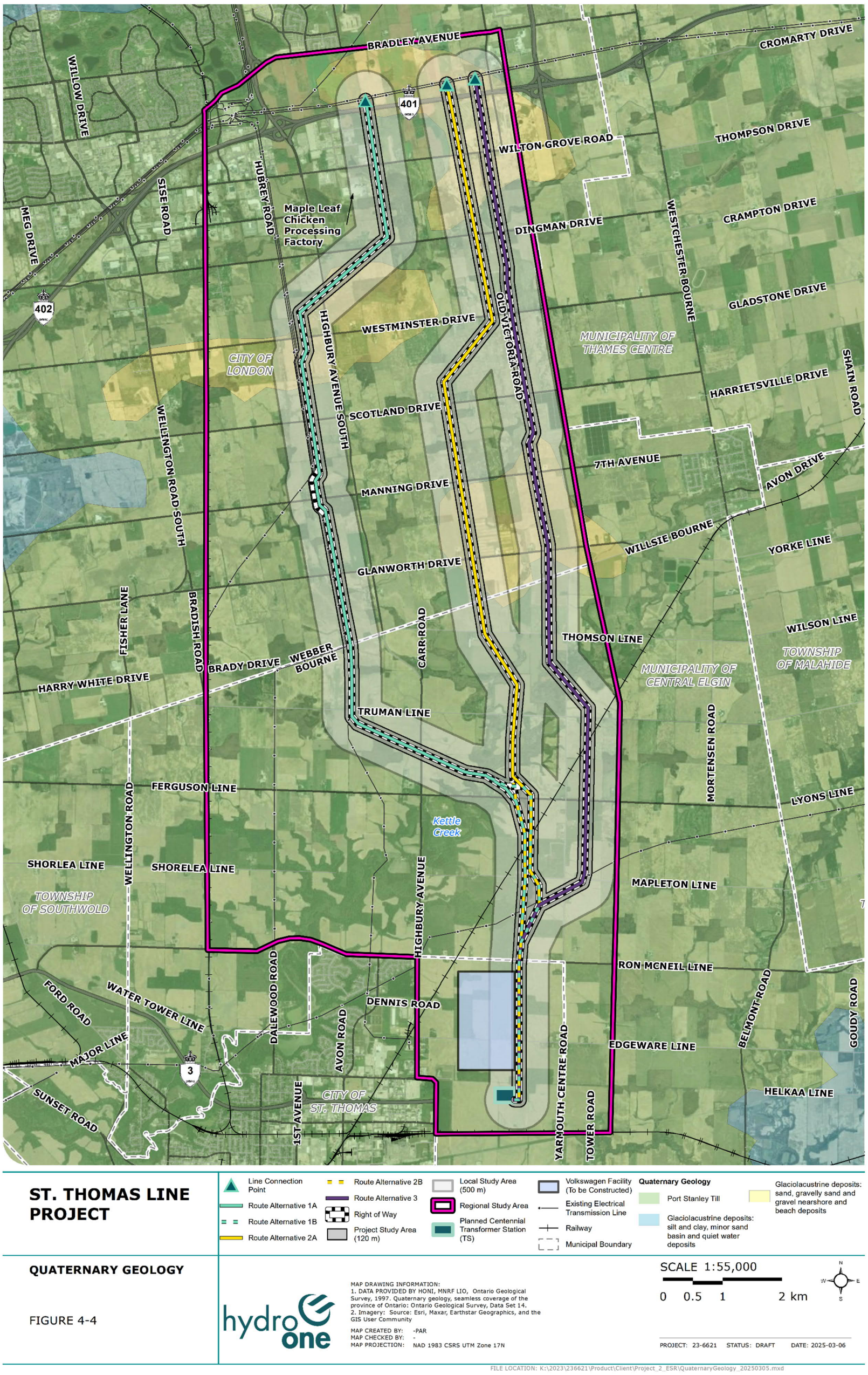


Figure 4-4: Quaternary Geology



4.6.2. Atmospheric Environment

Climate

The PSA is located within the Humid High Moderate Temperate Ecoclimatic Region of southwestern Ontario (MNRF, 2009). Climate in this ecoregion is one of the mildest identified in Canada, with a growing season from 217 to 243 days (MNRF, 2009). Long-term meteorological data for the general region of the PSA has been identified in London. The meteorological station for London is a composite station, which is comprised of several individual stations (Station IDs: 6144475, 6144478, and 6144473) located approximately 9 km north of the PSA (Government of Canada, 2024). The data from these individual stations are combined to create a 30-year data series for a specific location (Government of Canada, 2024). Temperature and precipitation data presented in this section are based on annual Climate Normals data available from 1991 to 2020 (Government of Canada, 2024).

Table 4-2: Summary of Published Annual Climate Normals for the 1991 to 2020 Period for London

Parameter	Composite Station Name: London (9 km north of Project Study Area)
Daily average (degrees Celsius [°C])	8.2
Daily maximum (°C)	13
Daily minimum (°C)	3.3
Rainfall (mm)	Not available[1]
Snowfall (cm)	Not available[1]
Precipitation (mm)	961.6
Days with maximum temperature >35°C	0.11
Days with minimum temperature <-30°C	0.0
Days with rainfall ≥ 25 mm	Not available
Days with snowfall ≥ 25 cm	Not available
Days with precipitation ≥ 25 mm	5.6

Source: Government of Canada, 2024

[1] Rainfall and snowfall elements data not available.

Temperature

The climate normal mean annual temperature recorded for London is 8.2 degrees Celsius (ºC) (Government of Canada, 2024). The climate normal daily average temperature varies between 3.3 °C and 13ºC. The climate normal frost-free period is 165 days from May 3 to October 16 (Government of Canada, 2024).

Precipitation

Precipitation is distributed throughout all four seasons, with snowfall typically limited to between November to April, and rainfall occurring throughout the year. Climate normal days with precipitation (equal to or over 0.2 millimetres [mm]) are 171.7 days per year (Government of Canada, 2024). Similarly, climate normal monthly precipitation varies between 62.8 mm (February) and 92.7 mm (September) (Government of Canada, 2024). The climate normal total annual precipitation is 961.6 mm (Government of Canada, 2024).

Extreme daily rainfall varies from 28.6 mm (December) to 89.0 mm (September) and are considered climate normals. Extreme daily snowfall ranges from 0.0 to 40.0 centimetres (cm) (December; Government of Canada, 2024).

Wind

Winds are primarily blowing from the west with an average annual hourly speed of 14 kilometres per hour (km/hr) (Government of Canada, 2024). The wind extremes data for the London composite station displays the extreme wind speed at 74 km/hr in March 2002 and extreme gust speed at 120 km/hr in September 1993 (Government of Canada, 2024).

Air Quality

In Ontario, air quality is monitored through a network of air quality monitoring stations operated by the MECP and Environment and Climate Change Canada (MECP, 2024; ECCC 2024); the MECP monitors air quality throughout the Province as part of the Air Quality Monitoring System (MECP, 2024). The nearest station is located approximately 5 km north of the PSA in the City of London near Hamilton Road and Highbury Avenue North (MECP, 2024). Through hourly monitoring, an Air Quality Health Index (AQHI)

reading summarizes background air quality levels for ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulphur dioxide (SO_2) and particulate matter ($PM_{2.5}$). Ozone, nitrogen dioxide, particulate matter are measured at the London station.

The AQHI creates a score (i.e., 1 to 10+) totalling the overall risk associated with levels recorded for the parameters measured. A score of 1 to 3 indicates a low risk, a score of 4 to 6 indicates a moderate risk, while a score of 7+ indicates a high risk to ambient air quality. Air monitoring data summarized to provide AQHI scores from the London station represents the combined effect of emissions from nearby sources, as well as the effect of emissions transported into the region. AQHI readings are recorded hourly. Based on averaged daily AQHI readings recorded over the 2021, 2022 and 2023 monitoring years, a low score (1 to 3) and, therefore a low risk to air quality, are indicated for the London area (MECP, 2024).

Noise

In accordance with the MECP (formerly Ministry of the Environment and Climate Change [MOECC]) publication NPC-300 “Environmental Noise Guideline – Stationary and Transportation Sources – Approval and Planning” noise-sensitive receptors, or points of reception, are defined as sensitive land uses, which include dwellings; institutional use (educational, nursery, hospital, health care facility, community centre, place of worship or detention centre); and commercial use (hotel or motel) (MOECC, 2016). Based on a desktop review, points of reception were identified within the LSA to represent the noise-sensitive receptors in the vicinity, all being rural residential dwellings, places of worship and/or cemeteries adjacent to active agricultural lands.

Ambient noise conditions within the LSA were established through a review of publicly available information and the professional perspective of Hydro One based on experience on existing transmission line and station projects. Ambient noise conditions within the LSA are generally expected to be dominated by anthropogenic activities. These activities include, but are not limited to, transportation (roads), agricultural activities, and residential activities. The actual ambient noise levels at a given point of reception depend on a number of factors, including type of noise source, distance to the noise source, and influences from intervening areas (e.g., structures, vegetation, as

applicable) that could provide shielding between the noise source and point of reception. Ambient noise levels are expected to vary throughout the various periods of the day (i.e., Daytime [07:00 to 19:00], Evening [19:00 to 23:00], and Night-time [23:00 to 07:00]), days of the week, and seasons of the year. Ambient noise levels are expected to be at their highest during the agricultural planting and harvest seasons.

Ambient noise levels in the LSA are likely influenced by the following noise emissions:

- Local and distant road traffic;
- Railway activities; and,
- Agricultural (seasonal) and residential activities.

4.6.3. Surface Water Resources

For the purposes of field studies conducted in 2024 in support of the Class EA, surface aquatic features were defined using two categories: 1. watercourses and 2. waterbodies. Watercourses were considered rivers, tributaries and constructed drains (e.g., agricultural drains), while waterbodies were considered natural or man-made ponds or lakes that are land-locked within the landscape. A total of 104 aquatic survey station locations were proposed in support of the 2024 field program. Of the 104 aquatic features, 61 aquatic features within the PSA were assessed either at a Route Alternative crossing or the nearest roadside crossing during the 2024 field program, or through aerial imagery due to restrictive property access. Of the 61 aquatic features assessed in the field or through aerial imagery, 45 were assessed to have the potential to support either permanent or intermittent flow.

Most of the watercourse features within the PSA flow into three Quaternary Watersheds:

- Dingman Creek Watershed;
- Kettle Creek Watershed; and,
- Catfish Creek Watershed.

One large watercourse feature, Kettle Creek, intersects all Route Alternatives and flows into Lake Erie. Kettle Creek flows from Lake Whitaker through Belmont and St. Thomas, southwesterly through the PSA within the Kettle Creek Watershed and into Lake Erie. Kettle Creek is uniquely placed within the Carolinian Zone, one of Canada's most ecologically diverse regions.

A list of watercourses surveyed, including their respective survey locations or stations (**Appendix C-3**), in association with each Route Alternative are provided in **Table 4-3** below. No naturally occurring waterbodies were identified within the PSA.

Table 4-3: Watercourses Surveyed

Watercourse/Drain Name	Survey Station	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
Robertson Drain	AQ-01	Yes	Yes	Yes	Yes	Yes
Unnamed Drain	AQ-04	Yes	Yes	Yes	Yes	Yes
Unnamed Drain	AQ-05	Yes	Yes	Yes	Yes	No
Unnamed Drain	AQ-06	Yes	Yes	Yes	Yes	No
Unnamed Drain	AQ-06-01	Yes	Yes	Yes	Yes	Yes
Unnamed Drain	AQ-07	Yes	Yes	Yes	Yes	Yes
Unnamed Drain	AQ-08	Yes	No	Yes	No	No
Salt Creek	AQ-10	Yes	No	No	Yes	No
Unnamed Drain	AQ-10-1	Yes	No	No	Yes	No
Unnamed Drain	AQ-11	Yes	Yes	Yes	Yes	Yes
Unnamed Drain	AQ-13	Yes	Yes	Yes	Yes	No
Unnamed Drain	AQ-14	Yes	Yes	Yes	Yes	No
Kettle Creek	AQ-15	Yes	Yes	No	No	No
Unnamed Drain	AQ-19	Yes	Yes	Yes	Yes	No
Kettle Creek	AQ-20	Yes	Yes	No	No	No
Unnamed Drain	AQ-21	Yes	Yes	No	No	No

Watercourse/Drain Name	Survey Station	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
A.D. Thompson Drain	AQ-22	Yes	Yes	No	No	No
Glanworth Outlet Drain	AQ-23	Yes	Yes	No	No	No
Unnamed Drain	AQ-24	Yes	Yes	No	No	No
Unnamed Drain	AQ-25	Yes	Yes	No	No	No
Perl Drain	AQ-26	Yes	Yes	No	No	No
Unnamed Drain	AQ-27	Yes	Yes	No	No	No
Unnamed Drain	AQ-27-1	Yes	Yes	No	No	No
Unnamed Drain	AQ-28	Yes	Yes	No	No	No
Unnamed Drain	AQ-29	Yes	Yes	No	No	No
Unnamed Drain	AQ-30	Yes	Yes	No	No	No
Dingman Creek	AQ-31	Yes	Yes	No	No	No
Unnamed Drain	AQ-35	Yes	Yes	No	No	No
Unnamed Drain	AQ-36	Yes	Yes	No	No	No
Unnamed Drain	AQ-37	No	Yes	Yes	No	Yes
Salt Creek	AQ-40	No	Yes	Yes	No	No
Unnamed Drain	AQ-41	No	Yes	Yes	No	No
Unnamed Drain	AQ-44	No	Yes	Yes	No	No

Watercourse/Drain Name	Survey Station	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
Kettle Creek	AQ-46	No	No	Yes	Yes	No
Unnamed Drain	AQ-47	No	No	Yes	Yes	No
Unnamed Drain	AQ-48	No	No	Yes	Yes	No
Unnamed Drain	AQ-52	No	No	Yes	Yes	No
MacPherson Drain	AQ-53	No	No	Yes	Yes	No
Unnamed Drain	AQ-57	No	No	Yes	Yes	No
Unnamed Drain	AQ-56	No	No	Yes	Yes	No
Dingman Creek	AQ-60	No	No	No	No	Yes
Moore Drain	AQ-61	No	No	Yes	Yes	Yes
Dingman Creek	AQ-62	No	No	Yes	Yes	No
Moore Drain	AQ-63	No	No	Yes	Yes	No
Unnamed Drain	AQ-64	No	Yes	Yes	No	No
Unnamed Drain	AQ-67	No	No	No	No	Yes
Unnamed Drain	AQ-68	No	No	No	No	Yes
Unnamed Drain	AQ-69	No	No	No	No	Yes
Salt Creek	AQ-70	No	No	No	No	Yes
Kettle Creek	AQ-73	No	No	No	No	Yes

Watercourse/Drain Name	Survey Station	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
Unnamed Drain	AQ-74	No	No	No	No	Yes
Unnamed Drain	AQ-76	No	No	No	No	Yes
Unnamed Drain	AQ-77	No	No	No	No	Yes
Unnamed Drain	AQ-78	No	No	No	No	Yes
Unnamed Drain	AQ-79	No	No	No	No	Yes
Unnamed Drain	AQ-80	No	No	No	No	Yes
De Boer Drain	AQ-84	No	No	No	No	Yes
Wilcox Drain	AQ-85	No	No	No	No	Yes
Moore Drain	AQ-89	No	No	No	No	Yes
Moore Drain	AQ-91	No	No	No	No	Yes
Jenkens Drain	AQ-122	No	No	No	No	Yes

The topography across the PSA is relatively rolling or flat, with general sloping observed towards watercourse systems and surface drainage features. MNR quaternary watershed mapping for the PSA is provided in **Appendix C-4**.

There are no active Provincial Water Quality Monitoring Network (PWQMN) stations within the PSA. An active PWQMN station for Kettle Creek (No. 16008701502), is located outside of the PSA near Ron McNeil Line. As identified in the KCCA 2023 Watershed Report, the 2022 UTRCA Watershed Report Card for Dingman Creek, and the 2018 CCCA Watershed Report Card, surface water quality for the subwatersheds identified within the majority of the PSA were considered poor, with the portions within the Catfish Creek subwatershed considered fair (KCCA, 2023; UTRCA, 2022; CCCA, 2018). According to the KCCA Watershed Report, conditions of the Upper Kettle Creek subwatershed are largely attributed to phosphorous concentrations consistently exceeding the Provincial Water Quality Objectives (PWQO) (KCCA, 2023). According to the UTRCA watershed report for Dingman Creek, phosphorous levels in Dingman Creek have been improving since the 1970s, but remain elevated at five times the provincial guideline (UTRCA, 2022). The poor conditions of surface water quality within the majority of the PSA are largely attributed to past and ongoing agricultural and residential land uses (KCCA, 2023; UTRCA, 2022).

4.6.4. Groundwater Resources

Groundwater resources were evaluated within the PSA to effectively capture potential effects on groundwater resources from the proposed Project. Well records mapped for the province of Ontario were reviewed to determine groundwater quality (MECP, 2024). Background review determined that many water wells are located within the extent of the PSA; mapping identifying the extent of well records for the PSA and general vicinity are illustrated in **Appendix C-5**. The summary of the water wells within the PSA are listed in **Table 4-4**.

Table 4-4: Water Well Records Selected for Review within the PSA

Well ID	Route Alternative(s)	Date Complete	UTM Coordinates (Zone 17 CSRS) Eastings	UTM Coordinates (Zone 17 CSRS) Northings	Depth to Water (m)	Overburden	Final Status
2004019	2A and 2B	02/24/1986	489304	4743758	61.3	Clay, fine sand, medium sand	Water Supply
4103624	1A and 1B	11/27/1956	486164	4751063	Not available	Loam, clay, gravel	Test Hole
4114799	2A and 2B	11/08/2001	488574	4752667	7	Sand, clay, stones	Water Supply
4116057	2A and 2B	10/29/2004	488214	4748992	2.45	Clay, gravel	Observation Wells
4116690	2A and 2B	06/29/2006	488214	4748992	Not available	Information not available	Abandoned – Other
7301436	1A and 1B	10/26/2017	487056	4752817	3.65	Loam, sand	Observation Wells
7351298	3	09/25/2019	490399	4741042	Not available	Clay, bentonite chips, pack sand	Abandoned – Other
7404298	1A and 1B	10/25/2021	486865	4754022	Not available	Silt, clay, sand	Null

Source: MECP, 2024

Well log records are varied amongst the water wells: groundwater is found approximately between 0 and 62 m below ground surface, typically below a layer of clay soil (located approximately between 0 and 30 m below ground surface). The wells observed within the PSA were used for a variety of purposes including water supply, testing, observation, as well as two abandoned wells (Well IDs #4116690 and #7351298) (MECP, 2024). Records for some of the wells (Well IDs #2004019, #4114799 and #7351298) described the water as fresh. Summary water well records listed in **Table 4-4** are presented in **Appendix C-5**.

Groundwater Hydrogeology

Groundwater hydrogeology was assessed in the Middlesex-Elgin Groundwater Study conducted by Dillon Consulting Limited (Dillon) in association with Golder Associates Ltd. (Golder) (Dillon and Golder, 2004). The results of these studies were incorporated into subsequent source water protection assessments and finally incorporated into the provincial web-based Source Protection Information Atlas.

There are no Wellhead Protection Areas (WPA) that intersect with the PSA.

The PSA falls within the Mount Elgin Ridges physiographic region of Ontario and a small portion of the Ekfrid Clay Plain physiographic region (MOM, 2024). The Mount Elgin Ridges encompass the majority of the PSA, spanning from the City of St. Thomas to the southern portion of the City of London, whereas the Ekfrid Clay Plain includes the southern portions of the PSA (MOM, 2024). The topography of the PSA and surrounding region are considered mostly flat to rolling (MNRF, 2023). Although the PSA extends across both the Mount Elgin Ridges and Ekfrid Clay Plains, the surficial geology is dominated by the Port Stanley Till which often occurs as ground moraines and terminal moraines up to 25 m thick (Dillon and Golder and Associates, 2004). The lithology of the Port Stanley Till, with a depositional environment of sub-aquatic flow in glaciolacustrine conditions, produced some lacustrine silt and sand interbeds, making the fine-grained beds of the till have very low permeability, while the sandy interbeds are aquifers of varying quality (Dillon and Golder and Associates, 2004). The upper portion of the till has developed deep vertical fractures, making the near surface more permeable and

hydraulically active than deeper, unweathered till (Dillon and Golder and Associates, 2004).

Shallow groundwater flow occurs primarily from the north, flowing south towards Lake Erie, with flow influenced by Kettle Creek. Generally, the depth to the water table is medium, between 200 and 250 metres above sea level (Lake Erie Region Source Protection Committee [LERSPC], 2024).

4.6.5. Source Water Protection

The PSA falls mostly within the Kettle Creek Source Protection Area (SPA). The northern part of the PSA falls in the Upper Thames River SPA and a small portion of the PSA falls within the Catfish Creek SPA. A review of the Assessment Reports for each of the SPAs indicated that the PSA for the Route Alternatives extends across mapped Highly Vulnerable Aquifers (HVA) and Significant Groundwater Recharge Areas (SGRA) in the Upper Thames SPA (Thames-Sydenham and Region Source Protection Committee [TSR], 2011). In addition, the PSA crosses SGRAs in the Kettle Creek SPA. The SGRAs and HVAs within the PSA are listed below:

- Upper Thames River SPA
  - SGRAs, located in the north side of the PSA (City of London) and intersecting all Route Alternatives.
  - HVAs, located in the north side of the PSA (City of London) and intersecting all Route Alternatives.
- Kettle Creek SPA
  - SGRAs, located in the central portion of the PSA (City of London and Municipality of Central Elgin) and intersecting with all Route Alternatives.

SGRAs are areas where groundwater recharge of source water aquifers is locally significant. HVAs are aquifers that are susceptible to contamination from land use activities.

The *Clean Water Act, 2006* outlines requirements for protecting existing and future drinking water sources, including the development and implementation of Source Protection Plans (SPPs). SPPs provide a policy framework for protecting source water by addressing the Prescribed Drinking Water Threats (PDWTs) under Section 1.1 of the *Clean Water Act*. The Thames-Sydenham and Region Drinking Water SPP Volume III

applies to the northern section of the PSA near the City of London (TSR, 2023), while the Kettle Creek SPP applies to part of the middle and southern sections of the PSA (LERSPC, 2024). Policies in the Thames-Sydenham and Region SPP and Kettle Creek SPP related to the handling and storage of fuel apply to Wellhead Protection Areas (WPAs) and Intake Protection Zones (IPZs). Since there are no WPAs and IPZs located within the PSA, and the City of London has decommissioned their back up water wells within the Source Protection Region, no significant threat policies currently apply under the Thames-Sydenham SPP.

According to the Kettle Creek SPP, Belmont contains the only groundwater source for municipal water supply in the Kettle Creek Watershed, while the remaining municipalities in this watershed receive their water from Lake Erie (LERSPC, 2024). According to the Thames-Sydenham and Region SPP Map 1-1, there are no surface water intakes or water supply systems within the PSA that correspond with the Thames-Sydenham and Region Source Protection Region (TSR, 2023).

The aquifers in the PSA and vicinity have been mapped by the MECP as having a high vulnerability index (Vulnerability Score: 6; MECP, 2024). HVAs and SGRAs within the PSA are included in **Appendix C-6.**

4.6.6. Designated or Special Natural Areas

Designated or special natural areas are identified by federal or provincial agencies and municipalities through legislation, policies, or approved management plans. These areas typically have special or unique values that result in conservation land initiatives. Such areas may have a variety of ecological, recreational, and aesthetic features and functions that are highly valued.

Conservation Areas

Conservation Areas are protected regions managed by local Conservation Authorities to preserve biodiversity, natural habitats, and water resources while offering recreational opportunities and educational programs. These areas are important in environmental conservation, flood management, and promoting sustainable land use practices.

The Dan Patterson Conservation Area, Kirk-Cousins Management Area, Dalewood Conservation Area are located outside of the PSA, and as such, no Conservation Areas are associated with any of the Route Alternatives.

Managed Lands owned or controlled by the UTRCA and KCCA are located outside of the PSA, and as such, are not associated with any of the Route Alternatives.

Locally Significant Areas

The Municipality of Central Elgin and City of London OPs show that there are two Environmentally Sensitive Areas located within the PSA (**Appendix C-7**). The Environmentally Sensitive Areas and the associated Route Alternative include:

- Central Elgin Environmentally Sensitive Area (Route Alternatives 1A, 1B, 2A, 2B, and 3); and
- Tenants Pond Environmentally Sensitive Area (Route Alternatives 1A and 1B).

4.6.7. Natural Heritage Features

As defined in the PPS (2024), “natural heritage features and areas” include:

- Significant wetlands, significant coastal wetlands, other coastal wetlands in Ecoregions 5E, 6E, and 7E;
- fish habitat, significant woodlands, significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River); and,
- Habitat of endangered species and threatened species, significant wildlife habitat, and significant areas of natural and scientific interest, which are important for their environmental and social values as a legacy of the natural landscapes of an area.

Information on natural heritage features and areas, as defined in the PPS were collected from the following sources:

- Species at Risk Ontario (SARO) (O. Reg. 230/08);
- *Species at Risk Act* (SARA) database;
- Natural Heritage Information Centre (NHIC) database (NHIC, 2022);
- Atlas of Breeding Birds of Ontario (Cadman et al., 2007);
- Atlas of the Mammals of Ontario (Dobbyn, 1994);
- Bat Conservation International range maps (Bat Conservation International, 2023);

- Ontario's Reptile and Amphibian Atlas (Ontario Nature, 2023);
- Elgin County Official Plan (2024);
- City of St. Thomas Official Plan (2021);
- The London Plan (2024);
- Municipality of Central Elgin Official Plan (2023);
- Kettle Creek Conservation Authority;
- Catfish Creek Conservation Authority;
- Upper Thames River Conservation Authority;
- Aerial imagery; and
- Ontario Base Map.

In addition to the background information review, Hydro One's environmental consultant (Dillon) conducted natural heritage field surveys within the PSA. Natural heritage field surveys were conducted in accordance with the Natural Environment Field Program Methodology (Dillon, 2024).

Environmental field survey staff were, at times, accompanied during the aquatic and terrestrial surveys by Indigenous Environmental Monitors from COTTFN. As discussed previously in **Section 4.0**, where private property access was granted in advance of the field programs, field studies occurred within or directly adjacent to natural heritage features. Where private property access was not granted and the property was associated with a natural feature(s), field data was collected from road ROW, Hydro One's existing transmission ROW and/or from property limits where access was granted. Field data collected from adjacent lands was supplemented with information collected through aerial imagery interpretation and secondary data sources, where available.

Field surveys were carried out between December 2023 and July 2024. A summary of the field survey results is provided below.

4.6.7.1. Ecological Land Classification & Botanical Assessment

Ecological communities were classified in accordance with Ecological Land Classification (ELC) System for Southern Ontario (Lee et al., 1998; Lee, 2008). All ELC communities were identified using second approximation classifications. ELC communities were mapped based on aerial imagery and subsequently verified and

refined in the field, where property access was permitted. Where access was not permitted, assessments of vegetation communities were performed as roadside surveys or a detailed review of aerial mapping. Botanical assessments were completed concurrently with ELC surveys. If encountered, the location and abundance of botanical Species of Conservation Concern (SCC) (as defined in **Section 4.6.7.6**) and/or Species at Risk (SAR) (as defined in **Section 4.6.7.7**) were documented and photographed, and UTM coordinates were recorded.

The majority of the PSA consisted of culturally influenced communities, most of which consisted of active agricultural lands, including annual row crops (OAGM1; soybean, winter wheat, and corn). Other cultural communities observed throughout the PSA were typical of those found within rural agricultural landscapes. Naturally occurring communities included mostly interspersed woodland pockets, thicket and meadows throughout the landscape, as they were surrounded by rural properties, fragmented by county roads. The presence of natural and naturalized ELC communities were intermittent along each of the Route Alternatives. No rare or at-risk vegetation community types were identified in the PSA.

Vegetation communities identified within the PSA are illustrated in **Appendix C-8**. The composition of natural vegetation and cultural communities identified within the PSA per Route Alternative are listed below in **Table 4-5**.

Table 4-5: Vegetation Communities Identified within the PSA

ELC Community	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
FOD Deciduous Forest	Yes	Yes	Yes	Yes	Yes
FODM6-1 Fresh – Moist Sugar Maple – Lowland Ash Deciduous Forest	Yes	Yes	Yes	Yes	No
FOD/MEM Deciduous Forest/ Mixed Meadow Complex	Yes	Yes	No	No	Yes
FOD/OA Deciduous Forest/ Open Aquatic Complex	Yes	Yes	Yes	Yes	No
FOD/SWD Deciduous Forest/ Deciduous Swamp Complex	No	No	Yes	Yes	No
FOD/THD Deciduous Forest/ Deciduous Thicket Complex	No	No	No	No	Yes
FODM10-1 Fresh – Moist Sugar Maple/ Beech Carolinian Deciduous Forest	No	No	Yes	Yes	No

ELC Community	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
FODM5 Dry – Fresh Sugar Maple Deciduous Forest	Yes	Yes	No	No	Yes
FODM5-1 Dry – Fresh Sugar Maple – Beech Deciduous Forest	Yes	Yes	No	No	No
FODM5-6 Dry – Fresh Sugar Maple – Basswood Deciduous Forest	Yes	Yes	No	No	No
FODM6 Fresh – Moist Sugar Maple Deciduous Forest	Yes	Yes	Yes	Yes	Yes
FODM6-5 Fresh – Moist Sugar Maple – Hardwood Deciduous Forest	Yes	Yes	No	No	No
FOM Mixed Forest	Yes	Yes	Yes	Yes	No

ELC Community	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
FOMM2 Dry – Fresh White Pine – Hardwood	No	Yes	Yes	Yes	No
WODM4-1 Hawthorn/ Apple Deciduous Woodland	Yes	Yes	No	No	No
WOM Mixed Woodland	No	No	Yes	Yes	No
THD Deciduous Thicket	Yes	Yes	Yes	Yes	No
THD/MEM Deciduous Thicket/ Mixed Meadow Complex	Yes	Yes	Yes	Yes	No
THDM2-11 Hawthorn Deciduous Shrub Thicket	Yes	Yes	No	No	No
THDM2-6 Buckthorn Deciduous Shrub Thicket	Yes	Yes	No	No	No

ELC Community	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
MEG/ Disturbed Area Graminoid Meadow/ Disturbed Area Complex	Yes	Yes	No	No	No
MEGM3-5 Smooth Brome Graminoid Meadow	No	No	Yes	Yes	No
MEM Mixed Meadow	Yes	Yes	Yes	Yes	Yes
MEM/THD Mixed Meadow/ Deciduous Thicket Complex	No	No	No	No	Yes
FODM7-3 Fresh – Moist Willow Lowland Deciduous Forest	Yes	Yes	No	No	No
FODM7-3/ SWDM4-1 Fresh – Moist Willow Lowland Deciduous Forest/ Willow Mineral Deciduous Swamp Complex	Yes	Yes	Yes	Yes	Yes

ELC Community	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
FODM7-4 Fresh – Moist Black Walnut Lowland Deciduous Forest	No	No	Yes	Yes	No
SWD Deciduous Swamp	Yes	Yes	No	No	Yes
SWDM3 Maple Mineral Deciduous Swamp	Yes	Yes	No	No	No
SWT Thicket Swamp	Yes	Yes	No	No	No
MAMM1-2/ SWT Cattail Graminoid Mineral Meadow Marsh/ Thicket Swamp Complex	Yes	Yes	No	No	No
OA Open Aquatic	Yes	Yes	Yes	Yes	Yes
CGL Manicured Lawn	Yes	Yes	No	No	No

ELC Community	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
CGL/ CVR_4 Manicured Lawn/ Rural Residential	No	No	No	No	Yes
CV Constructed	No	Yes	Yes	No	No
CVC Commercial and Institutional	Yes	Yes	No	No	Yes
CVC_4 Extraction (Active Construction)	Yes	Yes	Yes	Yes	Yes
CVI Transportation (Highways, roads, railways, etc.)	Yes	Yes	Yes	Yes	Yes
CVR_4 Rural Residential	Yes	Yes	Yes	Yes	Yes
IAG Agricultural Infrastructure	Yes	Yes	Yes	Yes	Yes
OAGM1 Annual Row Crop	Yes	Yes	Yes	Yes	Yes

ELC Community	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
TAGM5 Fencerow/ Hedgerow	Yes	Yes	Yes	Yes	Yes

A total of 140 plant species were recorded in the PSA during the ELC and botanical surveys, with species diversity differing across the Route Alternatives. Of the 140 plant species observed, 128 were identified to the species level, with 76 listed as native species and considered Secure (SRank of S5) or Apparently Secure (SRank of S4) in the province of Ontario. Additionally, four species are listed as Vulnerable (SRank of S3), including Striped Cream Violet (*Viola striata*), Bristly Buttercup (*Ranunculus hispidus*), American Gromwell (*Lithospermum latifolium*), and Hairy Bedstraw (*Galium pilosum*). These four species are further discussed in **Section 4.6.7.7**.

No vegetation SAR were observed during the field program.

It is noted that initial public comments identified Butternut (*Juglans cinerea*) within the PSA. Location of Butternut, as well as age, size, numbers, and overall tree health could not be verified in the PSA for properties with restricted land access; no Butternut were identified on properties within the PSA where access was granted. Butternut can be found as single individuals or in small groups, commonly in deciduous forests. This species prefers moist, well-drained soil and is often found along streams and does not do well in the shade, often growing in sunny openings and near forest edges. Dillon has taken a conservative approach for properties that could not be surveyed during the 2024 field investigations; through aerial interpretation, where potentially suitable habitat for Butternut was identified on these properties, the presence of Butternut was considered potentially present until surveys to confirm species detection/non-detection are completed. As such, additional field verification surveys are proposed in 2025 for these properties to confirm detection/non-detection of Butternut on the Preferred Route.

Non-Native and Invasive Species

During the ELC and botanical assessments, presence (and general abundance, where appropriate) of invasive species was documented. Of the 140 botanical species observed in the PSA, 29 are considered invasive in Ontario.

The identified invasive species belong to four of the five categories of control as defined by the Invasive Priority for Control:

- Category 1 – Widespread invasive species that are top priority for control;
- Category 2 – Less widespread invasive species that are medium priority;

- Category 3 – Species that spread locally or persist and reproduce from initial introductions and are therefore of local priority; and,
- Category 4 – Species that spread locally or regionally but have minimal effects on biodiversity.

The invasive species observed within the PSA are listed in **Table 4-6**.

Table 4-6: Invasive Species Observed within the PSA

Category	Invasive Species Identified	Routes
Category 1 – Widespread invasive species that are top priority for control	Purple Loosestrife (*Lythrum salicaria*)	1A, 1B
	Common Buckthorn (*Rhamnus cathartica*)	All Routes
	European Common Reed (*Phragmites australis ssp. Australis*)	1A, 1B
	White Sweet-clover (*Melilotus albus*)	1A, 1B
	Garlic Mustard (*Alliaria petiolate*)	1A, 1B, 2A, 2B
	Norway Maple (*Acer platanoides*);	1A, 1B, 2A, 2B
	Autumn Olive (*Elaeagnus umbellate*)	1A, 1B
	Japanese Knotweed (*Fallopia japonica*)	1A, 1B, 2A, 2B
	Glossy Buckthorn (*Frangula alnus*)	1A, 1B
	Wild Parsnip (*Pastinaca sativa*)	1A, 1B, 2A, 2B
	Reed Canary Grass (*Phalaris arundinacea*)	All Routes
Category 2 –Less widespread invasive species that are medium priority	Colt's Foot (*Tussilago farfara*)	All Routes
	Spreading Hedge-parsley (*Torilis arvensis*)	1A, 1B, 2A, 2B
	Manitoba Maple (*Acer negundo*)	1A, 1B, 2A, 2B
	Multiflora Rose (*Rosa multiflora*)	1A, 1B, 2A, 2B
	European Lily-of-the-valley (*Convallaria majalis*)	1A, 1B
Category 3 – Species that spread locally or persist and reproduce from initial introductions and are therefore of local priority	Climbing Nightshade or Bittersweet Nightshade (*Solanum dulcamara*); Route Alternatives 1A and 1B;	1A, 1B
	Crack Willow (*Salix fragilis*); Route Alternatives 1A, 1B, and 3;	1A, 1B, 3
	Wild Chervil (*Anthriscus sylvestris*); Route Alternatives 2A and 2B;	2A, 2B
	Awnless Brome (*Bromus inermis*); Route Alternatives 1A, 1B, 2A, and 2B;	1A, 1B, 2A, 2B
	Canada Thistle (*Cirsium arvense*); Route Alternatives 1A and 1B;	1A, 1B

Category	Invasive Species Identified	Routes
	Orchard Grass (*Dactylis glomerata*); Route Alternatives 1A and 1B;	1A, 1B
	Herb Robert (*Geranium robertianum*); All Route Alternatives;	All Routes
	Wood Avens (*Geum urbanum*); All Route Alternatives;	All Routes
	Dame's Rocket (*Hesperis matronalis*); Route Alternatives 1A, 1B, 2A, and 2B;	1A, 1B, 2A, 2B
	Creeping Jennie (*Lysimachia nummularia*); Route Alternatives 1A, 1B, 2A, and 2B;	1A, 1B, 2A, 2B
Category 4 – Species that spread locally or regionally but have minimal effects on biodiversity	Canada Bluegrass (*Poa compressa*)	1A, 1B
	Oxeye Daisy (*Leucanthemum vulgare*)	1A, 1B
	Wild Carrot (*Daucus carota*)	1A, 1B, 2A, 2B

Category 1 species, including Common Buckthorn are commonly found throughout the PSA. Physical site disturbance may increase the likelihood for the introduction and spread of non-native and/or invasive flora species to the surrounding vegetation communities. Invasive flora can establish in disturbed sites more efficiently than native flora and can then encroach into neighbouring undisturbed and/or more sensitive areas.

Mitigation for potential impacts due to the spread of invasive species are further discussed in **Section 7.7.8.4.**

4.6.7.2. Wetlands

Wetland community types observed within the PSA consisted of marsh, swamp (treed, thicket), and areas of open aquatic associated with wetland communities. These wetland community types were commonly observed to be interconnected as part of wetland complex systems. Formal wetland evaluations or assessments as per the Ontario Wetland Evaluation System (OWES) were not conducted within the PSA as part of Dillon's 2024 field surveys.

Three MNR mapped Provincially Significant Wetland (PSW; **Appendix C-7**) complexes were identified in the PSA, including:

- Westminster Wetland Complex;

- Kettle Creek Oxbow Swamp; and,
- Pitcher Plant Fen.

In addition to the mapped PSW complexes, a Fresh – Moist Willow Lowland Deciduous Forest/ Willow Mineral Deciduous Swamp Complex (FODM7-3/SWDM4-1) vegetation community was characterized during ELC surveys within the PSA for all Route Alternatives. This wetland community complex was not identified as a wetland through MNR mapping; however, due to this community complex containing an ELC wetland community and a lowland community with potential to meet OWES wetland characterization, this ELC community complex has been carried forward as a wetland in Dillon's assessment.

The OWES scores wetlands using a points-based system. As per Section 6.3.1 of the Natural Heritage Reference Manual (NHRM; OMNR; 2010) and OWES (MNR, 2023), a PSW is an evaluated wetland that receives either a total of 600 or more points, or 200 or more points in either biological components (i.e., wetland type, biodiversity), and/or special features components (i.e., rare and significant species, and Significant Wildlife Habitat [SWH]).

As described in Section 6.3.1 of the NHRM (OMNR, 2010) and in the OWES (MNR, 2023), the wetland units have the potential to meet criteria for significance as they have the potential to provide biological, hydrological, and special feature components.

Table 4-7 summarizes the PSWs and ELC wetland communities in the PSA associated with each Route Alternative.

Table 4-7: Wetland Features Summary

Natural Heritage Feature	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
Wetlands	1 PSW Complex: Westminster Wetland Complex. Includes wetland ELC communities: SWDM4-1, MAMM1-2, SWD, SWDM3, and SWT.	1 PSW Complex: Westminster Wetland Complex. Includes wetland ELC communities: SWDM4-1, MAMM1-2, SWD, SWDM3, and SWT.	1 PSW Complex: Kettle Creek Oxbow Swamp. Includes wetland ELC communities: SWDM4-1, and SWD.	1 PSW Complex: Kettle Creek Oxbow Swamp. Includes wetland ELC communities: SWDM4-1, and SWD.	1 PSW Complex: Pitcher Plant Fen, including SWDM4-1, and SWD.

4.6.7.3. Aquatic and Fish Habitat

Watercourses supporting fish habitat were observed in association with each of the Route Alternatives. The majority of watercourses within the PSA are characterized as a combination of open natural watercourses and agricultural drains with permanent or intermittent flow regimes. The most common substrate observed in association with surface aquatic features across all Route Alternatives consisted of clay, silt, and sand; organics, gravel, boulder and cobble substrate were also observed. The dominant instream habitat consisted of overhanging vegetation with woody and organic debris.

Notable erosion was only observed upstream of station AQ-15 along Kettle Creek. No sloughing, unstable banks and/or additional erosion were observed at the other watercourses that were assessed.

Aquatic features including fish and fish habitat were identified in the PSA. Drainage classifications provided by DFO were confirmed in the field during aquatic assessments or through aerial imagery. In total, 19 watercourses associated with 29 survey stations were assessed to provide direct fish habitat while 16 aquatic features associated with 16 survey stations were assessed to provide seasonal fish habitat and no observable fish habitat, respectively.

The number of unique watercourses assessed as having the potential to provide direct or seasonal fish habitat in the PSA for each Route Alternative is summarized in **Table 4-8**. Unique watercourses may cross more than one Route Alternative and/or may cross a Route Alternative more than once. As such, **Table 4-8** depicts the number of unique watercourses for each Route Alternative, as well as the number of times the Route Alternative intersects with a watercourse crossing.

No aquatic SAR records for the PSA were identified by DFO aquatic SAR mapping or by data provided by the UTRCA.

Table 4-8: Fish Habitat Summary

Natural Heritage Feature	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
Fish Habitat	19 watercourses for a combined total of 20 crossings	17 watercourses for a combined total of 18 crossings	16 watercourses for a combined total of 18 crossings	19 watercourses for a combined total of 21 crossings	17 watercourses for a combined total of 19 crossings

4.6.7.4. Woodlands

Under the PPS, significant woodlands are protected in Ecoregions 6E and 7E. The PPS defines significant woodlands as “an area which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history” (MMAH, 2024).

Through a desktop review of the MNR mapping (NHIC, 2024) and the London Plan (2024) and the Municipality of Central Elgin OP (2022), 53 woodlands intersecting the PSA were identified, 30 of which were identified as significant through the London Plan and the Municipality of Central Elgin OP (16 significant woodlands identified in the

London Plan; 14 significant woodlands identified in the Municipality of Central Elgin OP). Significant woodlands within the PSA are included in **Appendix C-7**.

Woodland communities observed within the PSA were characterized by a mix of mid-aged to mature deciduous forests and swamp communities. **Table 4-9** summarizes the woodland features associated with each Route Alternative. The ELC communities associated with these significant woodlands are considered Common or Secure (S5/S4) in Ontario. Although the ELC community types are ranked as Common or Secure in Ontario, it is acknowledged that several woodlands in Ontario have been utilized for hunting and trapping, as well as plant and medicinal harvesting by Indigenous communities.

Table 4-9: Woodlands Summary

Natural Heritage Feature	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
Woodlands	18 significant woodlands 25 mapped MNR woodlands	17 significant woodlands 25 mapped MNR woodlands	14 significant woodlands 21 mapped MNR woodlands	15 significant woodlands 21 mapped MNR woodlands	12 significant woodlands 22 mapped MNR woodlands

4.6.7.5. Valleylands

The London Plan (2024) defines valleylands as “natural areas that occur in valley or other depressions that has water flowing through or standing for some period of the year which provide natural heritage values and ecological functions”. Valleylands consist of or have the potential to consist of natural habitat that links to existing natural heritage systems such as woodlands, wetlands and SWH (City of London, 2024).

A total of 22 valleylands mapped by the London Plan (Map 5; 2024) are intersected by the PSA. Of the 22 valleyland intersections, four valleylands are mapped as significant, and are associated with Dingman Creek and a tributary of Kettle Creek.

No mapped valleylands or valley features were identified or defined in the Central Elgin OP (2022). Valleylands identified within the PSA are included in **Appendix C-7**.

Table 4-10 summarizes the valleyland features associated with each Route Alternative.

Table 4-10: Valleylands Summary

Natural Heritage Feature	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
Valleylands	2 significant valleylands (Dingman Creek and Tributary of Kettle Creek) 8 mapped valleylands	2 significant valleylands (Dingman Creek and Tributary of Kettle Creek) 8 mapped valleylands	1 significant valleyland (Dingman Creek) 3 mapped valleylands	1 significant valleyland (Dingman Creek) 3 mapped valleylands	1 significant valleyland (Dingman Creek) 7 mapped valleylands

4.6.7.6. Wildlife and Wildlife Habitat

Wildlife habitat is defined as an area where plants, animals and other organisms live, including areas where species concentrate at a vulnerable point in their life cycle, and areas that are important to migratory and non-migratory species (MNR, 2000). To assist planning authorities, the MNR developed the Significant Wildlife Habitat (SWH) Technical Guide (MNR, 2000) that provides information on the identification, description, and prioritization of SWH in Ontario. To account for the ecological diversity across the province, MNR developed the SWH Ecoregional Criteria Schedules to support the SWH Technical Guide. These schedules are specific to each geographic area of each ecoregion. The PSA is located in Ecoregion 7E (Carolinian Zone; MNR, 2015). Under the Criteria Schedule for Ecoregion 7E (MNR, 2015), SWH is divided into four broad categories consisting of:

1. Seasonal Concentration Areas;
2. Rare Vegetation Communities or Specialized Habitats for Wildlife;
3. Animal Movement Corridors; and,
4. Habitats of Species of Conservation Concern (SCC) Excluding the Habitats of Endangered and Threatened Species.

SCC are defined as:

- Species listed as Special Concern, Threatened, or Endangered under SARA, but do not include species listed as Endangered or Threatened under the ESA;
- Species that are provincially rare/tracked (i.e., have a Sub-national (provincial) Rank of S1 – Critically Imperiled, S2 – Imperiled, or S3 – Vulnerable); and/or,
- Species that are designated as Special Concern under the ESA.

Based on the field program survey results, ten Candidate and three Confirmed SWHs were identified in the PSA. Field data that could not be obtained or verified through direct observations due to restricted access and/or lack of proximity to the natural feature through adjacent access were conservatively assessed as Candidate SWH if a supporting natural feature was identified through aerial interpretation.

Evaluations of the Candidate and Confirmed SWH identified in the PSA are provided below.

Seasonal Concentration Areas of Animals

Bat Maternity Colonies

Snag and cavity trees were observed incidentally during the ELC surveys within forested and swamp communities. As surveys for snag and cavity trees were not formally conducted throughout the PSA, Candidate SWH for Bat Maternity Colonies have the potential to occur within the deciduous and mixed forest and swamp communities (i.e., FOD, FOM, SWD, and SWM) identified within the PSA in association with all Route Alternatives.

In addition, the deciduous forest (FOD) near the planned Centennial TS at the southern end of the Route Alternatives was previously assessed as Candidate SWH for Bat Maternity Colonies. As such, this area has been carried forward as Candidate SWH for Bat Maternity Colonies.

Turtle Wintering Areas

The PSA supports areas of open water, and areas of wetlands and wetland complexes that may provide suitable overwintering habitat for turtles. Wetland communities (i.e., SWD, MA) and open aquatic (OA) communities were conservatively assessed as

having the potential to provide overwintering habitat. As such, these areas have been identified as Candidate SWH for Turtle Wintering Areas and are associated with each of the Route Alternatives.

Specialized Habitat for Wildlife

Bald Eagle Nesting, Foraging and Perching Habitat

Bald Eagle nesting, foraging, and perching habitat is associated with forested areas along lakes, ponds, rivers or wetlands where nesting can occur. A pair of Bald Eagle were observed adjacent to a deciduous swamp associated with the PSA for Route Alternative 3 adjacent to Kettle Creek during the late 2023 windshield surveys for the Project. Kettle Creek and the surrounding forested area provides suitable foraging habitat for Bald Eagle, which are historically known to occur within the area. As Bald Eagle have been confirmed nesting along Kettle Creek outside of the PSA, it is assumed that Bald Eagle have the potential to nest along the Kettle Creek corridor. The surrounding forested habitat may provide suitable nesting, foraging, and perching habitat. Though no nesting or breeding evidence was observed during the field program, the forest communities (FOD, FOM, SWD) within the PSA associated with Kettle Creek are considered Candidate SWH for Bald Eagle Nesting, Foraging and Perching Habitat. The communities identified as Candidate SWH are associated with each Route Alternative.

Turtle Nesting Areas

Nesting habitat for turtles require open areas of sand and gravel where substrate can be dug in. Areas suitable for turtle nesting are located in open, sunny areas, such as sand and gravel banks adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers (MNR, 2015). Sand and gravel areas observed to have the potential to provide suitable habitat for turtle nesting were observed along the shores of watercourses associated with three survey stations. No turtles or evidence of turtle nesting was observed during the field program. As such, the habitat associated with these stations in association with Route Alternatives 1A, 1B, 2A, and 2B are considered Candidate SWH for Turtle Nesting Areas.

Seeps and Springs

Seeps and springs may occur within forested areas associated with meadows, pasture, or fields within the headwater area of a stream or river system. Though no seeps or springs were observed during the field investigations, the forested areas of the Kettle Creek corridor adjacent to meadows within headwater areas observed in association with two survey stations are considered Candidate SWH for Seeps and Springs. The aforementioned habitat is associated with Route Alternatives 2A and 2B.

Seeps and Springs may have the potential to occur within the PSA in areas where access was not permitted. Additional Candidate SWH for Seeps and Springs have not been mapped as they cannot be conservatively assessed for candidacy without verifying the extent of the surrounding habitat and their associated communities within and adjacent to the PSA.

Amphibian Breeding Habitat (Woodland and Wetland)

Several woodland and wetland features within the PSA were observed to have the potential to provide amphibian breeding habitat during preliminary habitat assessments. During amphibian breeding surveys, anuran species were heard calling at 18 of the 21 established breeding amphibian survey stations. As a third (late-season) survey was not completed, a full assessment of breeding species and population numbers could not be verified.

As per the evaluation criteria outlined in the SWH Eco-region 7E Criterion Schedules, no Confirmed SWH for Amphibian Breeding Habitat (Woodland and Wetland) was identified within the PSA based on the observations during the first and second surveys. However, in the absence of a third survey (complete dataset), all of the features associated with stations where amphibians were heard calling, as well as features with the potential to provide breeding amphibian habitat where property access was not provided, have been conservatively carried forward as Candidate SWH for Amphibian Breeding Habitat (Woodland and Wetland). Candidate SWH for Amphibian Breeding Habitat (Woodland and Wetland) are associated with each Route Alternative.

Habitat for Species of Conservation Concern

Marsh Breeding Bird Habitat

Wetland habitats with shallow water and emergent vegetation may provide suitable marsh breeding bird habitat. No breeding evidence for the bird species listed in the SWH habitat criteria was observed within the surveyed wetland features during the field investigations; however, one swamp (SWD) and one deciduous forest/swamp complex (FOD/SWD) community within the PSA has the potential to support marsh breeding bird habitat. The SWD community is part of the Westminster Wetland Complex PSW, and the FOD/SWD complex community has the potential to support suitable wetland habitat for Marsh Breeding Bird Habitat based on aerial imagery. These two wetland features were not assessed during the field investigations due to restricted property access, and as such, have been conservatively carried forward as Candidate SWH for Marsh Breeding Bird Habitat. The SWD and FOD/SWD complex are associated with Route Alternatives 1A and 1B, and 2A and 2B, respectively.

Terrestrial Crayfish

Wet meadows and edges of shallow marshes and swamps can support the habitat for terrestrial crayfish. Terrestrial crayfish burrows were incidentally observed during the 2024 field program at three survey stations. The observed crayfish burrows are associated with each Route Alternative. Based on the incidental observations, the habitat associated with these stations are considered Confirmed SWH for Terrestrial Crayfish.

Though terrestrial crayfish burrows were observed within only three features associated with the survey stations, the swamp (SWD and SWT) and marsh (MA) communities within the PSA have the potential to provide Candidate SWH for Terrestrial Crayfish. As such, Candidate SWH for Terrestrial Crayfish has been identified for each Route Alternative.

Special Concern and Rare Wildlife Species

Seven SCC were observed (confirmed through visual and/or auditory) in the PSA during the 2024 field investigations.

Six SCC and their habitat were confirmed present in the PSA:

- Eastern Wood-pewee (*Contopus virens*);
- Wood Thrush (*Hylocichla mustelina*);
- American Gromwell (*Lithospermum latifolium*);
- Bristly Buttercup (*Ranunculus hispidus*);
- Hairy Bedstraw (*Galium pilosum*); and,
- Striped Cream Violet (*Viola striata*).

Barn Swallow (*Hirundo rustica*) were also observed during the breeding bird survey, though no breeding evidence was observed (flyover). No nests (active or inactive) were identified within the PSA.

In addition, data provided by the UTRCA, the DFO Aquatic Species at Risk Mapping Tool indicated that Northern Sunfish (Great Lakes – Upper St. Lawrence population; *Lepomis peltastes*) occur within select watercourses in the PSA. As such, six SCC and their habitat were confirmed present in the PSA, and one additional SCC (Northern Sunfish), identified as present by DFO, has been conservatively brought forward in the PSA. The aforementioned SCC are discussed below:

Eastern Wood-pewee

Eastern Wood-pewee prefer open, deciduous, mixed or coniferous forests, commonly with little understorey, as well as areas with forests clearings, edges, and woodlands. Eastern Wood-pewee were observed at several stations throughout the PSA during the diurnal breeding bird surveys and incidentally throughout the field program. Eastern Wood-pewee was heard singing within the PSA in association with each Route Alternative, and were confirmed at 15 survey stations. Locations where Eastern Wood-pewee was observed with breeding evidence (e.g., singing) within suitable breeding habitat were carried forward as Confirmed SWH.

The deciduous forest (FOD) near the planned Centennial TS at the southern end of each Route Alternative was previously assessed as having the potential to provide habitat for Eastern Wood-pewee. Breeding bird surveys were not conducted in this section of the Project as part of the field program. As such, the assessment of

Candidate SWH for Special Concern and Rare Wildlife Species has been carried forward into this assessment.

Wood Thrush

Wood Thrush prefer disturbed moist and mature deciduous or mixed woodlands, with tree height typically exceeding 12 metres. Wood Thrush was heard singing in association with each Route Alternative at three survey stations. Based on the results of the breeding bird surveys, the habitat associated with each of the applicable survey stations are considered Confirmed SWH for Special Concern and Rare Wildlife Species.

As Wood Thrush is a migratory bird under the MBCA, and a listed species under Schedule 1 of SARA, this species and its residence is afforded protection under the federal SARA and meet the definition of a SAR (**Section 4.6.7.7**).

The deciduous forest (FOD) near the planned Centennial TS at the southern end of each Route Alternative was previously assessed as having the potential to provide habitat for Wood Thrush. Breeding bird surveys were not conducted in this section of the Project as part of the field program. As such, the assessment of Candidate SWH for Special Concern and Rare Wildlife Species has been carried forward into this assessment.

Barn Swallow

Barn Swallow are common to farmlands or rural areas and frequently nest on buildings or other man-made structures; nests are typically situated adjacent to open fields, grasslands, and bodies of water. Barn Swallow observations were documented in association with all Route Alternatives. Barn Swallow were recorded during targeted surveys and as incidental observations. Although Barn Swallow was documented throughout the PSA, no breeding evidence was observed. As such, Barn Swallow has not been carried forward further, as the species and its habitat (nest adjacent to open areas for foraging) was not identified in the PSA.

As Barn Swallow is a migratory bird under the MBCA, and a listed species under Schedule 1 of SARA, this species and its residence is afforded protection under the federal SARA and meet the definition of a SAR (**Section 4.6.7.7**).

American Gromwell

American Gromwell is a herbaceous plant that grows in deciduous or mixed calcareous forests. American Gromwell was observed during the botanical surveys in association with Route Alternatives 1A and 1B at one survey station within the Dry-Fresh Sugar Maple-Basswood Deciduous Forest community (FODM5-6). As such, this community has been carried forward as Confirmed SWH.

Bristly Buttercup

Bristly Buttercup grows in moist habitats such as stream banks and shorelines, with open areas for sun exposure. Bristly Buttercup was observed during the botanical survey in association with Route Alternatives 1A, 1B, 2A and 2B at three survey stations within the Dry-Fresh Sugar Maple-Basswood Deciduous Forest community (FODM5-6), Fresh-Moist Sugar Maple/Beech Carolinian Deciduous Forest (FODM10-1), and Smooth Brome Graminoid Meadow (MEGM3-5) communities. As such, these communities have been carried forward as Confirmed SWH.

Hairy Bedstraw

Hairy Bedstraw grows in forests, woodland boarders or clearings. Hairy Bedstraw was observed during the botanical surveys in association with Route Alternatives 2A and 2B at one survey station within the Fresh-Moist Black Walnut Lowland Deciduous Forest community (FODM7-4). As such, this community has been carried forward as Confirmed SWH.

Striped Cream Violet

Striped Cream Violet prefers habitats of mesic forests and was observed during the botanical surveys in association with Route Alternatives 1A, 1B, 2A and 2B at three survey stations within the Hawthorn Deciduous Shrub Thicket (THDM2-11), Fresh-Moist Black Walnut Lowland Deciduous Forest (FODM7-4), and Smooth Brome Graminoid Meadow (MEGM3-5) communities. As such, these communities have been carried forward as Confirmed SWH.

Based on the results of the ELC and botanical surveys, each of the aforementioned ELC communities are considered Confirmed SWH for Special Concern and Rare Wildlife Species.

Northern Sunfish

Northern Sunfish are found in shallow vegetated areas of quiet, slow flowing rivers and streams, as well as warm lakes and ponds. Based on data provided by the UTRCA and DFO Aquatic Species at Risk Mapping Tool, Northern Sunfish (Great Lakes – Upper St. Lawrence population; Special Concern under SARA and ESA) has the potential to occur in Dingman Creek, Moore Drain, Wilcox Drain, DeBoer Drain, Jenkens Drain, and an Unnamed Drain (AQ-64). Tributaries within 1 km of these watercourses were also conservatively assessed as having the potential to support Northern Sunfish, as the species is known to occupy small home ranges and spawn in close proximity to habitat used at other times of year (COSEWIC, 2016). Two tributaries that are Unnamed Drains (AQ-35 and AQ-36) meet the habitat requirements of the species – shallow areas of vegetated, slowly flowing watercourses with relatively clear waters (COSEWIC, 2016). As a result, each of the aforementioned watercourses provide Candidate SWH for Special Concern and Rare Wildlife Species in association with each Route Alternative.

Table 4-11 summarizes the Candidate and Confirmed SWH associated with each Route Alternative.

Table 4-11: Candidate and Confirmed SWH

Natural Heritage Feature	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
Candidate SWH	Bat Maternity Colonies Turtle Nesting Area Turtle Wintering Areas Breeding Amphibians Bald Eagles Nesting, Foraging, and Perching Marsh Breeding Bird Habitat Terrestrial Crayfish Special Concern and Rare Wildlife Species: Eastern Wood-pewee, Wood Thrush, Northern Sunfish	Bat Maternity Colonies Turtle Nesting Area Turtle Wintering Areas Breeding Amphibians Bald Eagles Nesting, Foraging, and Perching Marsh Breeding Bird Habitat Terrestrial Crayfish Special Concern and Rare Wildlife Species: Eastern Wood-pewee, Wood Thrush, Northern Sunfish	Bat Maternity Colonies Turtle Nesting Area Seeps and Springs Turtle Wintering Areas Breeding Amphibians Bald Eagles Nesting, Foraging, and Perching Marsh Breeding Bird Habitat Terrestrial Crayfish Special Concern and Rare Wildlife Species: Eastern Wood-pewee, Wood	Bat Maternity Colonies Turtle Nesting Area Seeps and Springs Turtle Wintering Areas Breeding Amphibians Bald Eagles Nesting, Foraging, and Perching Marsh Breeding Bird Habitat Terrestrial Crayfish Special Concern and Rare Wildlife Species: Eastern Wood-pewee, Wood	Bat Maternity Colonies Turtle Wintering Areas Breeding Amphibians Bald Eagles Nesting, Foraging, and Perching Terrestrial Crayfish Special Concern and Rare Wildlife Species: Eastern Wood-pewee, Wood Thrush, Northern Sunfish

Natural Heritage Feature	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
			Thrush, Northern Sunfish	Thrush, Northern Sunfish	
Confirmed SWH	Terrestrial Crayfish Special Concern and Rare Wildlife Species: Eastern Wood-pewee, Wood Thrush, American Gromwell, Bristly Buttercup, Striped Cream Violet	Terrestrial Crayfish Special Concern and Rare Wildlife Species: Eastern Wood-pewee, Wood Thrush, American Gromwell, Bristly Buttercup, Striped Cream Violet	Terrestrial Crayfish Special Concern and Rare Wildlife Species: Eastern Wood-pewee, Wood Thrush, Bristly Buttercup, Hairy Bedstraw, Striped Cream Violet	Terrestrial Crayfish Special Concern and Rare Wildlife Species: Eastern Wood-pewee, Wood Thrush, Bristly Buttercup, Hairy Bedstraw, Striped Cream Violet	Terrestrial Crayfish Special Concern and Rare Wildlife Species: Eastern Wood-pewee, Wood Thrush

4.6.7.7. Species at Risk

Through background data review, occurrence records of SAR were reviewed for the PSA (Dillon, 2024), and potential habitat for SAR was identified through a review of aerial imagery. Applicable federal and provincial policy/legislation for the Project as they relate to the protection of SAR and SAR habitat is described below, respectively.

The federal *Species at Risk Act* (SARA; 2002) applies to species listed threatened and/or endangered under Schedule 1 of the Act on federal lands and/or aquatic species, as well as migratory birds listed under both the *Migratory Birds Convention Act*, 1994, as well as threatened and/or endangered under Schedule 1 of the Act. Under SARA, species listed as threatened and/or endangered on Schedule 1 receive species protection (Section 32) and residence protection (Section 33). SARA defines a 'residence' as "a dwelling place, such as a den, nest or other similar area or place, that

is occupied or habitually occupied by one or more individuals during all or part of their life cycle, including breeding, rearing, staging, wintering, feeding, or hibernating". Critical Habitat is defined under Section 2 of SARA as "the habitat that is necessary for the survival or recovery of a listed wildlife species and that is identified as the species' critical habitat in the recovery strategy or in an action plan for the species".

The provincial *Endangered Species Act* (ESA; 2007) applies to species listed as extirpated, endangered, or threatened under *Ontario Regulation (O. Reg.) 230/08* on private and public lands and provides both species protection (Section 9) and habitat protection (Section 10). Under the ESA, habitat is defined as either General Habitat or Regulated Habitat. General Habitat is defined as the area a species currently depends on, either directly or indirectly, to carry out its life processes. General Habitat does not include areas where a species once lived and/or where it may be re-introduced. General Habitat protection is in place until a regulation is made prescribing an area as Regulated Habitat. Regulated Habitat is the area prescribed for a species in a habitat regulation (under clause 56(1)(a) of the ESA) and may include: specific features/boundaries and areas where the species lives, used to live, or is believed to be capable of living.

As extirpated species are no longer thought to exist in the wild (natural occurrence) in Ontario, they were not included as having the potential to occur within the general vicinity of the PSA.

Based on the background review, a total of 23 SAR were identified as having the potential to occur in the PSA. No SAR were observed during the field program, with the exception of Barn Swallow and Wood Thrush. Potential habitat for 12 SAR have been carried forward for further consideration for each Route Alternative based on habitat suitability available in the PSA, observations of SAR during the 2024 field program and/or recent/known occurrence records of the species in the vicinity of the PSA. These species include:

- Butternut (*Juglans cinerea*);
- Bobolink (*Dolichonyx oryzivorous*);
- Eastern Meadowlark (*Sturnella magna*);
- Barn Swallow (*Hirundo rustica*);
- Wood Thrush (*Hylocichla mustelina*);

- SAR Bats:
  - Little Brown Myotis (*Myotis lucifugus*);
  - Northern Myotis (*Myotis septentrionalis);*
  - Tri-colored Bat (*Perimyotis subflavus*);
  - Eastern Small-footed Myotis (*Myotis leibii*);
  - Eastern Red Bat (*Lasiurus borealis*);
  - Hoary Bat (*Lasiurus cinereus*); and,
  - Silver-haired Bat (*Lasionycteris noctivagans*).

Summaries of SAR and descriptions of suitable habitat for each of the species are provided in the following subsections.

As noted under **Section 4.6.7.3**, no aquatic SAR records were identified for the PSA.

4.6.7.7.1. Butternut

Butternut has been conservatively carried forward for properties within each Route Alternative where property access was not granted, where suitable habitat or occurrence of Butternut has the potential to occur (**Section 4.6.7.1**).

Bobolink and Eastern Meadowlark

Bobolink and Eastern Meadowlark were not observed during field investigations. Though these SAR grassland birds are known to this area of the province, with recent records of both species in the general vicinity of the PSA (as per UTRCA records), suitable breeding habitat was not observed within the grassland and meadow areas. The meadows observed within the PSA were below the preferred size for Bobolink and Eastern Meadowlark breeding habitat (>5-10 ha), and were dominated by forb species rather than a graminoid majority cover as preferred by these two species. In addition, no hayfields and only two well maintained pastures (short grass cover) were observed in the PSA during the field program.

As occurrences for SAR birds (including grassland species such as Bobolink and Eastern Meadowlark) are generally captured during breeding bird surveys, targeted surveys for these species were not conducted given the landscape is dominated by active agriculture (i.e., annual row-crops), and an overall absence of suitable breeding habitat identified during the field program. As a result, these species/species habitat(s) have not been carried forward.

Barn Swallow

Barn Swallow were observed in the PSA in association with all Route Alternatives during the field program. As Barn Swallow are a migratory bird protected under the MBCA, and listed as threatened under Schedule 1 of SARA, individuals and their residence are afforded protection under SARA. Under SARA, a Barn Swallow's residence is defined as the nest during the breeding season (ECCC, 2019). Although suitable nesting habitat has the potential to occur within the PSA in association with residential homes, agricultural buildings, and culverts, the presence of active or inactive Barn Swallow nests were not observed during the field program.

Barn Swallow will generally establish new nests each year; as such buildings that may experience augmentation or removal to accommodate the Project should be assessed for active Barn Swallow nests. Mitigation for potential impacts to this species as a result of the Project are further discussed in **Section 7.7.8.7**.

Wood Thrush

Wood Thrush were observed at several survey stations throughout the PSA during the 2024 breeding bird surveys, as well as incidentally during the core nesting period in suitable breeding habitat. This species was heard singing in suitable nesting habitat associated with each Route Alternative. As Wood Thrush are a migratory bird protected under the MBCA, and listed as threatened under Schedule 1 of SARA, individuals and their residences are afforded protection under SARA.

Though Wood Thrush do not have a species-specific definition for 'residence' under SARA, the nest as well as the tree the nest resides in would qualify as this species' residence. Active Wood Thrush nest locations were not identified during the field program. Habitat considerations for Wood Thrush were mapped under SWH (**Section 4.6.7.6**). Ecosites where probable breeding Wood Thrush were observed were brought forward as Confirmed SWH. Mitigation for potential impacts to this species as a result of the Project are further discussed in **Section 7.7.8.7.**

American Badger

Habitat for American Badger includes areas associated with old fields, pastureland, edges of agricultural fields and orchards, scrubland, wooded ravines, and woodlots

(MNR, 2010). Badger burrow characteristics and features typically include an elliptical shaped entrance, with large-sized excavated mounds or sand piles near the entrance. Clay marks or animal hairs are also commonly evident around the entrances of active American Badger dens. American Badger or dens displaying suitable characteristics/evidence of American Badger were not observed during the field program. As a result, this species/species habitat has not been carried forward.

SAR Bats

Based on the ELC communities observed, there is potential for the deciduous woodland (WOD), mixed woodland (WOM), deciduous forest (FOD), mixed forest (FOM) and deciduous swamp (SWD) communities to provide potential SAR bat habitat in association with all Route Alternatives.

Suitable snag/cavity trees were identified concurrently with ELC surveys and botanical assessments at seven survey stations; each of the aforementioned ELC communities are assumed to have the potential to support SAR bat habitat. This assumption has been made in consideration of Dillon's current knowledge of SAR bat habitat requirements, as well as Dillon's southwestern Ontario bat habitat assessment and acoustic experience. Accepted methodology for confirmation of SAR bat habitat rely on acoustic survey results; however, as SAR bats are known to the area of the Project location, it is assumed that SAR bats are present in suitable treed features conducive to roosting.

The deciduous forest (FOD) near the planned Centennial TS at the southern end of the Route Alternatives was previously assessed as having the potential to provide habitat for SAR bats. Acoustic monitoring surveys previously completed in support of other works were conducted in this area as well as other woodlots to the west of the planned Centennial TS, beyond the PSA. During the previous surveys, SAR bats were deemed present based on the acoustic recordings, though the specific locations of the bats detected during the surveys were not disclosed.

Mitigation for potential impacts to SAR bat habitat is provided in **Section 7.7.8.7**.

Table 4-12 summarizes the potential SAR habitat associated with each Route Alternative.

Table 4-12: Potential SAR Habitat

Natural Heritage Feature	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
Potential SAR Habitat	Butternut SAR bats	Butternut SAR bats	Butternut SAR bats	Butternut SAR bats	Butternut SAR bats

4.6.7.8. Areas of Natural and Scientific Interest

Areas of Natural and Scientific Interest (ANSI) are contiguous lands and waters officially designated by the province that have geological or ecological features of significant representative provincially, regionally, or locally. These features are important and valued for natural heritage protection, appreciation, scientific study or education. No ANSIs were identified within the PSA, and as such, no ANSIs are associated with any of the Route Alternatives.

4.7. Recreational Resources

There are several outdoor recreational areas within the general vicinity of the Project including the Dan Patterson Conservation Area, Kirk-Cousins Management Area, and the Dalewood Conservation Area. As noted under **Section 4.6.6**, the Conservation Areas are outside of the PSA.

The Municipality of Central Elgin developed a Central Elgin 10 Year Trails Master Plan and Implementation Strategy in 2017 to significantly increase and enhance the existing trail network within the municipality. This strategy proposes the establishment of 24.9 km of trail routes and key sidewalk links and 5.2 km of on-road cycling routes, including proposed signed routes on Ferguson Line and Yarmouth Centre Road. The City of London's Bike and Walk map indicates that cycling paths are limited within the LSA with a bike lane on Wilton Grove Road (City of London, 2024).

No official ATV trails or snowmobile trails are located within the vicinity of the LSA.

4.8. Visual and Aesthetic Resources

This factor considers the change to physical appearances across the landscape and their susceptibility to change as a result of the Project.

The Project is located within predominantly flat or rolling lands, with the majority of land use in the PSA designated as agricultural, providing open and expansive views. Natural elements include the Kettle Creek, isolated woodlots, treed areas, valleylands, wetlands, and other successional riparian vegetation adjacent to waterways. Existing vertical elements include traffic and light standards, and existing distribution and transmission lines. The majority of sensitive receptors are residences with wide views into the horizon. Many of the properties have existing tree lined wind breaks and hedgerows that offer localized privacy from adjacent visual elements.

5.0 Identification and Evaluation of Alternative Routes

This section describes the identification and evaluation of the alternative methods for carrying out the proposed Project. “Alternative methods” refer to different means of carrying out the same task to achieve the purpose of the undertaking, which in this case involves the construction of a 230 kV double-circuit transmission line connecting the existing transmission line (circuit M31W/M33W) north of Highway 401 in the City of London to the newly planned Centennial TS in the City of St. Thomas. Following the identification of the “alternative methods” for the undertaking, evaluation criteria are established, through which, a comparative evaluation results in the selection of the preferred alternative.

Hydro One’s Class EA for Minor Transmission Facilities process (**Section 1.4**) requires the identification of feasible and reasonable Route Alternatives that can be compared and evaluated on the basis of Natural Environment, Socio-economic Environment, Technical and Cost factors to determine a Preferred Route Alternative. Quantitative and qualitative assessment of the potential effects associated with each of the Route Alternatives identified are considered. For this undertaking, a weighted Multi-Criteria Decision-Making Analysis (MCDA) was used.

A weighted MCDA is a common decision-making approach involving a five-step process outlined below (**Figure 5-1**).

Figure 5-1: Multi-Criteria Decision-Making Process

5.1. Step 1: Establish Need

As outlined in **Sections 1.1** and **1.3**, the new St. Thomas Line Project is a customer funded and connected Project which will connect the new PowerCo Canada Inc. electric vehicle battery cell manufacturing facility to Ontario's electricity grid. The purpose of the new 230 kV double-circuit transmission line is to meet the electricity demands for the new PowerCo Canada Inc. electric vehicle battery cell manufacturing facility.

5.2. Step 2: Identify Route Alternatives

The Class EA process requires identification of technically feasible and reasonable alternatives to address the need of the Project.

As outlined in **Section 1.3**, following receipt of the connection request to energize the facility, Hydro One worked with the IESO to evaluate how the additional power demand would connect to the province's existing electrical grid and it was determined that a new 230 kV double-circuit transmission line would need to be built. Hydro One then conducted an internal preliminary assessment to identify viable routes (the "Route Alternatives") for the new transmission line.

The Route Alternatives were identified using a "Multiple Criteria Decision Making" process in GIS, and through internal workshops with the Hydro One project team.

Publicly available data was collected and used to develop a data catalog of available datasets, which helped to identify the preliminary criteria under the Technical, Socio-Economic, and Natural Environment perspectives. Through the internal workshops with

Hydro One, the criteria were reviewed and ranked on a scale of 1 (most preferred) to 10 (least preferred) to generate a constraint mapping (showing areas of high or low constraints) where potential Route Alternatives could be located.

Using this constraint mapping, the Hydro One Project team applied technical transmission line engineering principles and best practices to identify viable route alternatives which would meet the need for the Project. Based on the preliminary assessment, three feasible and reasonable route alternatives and associated variations were identified to be carried forward to the Class EA process (**Figure 5-2**):

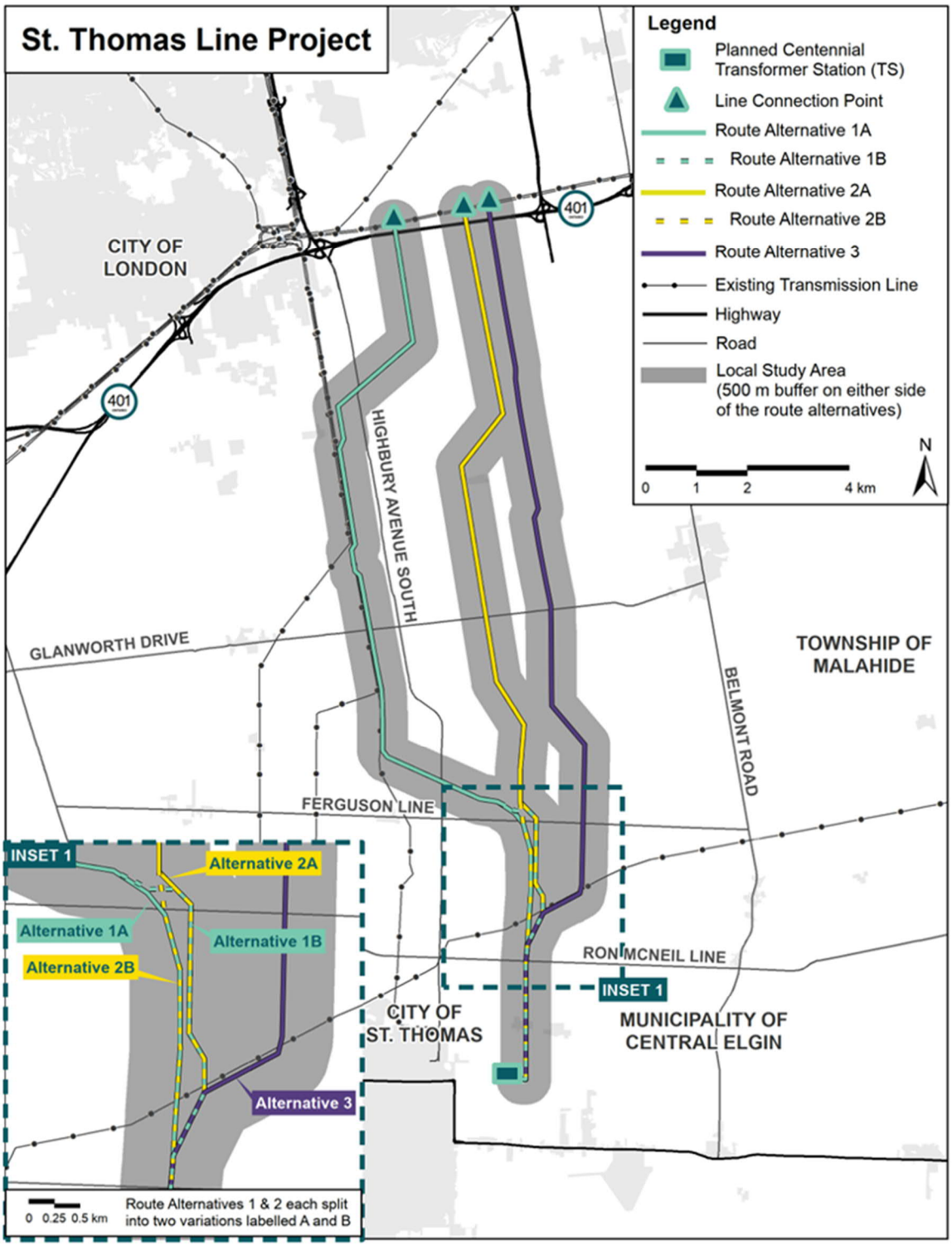
- **Route Alternative 1,** shown in green in **Figure 5-2**, begins approximately 1.2 km east of the Highbury Avenue South interchange and proceeds south, crossing Highway 401 and paralleling the industrial park adjacent to Cheese Factory Road for approximately 700 m. Route Alternative 1 continues south for approximately 2.2 km, along the east side of the Maple Leaf Poultry Processing facility, before diverting southwest to parallel Hydro One's existing transmission lines (circuits W45LS and W14/W8T). The Route parallels the existing Hydro One ROW for approximately 7 km with minor diversions around constrained properties at Westminster Drive and Manning Drive. The Route then proceeds southeast following a greenfield alignment beginning at Truman Line for approximately 3 km where it diverges into two variations:
  - **Route Alternative 1A** proceeds south, traversing Kettle Creek valley lands and crossing Ferguson Line, the Ontario Southland Railway line and the existing Hydro One 500 kV and 115 kV transmission line (circuits W14 and N582L) ROW before following a direct path to the planned Centennial TS.
  - **Route Alternative 1B** proceeds approximately 0.8 km further east than Route Alternative 1A before proceeding south across Ferguson Line and the Ontario Southland Railway line. Route Alternative 1B diverts east, again, north of Mapleton Line to cross the existing Hydro One 500 kV and 115 kV transmission line (circuits W14 and N582L) ROW further east. After crossing the existing transmission lines, the Route proceeds in a southwest direction to join the same alignment as Route Alternative 1A north of Ron McNeil Line to following a direct path to the planned Centennial TS.
- **Rout Alternative 2,** shown in yellow in **Figure 5-2**, begins approximately 2.5 km east of the Highbury Avenue South interchange, crossing Highway 401 and proceeding south for approximately 4 km to Westminster Drive. At Westminster Drive the Route proceeds southwest to align with a narrow crossing corridor of

the Kettle Creek valley. The Route then proceeds south for approximately 7 km, beginning north of Scotland Drive, with a minor shift slightly eastward near Thomson Line to cross the Kettle Creek valley lands. South of Kettle Creek, the route diverges into two variations:

- **Route Alternative 2A** proceeds slightly southeast out of the Kettle Creek valley lands and follows the same alignment as Route Alternative 1B to the planned Centennial TS.
- **Route Alternative 2B** proceeds south and follows the same alignment as Route Alternative 1A to the planned Centennial TS.

Route Alternative 3, shown in purple in **Figure 5-2**, begins approximately 3 km east of the Highbury Avenue South interchange and proceeds south, crossing Highway 401 and paralleling Old Victoria Road for approximately 6 km. Near the end of Old Victoria Road, the Route diverts on a slight south-southwest greenfield alignment for approximately 2 km to align with a narrow valley between segments of the Picture Plant Fen PSW. The Route crosses Yarmouth Centre Road on a southeast orientation, avoiding encroachment into the Pitcher Plant Fen PSW before turning south at Truman Line. From Truman Line, the Route proceeds south for approximately 3 km, crossing the existing Hydro One 500 kV and 115 kV transmission line (circuits W14 and N582L) ROW at Mapleton Line. From Mapleton Line, the Route parallels the Hydro One ROW southwest for approximately 1 km to join with the same alignment as Route Alternatives 1B and 2A to the planned Centennial TS.

Figure 5-2: Route Alternatives



5.3. Step 3: Define Criteria

The next step in the weighted MCDA, following the identification of Route Alternatives, was the establishment of criteria (with associated quantitative and qualitative metrics) which were then used to assess and compare Route Alternatives.

The development of the evaluation criteria was based on input and comments provided by Indigenous communities, the public, members of the TAC and Project team members (see **Section 3.0**). Criteria for the Project were grouped into four key Evaluation Categories, as follows:

5.3.1. Natural Environment Category

The Natural Environment category comprises six criteria, as show in **Table 5-1**. The criteria aim to measure the potential effects of the Route Alternatives on the Natural Environment features within the study area.

Table 5-1: Natural Environment Category Criteria

Criteria	Measure
Surface Water Resources and Aquatic Habitat	Effects to aquatic habitat including total number of watercourse crossings and total length of watercourse crossings and municipal drains within the ROW.
Vegetation and Vegetation Communities	Effects to vegetation, including potential effects to incompatible vegetation communities within the ROW.
Wildlife and Wildlife Habitat	Effects to wildlife and wildlife habitat including footprint effects, potential removal, disturbance and/or destruction of habitat, and potential disturbance to wildlife movement/habitat fragmentation within the ROW and PSA, where applicable.

Criteria	Measure
Species at Risk	Effects to Species at Risk and their habitats, including temporary versus permanent habitat disturbance and/or destruction within the ROW and PSA, where applicable. Includes public submitted Species at Risk occurrences.
Wetlands, Natural Hazards, and Floodplain Areas	Effects to wetlands and Conservation Authority regulated areas within the ROW.
Designated Natural Areas and Identified Habitat Restoration Areas	Effects to designated natural areas such as Significant Valleylands, Significant Woodlands, PSWs, Conservation Areas, Environmentally Sensitive Areas, and habitat restoration areas within the ROW.

The following data sets were used to evaluate Natural Environment criteria:

Field surveys and GIS analysis and interpretation, including:

- Aquatic habitat assessments;
- Ecological Land Classification;
- Botanical assessment;
- Breeding bird surveys;
- Amphibian breeding surveys;
- Species at Risk habitat assessments;
- Information provided by third parties, including regulation areas and restoration areas;
- Publicly accessible Land Information Ontario (LIO) geographic datasets; and,
- Aerial photography.

5.3.2. Socio-Economic Environment Category

The Socio-Economic environment category comprises nine criteria, as shown in Table 5-2. The criteria generally aim to measure the potential effects of the Project on the social and economic features within the study area, which includes portions of the City of London, City of St. Thomas, Municipality of Central Elgin, and Elgin County.

Table 5-2: Socio-Economic Environment Category Criteria

Criteria	Measure
Co-Location of Existing Infrastructure	Alignment with existing transmission line corridors as defined by the PPS.
Future Land Use Designations	Alignment with future land use designations including potential future settlement area expansion plans, growth areas and development boundaries, as defined by the PPS and local County/Municipal OPs (does not include Designated Natural Areas or Natural Environment designations under the PPS).
Agricultural Resources and Operations	Effects to agricultural resources and operations including farming of land, removal of agricultural land for tower construction, movement of farm machinery and agricultural building removal within the ROW.
Residential Properties	Effects to existing residential properties including proximity to existing homes within the ROW and LSA, where applicable.
Commercial, Industrial, Institutional, Recreational Business and Facilities	Effects to existing commercial, industrial, institutional, recreational businesses and facilities, including proximity to buildings and facilities within the ROW. Includes active institutional/academic research on lands within the PSA.
Source Water Protection	Effects to source water resources including policy areas and drinking water sources for private landowners within the ROW and PSA, where applicable.
Built Heritage Resources and Cultural Heritage Landscapes	Effects to known and potential BHR and CHL within the ROW, and outside of the ROW but within the 120 m study area, where applicable.

Criteria	Measure
Archaeological Resources	Effects to features of archaeological potential and number of registered archaeological sites within the ROW and the PSA, where applicable. Includes area that requires Stage 2 Archaeological Assessment.
Aggregate Resources Extraction Areas/Operations (Pits/Quarries)	Effects to aggregate extraction site operations, including expansion plans and site operations, and aggregate resource areas within the ROW.

To evaluate Socio-Economic Environment criteria a wide range of data was used, including:

- Canadian Land Inventory information;
- Field data collection and GIS analysis and interpretation of Ecological Land Classification;
- Local Official Plans and policies;
- Ontario Provincial Planning Statement (2024);
- Publicly accessible LIO geographic datasets;
- Publicly accessible data, including well data and aggregate resource data;
- Aerial photography;
- Source Water Protection Mapping and Policy documents;
- Cultural Heritage Existing Conditions Report completed for the Project; and
- Stage 1 Archaeology Assessment completed for the Project.

5.3.3. Indigenous Culture, Values and Land Use Evaluation Category

The Indigenous Culture, Values and Land Use evaluation category consists of seven criteria, as shown in **Table 5-3**. As described in **Section 3.5** Hydro One provided several opportunities for Indigenous communities to participate and to provide comments and feedback in the route evaluation process. These opportunities included participation in the TAC workshops, opportunities to hold in community route evaluation workshops and discussions, COHs for route elevation announcements , and the provision of Project data to review (such as results of environmental field surveys and Archaeological and Cultural Heritage reports). Several First Nations provided studies and letters to Hydro One during the evaluation process that directly informed the route evaluation.

Table 5-3: Indigenous Culture, Values and Land Use Category Criteria

Criteria	Measure
Addition to Reserve Lands	Lands identified by First Nations as interested or potential Addition to Reserve Land Areas within the ROW.
Intersects Areas of Historical Significance	Mapped areas of historical Indigenous significance within the ROW.
Areas that Support Hunting, Trapping and/or Harvesting Grounds	Effects on lands with habitat or vegetation types that support or have potential to support hunting/trapping/harvesting activities and medicinal plants within the ROW.
Areas that Support Fish Bearing Waters with Identified or Inferred Habitat of Game Fish Species	Effects to aquatic habitat including total number and, length of, watercourse crossings within the ROW.
Effects to Rare, Undisturbed Native Habitats/Ecosystems	Effects to rare habitats in southwestern Ontario including tall grass prairies, savannah, native woodlands, natural wetlands, etc., within the ROW, and measured level of disturbance of native habitat and ecosystems based on calculated average of coefficient of conservatism associated with the PSA.
Effects to Rare/Sensitive Species Regeneration Potential	Long-term effects to Species at Risk and their regeneration potential within the ROW.
Co-Location and Repurpose of Existing Infrastructure	Length of the proposed transmission line that parallels existing infrastructure, including roads, railways, pipelines and transmission line corridors.

Evaluation of criteria in the Indigenous Culture, Values and Land Uses category was based on similar data sources to other criteria and information provided by First Nations, and was adapted to suit the intent of Indigenous rights and interests as discussed with these communities, where possible. Data included:

Field surveys and GIS analysis and interpretation, including:

- Ecological Land Classification (ELC) focusing on vegetation communities that support hunting/trapping and harvesting;
- Aquatic habitat assessments with a focus on waterbodies that support fisheries;
- Botanical assessment;
- Breeding bird surveys;
- Amphibian breeding surveys;
- Species at Risk habitat assessments;
- Information provided by Indigenous communities;
- Publicly accessible LIO geographic datasets;
- Aerial photography;
- Cultural Heritage Existing Conditions Report completed for the Project; and
- Stage 1 Archaeology Assessment completed for the Project.

5.3.4. Technical and Cost Category

The technical and cost category consists of nine criteria, as shown in **Table 5-4**. The criteria aim to measure the technical and cost considerations of the Route Alternatives including total transmission line length and angles, land acquisition considerations, system benefits and impacts, and overall constructability.

Table 5-4: Technical and Cost Category Criteria

Criteria	Measure
Line Length	Total length of each Route Alternative.
Light Angle and Heavy Angle Structures	Number of turns in each route, as well as the angle of the turn.
Non-Transmission Line Crossings	Total number of crossings of major waterbodies, major water infrastructure, railways, and 400 series highways.
Transmission Line Crossings	Total number of crossings of existing transmission lines.
Co-Location of Existing Infrastructure	Length of line that is located in proximity to existing transmission line corridors.

Criteria	Measure
Proximity to Pipelines	Total distance parallel/adjacent and crossing of underground facilities (pipelines).
Real Estate Considerations	Real Estate and land acquisition considerations, including the total number of property parcels traversed and the anticipated number of property buyouts.
System Benefits and Impacts	Upgrade requirements for existing transmission lines.
Overall Constructability	Number of bypasses required, 500 kV circuit modifications required, and approximate number of outages required.

Data used to evaluate criteria in the Technical and Cost category area included:

- Datasets associated with property parcel fabric;
- Publicly accessible LIO geographic datasets;
- Information provided by third parties including mapping data for gas pipeline, utility line information, etc.;
- Engineering standards and best practices; and

Preliminary engineering and system planning information on the route alternatives.

5.4. Step 4: Weight Criteria

Following identification of the evaluation criteria and their measures, the Project team assigned weights for the criteria within each evaluation category using input provided by Indigenous communities and project stakeholders. The higher the weighting, the more important the factor or criteria was considered in the outcome of the evaluation. For the natural and socio-economic environmental categories, criteria weights generally reflected the importance as communicated through the consultation process during TAC workshop #1 and the results of the TAC survey, as well as input received from the public at COH #1 and interactive map. For the Indigenous Culture, Values and Land Use category, criteria were weighted equally based on previous input Hydro One received from Indigenous communities. For the Technical and Cost category, weights were allocated by the Hydro One Project team based on the anticipated overall cost impact of

each criterion (e.g., criteria with greater potential cost impacts received a higher weighting).

At the outset of this step, the Project team determined that the importance of each of the four evaluation categories (Natural Environment, Socio-Economic Environment, Indigenous Culture, Values and Land Use and Technical and Cost) was equal. This was reflected in each of the four evaluation categories being assigned a weight of 25% of the overall route evaluation to ensure no one category had more influence over the results of the evaluation than any others. However, criteria weights within each category were differentiated to reflect their relative importance within a given category.

To complete weighting of the criteria, each category was given an assigned value of 100% to be distributed amongst the criteria within said category. Then, input from the public consultation process was considered together with direct input from TAC members through a workshop and criteria weighting survey (**Section 3.11**) and input from Indigenous communities. **Table 5-5** through **Table 5-8** summarizes the weights applied to each criterion within a factor grouping.

Table 5-5: Natural Environment Category Criteria Weighting

Criteria	Measure	Weight
Surface Water Resources and Aquatic Habitat	Effects to aquatic habitat including total number of watercourse crossings and total length of watercourse crossings and municipal drains within the ROW.	15.00
Vegetation and Vegetation Communities	Effects to vegetation, including potential effects to incompatible vegetation communities within the ROW.	15.00
Wildlife and Wildlife Habitat	Effects to wildlife and wildlife habitat including footprint effects, potential removal, disturbance and/or destruction of habitat, and potential disturbance to wildlife movement/habitat fragmentation within the ROW and PSA, where applicable.	15.00

Criteria	Measure	Weight
Species at Risk	Effects to Species at Risk and their habitats, including temporary versus permanent habitat disturbance and/or destruction within the ROW and PSA, where applicable. Includes public submitted Species at Risk occurrences.	20.00
Wetlands, Natural Hazards, and Floodplain Areas	Effects to wetlands and Conservation Authority regulated areas within the ROW.	20.00
Designated Natural Areas and Identified Habitat Restoration Areas	Effects to designated natural areas such as Significant Valleylands, Significant Woodlands, PSWs, Conservation Areas, Environmentally Sensitive Areas, and habitat restoration areas within the ROW.	15.00
Factor Area Total		**100.00**

Table 5-6: Socio-Economic Environment Category Criteria Weighting

Criteria	Measure	Weight
Co-Location of Existing Infrastructure	Alignment with existing transmission line corridors as defined by the PPS.	15.00
Future Land Use Designations	Alignment with future land use designations including potential future settlement area expansion plans, growth areas and development boundaries, as defined by the PPS and local County/Municipal OPs (does not include Designated Natural Areas or Natural Environment designations under the PPS).	10.00
Agricultural Resources and Operations	Effects to agricultural resources and operations including farming of land, removal of agricultural land for tower construction, movement of farm machinery and agricultural building removal within the ROW.	15.00

Criteria	Measure	Weight
Residential Properties	Effects to existing residential properties including proximity to existing homes within the ROW and LSA, where applicable.	10.00
Commercial, Industrial, Institutional, Recreational Business and Facilities	Effects to existing commercial, industrial, institutional, recreational businesses and facilities, including proximity to buildings and facilities within the ROW. Includes active institutional/academic research on lands within the PSA.	10.00
Source Water Protection	Effects to source water resources including policy areas and drinking water sources for private landowners within the ROW and PSA, where applicable.	15.00
Built Heritage Resources and Cultural Heritage Landscapes	Effects to known and potential BHR and CHL within the ROW, and outside of the ROW but within the 120 m study area, where applicable.	10.00
Archaeological Resources	Effects to features of archaeological potential and number of registered archaeological sites within the ROW and the PSA, where applicable. Includes area that requires Stage 2 Archaeological Assessment.	10.00
Aggregate Resources Extraction Areas/Operations (Pits/Quarries)	Effects to aggregate extraction site operations, including expansion plans and site operations, and aggregate resource areas within the ROW.	5.00
Factor Area Total		**100.00**

Table 5-7: Indigenous Culture, Values and Land Use Category Criteria Weighting

Criteria	Measure	Weight
Addition to Reserve Lands	Lands identified by First Nations as interested or potential Addition to Reserve Land Areas within the ROW.	14.29
Intersects Areas of Historical Significance	Mapped areas of historical Indigenous significance within the ROW.	14.29
Areas that Support Hunting, Trapping and/or Harvesting Grounds	Effects on lands with habitat or vegetation types that support or have potential to support hunting/trapping/harvesting activities and medicinal plants within the ROW.	14.29
Areas that Support Fish Bearing Waters with Identified or Inferred Habitat of Game Fish Species	Effects to aquatic habitat including total number and, length of, watercourse crossings within the ROW.	14.29
Effects to Rare, Undisturbed Native Habitats/Ecosystems	Effects to rare habitats in southwestern Ontario including tall grass prairies, savannah, native woodlands, natural wetlands, etc., within the ROW, and measured level of disturbance of native habitat and ecosystems based on calculated average of coefficient of conservatism associated with the PSA.	14.29
Effects to Rare/Sensitive Species Regeneration Potential	Long-term effects to Species at Risk and their regeneration potential within the ROW.	14.29
Co-Location and Repurpose of Existing Infrastructure	Length of the proposed transmission line that parallels existing infrastructure, including roads, railways, pipelines and transmission line corridors.	14.29
Factor Area Total		**100.00**

Table 5-8: Technical and Cost Category Criteria Weighting

Criteria	Measure	Weight
Line Length	Total length of each Route Alternative.	5.00
Light angle and Heavy Angle Structures	Number of turns in each route, as well as the angle of the turn.	15.00
Non-Transmission Line Crossings	Total number of crossings of major waterbodies, major water infrastructure, railways, and 400 series highways.	5.00
Transmission Line Crossings	Total number of crossings of existing transmission lines.	10.00
Co-Location of Existing Infrastructure	Length of line that is located in proximity to existing transmission line corridors.	10.00
Proximity to Pipelines	Total distance parallel/adjacent and crossing of underground facilities (pipelines).	5.00
Real Estate Considerations	Real Estate and land acquisition considerations, including the total number of property parcels traversed and the anticipated number of property buyouts.	30.00
System Benefits and Impacts	Upgrade requirements for existing transmission lines.	5.00
Overall Constructability	Number of bypasses required, 500 kV circuit modifications required, and approximate number of outages required.	15.00
Factor Area Total		**100.00**

5.5. Step 5: Evaluate and Select

Following identification and weighting of the evaluation criteria, the Project team completed a GIS analysis of the measures identified for each applicable criterion for each Route Alternative based on available data sources. This provided quantitative information such as area metrics, length of line and numerical counts. The information was then fed into a comparative evaluation matrix where numerical weighted scores were provided per criterion and totalled for each evaluation category. The analysis for each criterion was rationalized with a reasoned argument statement that identified the measured differences and similarities between the Route Alternatives. Following completion of the comparative evaluation matrix, a summary was provided for each factor area and a reasoned argument was prepared for the overall technically preferred alternative route. The results of the weighted MCDA are found in **Table 5-9** through **Table 5-12**.

Table 5-9: Natural Environment Category Comparative Evaluation Results

Criteria	Measure	Criteria Weight (%)	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
Surface Water Resources and Aquatic Habitat	Effects to aquatic habitat including total number of watercourse crossings and length of watercourse crossings and municipal drains within the ROW.	15.00	Traverses 1.84 km of watercourses and municipal drains (surface flow), and requires 28 watercourse crossings in total, with potential to affect fish, fish habitat and riparian vegetation. **Weighted Score: 11.08**	Traverses 1.71 km of watercourse and municipal drains (surface flow), and requires 26 watercourse crossings in total, with potential to affect fish, fish habitat and riparian vegetation. **Weighted Score: 11.94**	Traverses 1.46 km of watercourses and municipal drains (surface flow), and requires 20 watercourse crossings in total, with potential to affect fish, fish habitat and riparian vegetation. **Weighted Score: 15.00**	Traverses 1.59 km of watercourse and municipal drains (surface flow), and requires 20 watercourse crossings in total, with potential to affect fish, fish habitat and riparian vegetation. **Weighted Score: 14.63**	Traverses 1.73 km of watercourse and municipal drains (surface flow), and requires 28 watercourse crossings in total, with potential to affect fish, fish habitat and riparian vegetation. **Weighted Score: 11.30**
Vegetation and Vegetation Communities	Effects to vegetation including potential effects to incompatible vegetation communities within the ROW.	15.00	Traverses 91.52 ha of vegetation communities. 8.4 ha (9.2%) are incompatible with transmission lines (long term effects) while 83.13 ha (90.8%) are compatible (short term effects). **Weighted Score: 7.03**	Traverses 93.27 ha of vegetation communities. 7.66 ha (8.2%) are incompatible with transmission lines (long term effects) while 85.61 ha (91.8%) are compatible (short term effects). **Weighted Score: 7.71**	Traverses 81.08 ha of vegetation communities, including hedgerows (e.g., windbreaks) 6.86 ha (8.5%) are incompatible with transmission lines (long term effects) while 74.22 ha (91.5) are compatible (short term effects). **Weighted Score: 8.61**	Traverses 80.11 ha of vegetation communities, including hedgerows (e.g., windbreaks). 7.23 ha (9%) are incompatible with transmission lines (long term effects) while 72.88 ha (91%) are compatible (short term effects). **Weighted Score: 8.17**	Traverses 81.83 ha of vegetation communities, including hedgerows (e.g., windbreaks). 3.94 ha (4.8%) are incompatible with transmission lines (long term effects) while 77.90 ha (95.2%) are compatible (short term effects). **Weighted Score: 15.00**
Wildlife and Wildlife Habitat	Effects to wildlife and wildlife habitat including footprint effects, potential removal, disturbance and/or destruction of habitat, and potential disturbance to wildlife movement/habitat fragmentation within the ROW and PSA, where applicable.	15.00	Affects 28.99 ha of Significant Wildlife Habitat (SWH) and Candidate SWH within the ROW, including 6.24 ha of confirmed SWH for Eastern Wood-pewee, Wood Thrush, American Gromwell, Bristly Buttercup, Striped Cream Violet, and Terrestrial Crayfish, as well as 22.74 ha of Candidate SWH for Amphibian Breeding Habitat, Bald Eagle Nesting, Foraging and	Affects 24.01 ha of SWH and Candidate SWH within the ROW, including 3.84 ha of confirmed SWH for Eastern Wood-pewee, Wood Thrush, American Gromwell, Bristly Buttercup, Striped Cream Violet, and Terrestrial Crayfish, as well as 20.17 ha of Candidate SWH for Amphibian Breeding Habitat, Bald Eagle Nesting, Foraging and Perching Habitat, Bat Maternity Colonies, Marsh	Affects 21.17 ha of SWH and Candidate SWH within the ROW, including 2.66 ha of confirmed SWH for Eastern Wood-pewee, Wood Thrush, Bristly Buttercup, Striped Cream Violet, and Hairy Bedstraw, Terrestrial Crayfish as well as 18.51 ha of Candidate SWH for Amphibian Breeding Habitat, Bald Eagle Nesting, Foraging and Perching Habitat, Bat Maternity Colonies, Marsh	Affects 24.79 ha of SWH and Candidate SWH within the ROW, including 4.66 ha of confirmed SWH for Eastern Wood-pewee, Wood Thrush, Bristly Buttercup, Striped Cream Violet, Hairy Bedstraw and Terrestrial Crayfish, as well as 20.14 ha of Candidate SWH for Amphibian Breeding Habitat, Bald Eagle Nesting, Foraging and Perching Habitat, Bat Maternity Colonies, Marsh Breeding Bird Habitat,	Affects 7.25 ha of SWH and Candidate SWH within the ROW, including 0.65 ha of confirmed SWH for Eastern Wood-pewee and Terrestrial Crayfish, as well as 6.60 ha of Candidate SWH for Amphibian Breeding Habitat, Bald Eagle Nesting, Foraging and Perching Habitat, Bat Maternity Colonies, Terrestrial Crayfish, Turtle Wintering Areas, and three species of special concern (Northern Sunfish, Wood

Criteria	Measure	Criteria Weight (%)	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
			Perching Habitat, Bat Maternity Colonies, Marsh Breeding Bird Habitat, Terrestrial Crayfish, Turtle Wintering Areas, and three species of special concern (Northern Sunfish, Eastern Wood-pewee, and Wood Thrush). Affects and/or potentially affects 182.49 ha of wildlife and wildlife habitat within the PSA, including 41.63 ha of SWH for Eastern Wood-pewee, Wood Thrush, American Gromwell, Bristly Buttercup, Striped Cream Violet, and Terrestrial Crayfish, as well as 140.86 ha of Candidate SWH for Amphibian Breeding Habitat, Bald Eagle Nesting, Foraging, and Perching Habitat, Bat Maternity Colonies, Marsh Breeding Bird Habitat, Terrestrial Crayfish, Turtle Nesting Area, Turtle Wintering Area, and three species of special concern (Northern Sunfish, Eastern Wood-pewee, and Wood Thrush). **Weighted Score: 4.27**	Breeding Bird Habitat, Terrestrial Crayfish, Turtle Wintering Areas, and three species of special concern (Northern Sunfish, Eastern Wood-pewee and Wood Thrush). Affects and/or potentially affects 164.95 ha of wildlife and wildlife habitat within the PSA, including 31.50 ha of SWH for Eastern Wood-pewee, Wood Thrush, American Gromwell, Bristly Buttercup, Striped Cream Violet, and Terrestrial Crayfish, as well as 133.45 ha of Candidate SWH for Amphibian Breeding Habitat, Bald Eagle Nesting, Foraging, and Perching Habitat, Bat Maternity Colonies, Marsh Breeding Bird Habitat, Terrestrial Crayfish, Turtle Nesting Area, Turtle Wintering Area, and three species of special concern (Northern Sunfish, Eastern Wood-pewee and Wood Thrush). **Weighted Score: 5.01**	Breeding Bird Habitat, Turtle Wintering Areas, Seeps and Springs Area, and Terrestrial Crayfish, and three species of special concern (Northern Sunfish, Eastern Wood-pewee, and Wood Thrush). Affects and/or potentially affects 127.80 ha of wildlife and wildlife habitat within the PSA, including 20.51 ha of SWH for Eastern Wood-pewee, Wood Thrush, Bristly Buttercup, Striped Cream Violet, Hairy Bedstraw and Terrestrial Crayfish, as well as 107.29 ha of Candidate SWH for Amphibian Breeding Habitat, Bald Eagle Nesting, Foraging, and Perching Habitat, Bat Maternity Colonies, Marsh Breeding Bird Habitat, Terrestrial Crayfish, Turtle Nesting Area, Turtle Wintering Area, Seeps and Springs Area and three species of special concern (Northern Sunfish, Wood Thrush, and Eastern Wood-pewee). **Weighted Score: 5.94**	Terrestrial Crayfish, Turtle Wintering Areas, Seeps and Springs, and three species of special concern (Northern Sunfish, Wood Thrush, and Eastern Wood-pewee). Affects and/or potentially affects 149.26 ha of wildlife and wildlife habitat within the PSA, including 31.88 ha of SWH for Eastern Wood-pewee, Wood Thrush, Bristly Buttercup, Striped Cream Violet, Hairy Bedstraw and Terrestrial Crayfish, as well as 117.38 ha of Candidate SWH for Amphibian Breeding Habitat, Bald Eagle Nesting, Foraging, and Perching Habitat, Bat Maternity Colonies, Marsh Breeding Bird Habitat, Terrestrial Crayfish, Turtle Nesting Area, Turtle Wintering Area, Seeps and Springs Area, and three species of special concern (Northern Sunfish, Wood Thrush, and Eastern Wood-pewee). **Weighted Score: 5.07**	Thrush and Eastern Wood-pewee). Affects and/or potentially affects 70.94 ha of wildlife and wildlife habitat within the PSA, including 8.65 ha of SWH for Eastern Wood-pewee, Wood Thrush, and Terrestrial Crayfish, as well as 62.30 ha of Candidate SWH for Amphibian Breeding Habitat, Bald Eagle Nesting, Foraging, and Perching Habitat, Bat Maternity Colonies, Terrestrial Crayfish, Turtle Wintering Area, and three species of special concern (Northern Sunfish, Wood Thrush, and Eastern Wood-pewee). **Weighted Score: 15.00**
Species at Risk	Effects to Species at Risk (SAR) and their habitats, including temporary versus permanent habitat	20.00	Affects 8.43 ha of SAR and potential SAR habitat within the ROW, including 8.40 ha associated with	Affects 7.63 ha of SAR and potential SAR habitat within the ROW, including 7.60 ha of lands	Affects 6.60 ha of SAR and potential SAR habitat within the ROW	Affects 7.00 ha of SAR and potential SAR habitat within the ROW	Affects 3.04 ha of SAR and potential SAR habitat within the ROW

Criteria	Measure	Criteria Weight (%)	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
	disturbance and/or destruction within the ROW and PSA, where applicable. Includes public submitted SAR occurrences.		Bat Habitat and 0.03 ha associated with and Endangered Species. Of the effects to SAR and potential SAR habitat within the ROW, 8.40 ha are associated with permanent habitat removal impacts (e.g., woodland removal results in permanent removal of SAR Bat Habitat). Affects and/or potential effects to 56.16 ha of SAR and potential SAR habitat within the PSA, including 55.96 ha associated with Bat Habitat, as well as 0.03 ha associated with an Endangered Species. **Weighted Score: 8.85**	associated with Bat Habitat and 0.03 ha associated with an Endangered Species. Of the effects to SAR and potential SAR habitat within the ROW, 7.60 ha are associated with permanent habitat removal impacts (e.g., woodland removal results in permanent removal of SAR Bat Habitat). Affects and/or potential effects to 54.60 ha of SAR and potential SAR habitat within the PSA, including 54.4 ha associated with Bat Habitat, as well as 0.20 ha associated with an Endangered Species. **Weighted Score: 9.38**	associated with Bat Habitat. Of the effects to SAR and potential SAR habitat within the ROW, 6.60 ha are associated with permanent habitat removal impacts (e.g., woodland removal results in permanent removal of SAR Bat Habitat). Affects and/or potential effects to 37.26 ha of SAR and potential SAR habitat within the PSA associated with Bat Habitat. **Weighted Score: 10.78**	associated with Bat Habitat. Of the effects to SAR and potential SAR habitat within the ROW, 7.00 ha are associated with permanent habitat removal impacts (e.g., woodland removal results in permanent removal of SAR Bat Habitat). Affects and/or potential effects to 40.24 ha of SAR and potential SAR habitat within the PSA associated with Bat Habitat. **Weighted Score: 10.30**	associated with Bat Habitat. Of the effects to SAR and potential SAR habitat within the ROW, 3.04 ha are associated with permanent habitat removal impacts (e.g., woodland removal results in permanent removal of SAR Bat Habitat). Affects and/or potential effects to 23.66 ha of SAR and potential SAR habitat within the PSA associated with Bat Habitat. **Weighted Score: 19.00**
Wetlands, Natural Hazards and Floodplain Areas	Effects to wetlands and Conservation Authority (CA) regulated areas within the ROW.	20.00	Traverses 15.33 ha of CA regulated lands, including potential impacts to 2.61 ha of wetlands. **Weighted Score: 18.07**	Traverses 13.85 ha of CA regulated lands, including potential impacts to 2.45 ha of wetlands. **Weighted Score: 20.00**	Traverses 20.88 ha of CA regulated lands, including potential impacts to 0.89 ha of wetlands. **Weighted Score: 13.26**	Traverses 21.95 ha of CA regulated lands, including potential impacts to 1.05 ha of wetlands. **Weighted Score: 12.62**	Traverses 15.91 ha of CA regulated lands, including potential impacts to 0.01 ha of wetlands. **Weighted Score: 17.41**
Designated Natural Areas and Identified Habitat Restoration Areas	Effects to designated natural areas such as Significant valleylands, Significant Woodland, Provincially Significant Wetlands (PSWs), Conservation Areas, Environmentally Sensitive Areas, and habitat	15.00	Traverses 0.96 ha of significant valleylands, 6.32 ha of significant woodlands, 1.44 ha of PSW, 2.69 ha of Environmentally Sensitive Areas, and 0.32 ha of ALUS restoration areas. **Weighted Score: 2.61**	Traverses 0.96 ha of significant valleylands, 6.32 ha of significant woodlands, 1.44 ha of PSW, and 1.53 ha of Environmentally Sensitive Areas. **Weighted Score: 4.76**	Traverses 1.18 ha of significant valleylands, 6.48 ha of significant woodlands, and 0.48 ha of Environmentally Sensitive Areas. **Weighted Score: 9.85**	Traverses 1.18 ha of significant valleylands, 5.92 ha of significant woodlands, 1.64 ha of Environmentally Sensitive Areas, and 0.32 ha of ALUS restoration areas. **Weighted Score: 7.58**	Traverses 0.45 ha of significant valleylands, 3.63 ha of significant woodlands, and 0.07 ha of Environmentally Sensitive Areas. **Weighted Score: 15.00**

Criteria	Measure	Criteria Weight (%)	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
	restoration areas within the ROW.						
Final Weighted Score			**12.98**	**14.70**	**15.86**	**14.59**	**23.18**

Table 5-10: Socio-Economic Environment Category Comparative Evaluation Results

Criteria	Measure	Criteria Weight (%)	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
Co-Location of Existing Infrastructure	Alignment with existing transmission line corridors as defined by the PPS.	15.00	Route Alternative 1A co-locates with 11.32 km of existing transmission line infrastructure. **Weighted Score: 15.00**	Route Alternative 1B co-locates with 11.31 km of existing transmission line infrastructure **Weighted Score: 14.99**	Route Alternative 2A co-locates with 0 km of existing transmission line infrastructure. **Weighted Score: 0.00**	Route Alternative 2B co-locates with 0 km of existing transmission line. **Weighted Score: 0.00**	Route Alternative 3 co-locates with 1.04 km of existing transmission line infrastructure. **Weighted Score: 1.38**
Future Land Use Designation	Alignment with future land use designations including potential future settlement area expansion plans, growth areas and development boundaries, as defined by the Provincial Planning Statement (PPS) and local County/Municipal Official Plans (does not include Designated Natural Areas or Natural Environment designations under the PPS).	10.00	Route Alternative 1A traverses 15.90 ha of land identified for future development potential within the ROW, including 5.07 ha of land in the City of London, as well as 10.83 ha of land in the City of St. Thomas. Traverses 77.90 ha of land identified for future development potential within the PSA, including 18.52 ha of land in the City of London, as well as 59.37 ha of land in the City of St. Thomas. **Weighted Score: 7.64**	Route Alternative 1B traverses 15.90 ha of land identified for future development potential within the ROW, including 5.07 ha of land in the City of London, as well as 10.83 ha of land in the City of St. Thomas. Traverses 77.90 ha of land identified for future development potential within the PSA, including 18.52 ha of land in the City of London, as well as 59.37 ha of land in the City of St. Thomas. **Weighted Score: 7.64**	Route Alternative 2A traverses 11.69 ha of land identified for future development potential within the ROW, including 0.86 ha of land in the City of London, as well as 10.83 ha of land in the City of St. Thomas. Traverses 64.62 ha of land identified for future development potential within the PSA, including 5.24 ha of land in the City of London, as well as 59.37 ha of land in the City of St. Thomas. **Weighted Score: 10.00**	Route Alternative 2B traverses 11.69 ha of land identified for future development potential within the ROW, including 0.86 ha of land in the City of London, as well as 10.83 ha of land in the City of St. Thomas. Traverses 64.62 ha of land identified for future development potential within the PSA, including 5.24 ha of land in the City of London, as well as 59.37 ha of land in the City of St. Thomas. **Weighted Score: 10.00**	Route Alternative 3 traverses 11.83 ha of land identified for future development potential within the ROW, including 1 ha of land in the City of London, as well as 10.83 ha of land in the City of St. Thomas. Traverses 65 ha of land identified for future development potential within the PSA, including 5.63 ha of land in the City of London, as well as 59.37 ha of land in the City of St. Thomas. **Weighted Score: 9.90**

Criteria	Measure	Criteria Weight (%)	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
Agricultural Resources and Operations	Effects to agricultural resources and operations including farming of land, removal of agricultural land for tower construction, movement of farm machinery and agricultural building removal within the ROW.	15.00	Traverses 69.53 ha of agricultural land and approximately 61 towers are anticipated to be on agricultural land. Route Alternative 1A crosses 5.49 ha of CLI Class 1 Land, 56.07 ha of CLI Class 2 Land, 3.74 ha of CLI Class 3 Land, and 2.37 ha of CLI Class 4-7 Land. **Weighted Score: 12.97**	Traverses 72.28 ha of agricultural land and approximately 64 towers are anticipated to be on agricultural land. Route Alternative 1B crosses 5.49 ha of CLI Class 1 Land, 59.67 ha of CLI Class 2 Land, 3.68 ha of CLI Class 3 Land, and 1.57 ha of CLI Class 4-7 Land. **Weighted Score: 12.56**	Traverses 66.21 ha of agricultural land and approximately 59 towers are anticipated to be on agricultural land. Route Alternative 2A crosses 9.67 ha of CLI Class 1 Land, 52.86 ha of CLI Class 2 Land, 2.22 ha of CLI Class 3 Land, and 1.47 ha of CLI Class 4-7 Land. **Weighted Score: 12.70**	Traverses 64.66 ha of agricultural land and approximately 56 towers are anticipated to be on agricultural land. Route Alternative 2B crosses 9.67 ha of CLI Class 1 Land, 50.54 ha of CLI Class 2 Land, 2.17 ha of CLI Class 3 Land, and 2.28 ha of CLI Class 4-7 Land. **Weighted Score: 13.03**	Traverses 69.38 ha of agricultural land and approximately 59 towers are anticipated to be on agricultural land. Route Alternative 3 crosses 10.83 ha of CLI Class 1 Land, 56.07 ha of CLI Class 2 Land, 2.10 ha of CLI Class 3 Land, and 0.39 ha of CLI Class 4-7 Land. **Weighted Score: 12.91**
Residential Properties	Effects to existing residential properties including proximity to existing homes within the ROW and LSA, where applicable.	10.00	18 residential parcels are located within the ROW, while 81 residential properties are located within the LSA. **Weighted Score: 9.61**	19 residential parcels are located within the ROW, while 86 residential properties are located within the LSA. **Weighted Score: 9.08**	28 residential parcels are located within the ROW, while 80 residential properties are located within the LSA. **Weighted Score: 7.70**	27 residential parcels are located within the ROW, while 75 residential properties are located within the LSA. **Weighted Score: 8.11**	18 residential parcels are located within the ROW, while 74 residential properties are located within the LSA. **Weighted Score: 10.00**
Commercial, Industrial, Institutional, Recreational Business and Facilities	Effects to existing commercial, industrial, institutional, recreational businesses and facilities, including proximity to buildings and facilities within the ROW. Includes active institutional / academic research on lands within the PSA.	10.00	Traverses 12 commercial, industrial, institutional, recreational businesses, and/or facilities property parcels within the ROW. **Weighted Score: 5.33**	Traverses 12 commercial, industrial, institutional, recreational businesses, and/or facilities property parcels within the ROW. **Weighted Score: 5.33**	Traverses 5 commercial, industrial, institutional, recreational businesses, and/or facilities property parcels, and 3.75 ha of lands associated with academic research within the ROW. **Weighted Score: 8.00**	Traverses 5 commercial, industrial, institutional, recreational businesses, and/or facilities property parcels, and 3.75 ha of lands associated with academic research within the ROW. **Weighted Score: 8.00**	Traverses 8 commercial, industrial, institutional, recreational businesses, and/or facilities property parcels within the ROW. **Weighted Score: 7.00**

Criteria	Measure	Criteria Weight (%)	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
Source Water Protection	Effects to source water resources including policy areas and drinking water sources for private landowners within the ROW and PSA, where applicable.	15.00	Traverses 5.07 ha of Significant Groundwater Recharge Areas (SGRA) and 2.53 ha of Highly Vulnerable Aquifers (HVA). Route Alternatives 1A and 1B overlap a minimal number of private water wells within the ROW. **Weighted Score: 9.96**	Traverses 5.07 ha of SGRA and 2.53 ha of HVA. Route Alternatives 1A and 1B overlap a minimal number of private water wells within the ROW. **Weighted Score: 9.96**	Traverses 21.65 ha of SGRA, 4.18 ha of HVA. Route Alternatives 2A and 2B overlap the most private water wells within the ROW. **Weighted Score: 5.03**	Traverses 21.65 ha of SGRA, 4.18 ha of HVA. Route Alternatives 2A and 2B overlap the most private water wells within the ROW. **Weighted Score: 5.03**	Traverses 3.89 ha of SGRA, 2.86 ha of HVA. Route Alternative 3 overlaps the least private water wells within the ROW. **Weighted Score: 14.48**
Built Heritage Resources and Cultural Heritage Landscapes	Effects to known and potential BHR and CHL within the ROW, and outside of the ROW but within the 120 m study area, where applicable.	10.00	Overlaps with 7 Known and Potential BHRs and 9 Known and Potential CHLs within the ROW. Potential effects on 21 Known or Potential BHRs and CHLs within 60m of the ROW, and 23 Potential BHRs and CHLs on properties intersecting the 120 m route buffer, but >60 m from the ROW. **Weighted Score: 8.72**	Overlaps with 7 Known or Potential BHRs and 7 Known or Potential CHLs within the ROW. Potential effects on 22 Known or Potential BHRs and CHLs within 60 m of the ROW, and 23 Potential BHRs and CHLs on properties intersecting the 120 m route buffer, but >60 m from the ROW. **Weighted Score: 9.30**	Overlaps with 10 Known and Potential BHRs and 7 Known and Potential CHLs within the ROW. Potential effects on 24 Known or Potential BHRs and CHLs within 60 m of the ROW, and 24 Potential BHRs and CHLs on properties intersecting the 120 m route buffer, but >60 m from the ROW. **Weighted Score: 7.93**	Overlaps with 10 Known and Potential BHRs and 9 Known and Potential CHLs within the ROW. Potential effects on 23 Known or Potential BHRs and CHLs within 60 m of the ROW, and 24 Potential BHR and CHL on properties intersecting the 120 m route buffer, but >60 m from the ROW. **Weighted Score: 7.33**	Overlaps with 8 Known and Potential BHRs and 6 Known and Potential CHLs within the ROW. Potential effects on 20 Known or Potential BHRs and CHLs within 60 m of the ROW, and 22 Potential BHR and CHL on properties intersecting the 120 m route buffer, but >60 m from the ROW. **Weighted Score: 9.50**

Criteria	Measure	Criteria Weight (%)	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
Archaeological Resources	Effects to features of archaeological potential and number of registered archaeological sites within the ROW and the PSA, where applicable. Includes area that requires Stage 2 Archaeological Assessment.	10.00	Potential to affect 38 features of archaeological potential within the ROW, and 4 registered archaeological sites within the ROW. Potential effects to 25 registered archaeological sites occurring within 300 m of ROW. Route Alternative 1A includes 71.73 ha within the ROW that requires a Stage 2 Archaeological Assessment. **Weighted Score: 4.98**	Potential to affect 38 features of archaeological potential within the ROW, and 4 registered archaeological sites within the ROW. Potential effects to 25 registered archaeological sites occurring within 300 m of ROW. Route Alternative 1B includes 73.47 ha within the ROW that requires a Stage 2 Archaeological Assessment. **Weighted Score: 4.94**	Potential to affect 28 features of archaeological potential within the ROW, and 7 registered archaeological sites within the ROW. Potential effects to 33 registered archaeological sites occurring within 300 m of ROW. Route Alternative 2A includes 66.83 ha within the ROW that requires a Stage 2 Archaeological Assessment. **Weighted Score: 5.46**	Potential to affect 28 features of archaeological potential within the ROW, and 7 registered archaeological sites within the ROW. Potential effects to 33 registered archaeological sites occurring within 300 m of ROW. Route Alternative 2B includes 65.88 ha within the ROW that requires a Stage 2 Archaeological Assessment. **Weighted Score: 5.48**	Potential to affect 35 features of archaeological potential within the ROW, and 0 registered archaeological sites within the ROW. Potential effects to 13 registered archaeological sites occurring within 300 m of ROW. Route Alternative 3 includes 67.95 ha within the ROW that requires a Stage 2 Archaeological Assessment. **Weighted Score: 9.44**
Aggregate Resources Extraction Areas/Operations (Pits/Quarries)	Effects to aggregate extraction site operations, including expansion plans and site operations, and aggregate resource areas within the ROW.	5.00	Potential to affect 11.85 ha of Aggregate Resource Areas within the ROW. **Weighted Score: 2.85**	Potential to affect 11.61 ha of Aggregate Resource Areas within the ROW. **Weighted Score: 2.91**	Potential to affect 26.25 ha of Aggregate Resource Areas within the ROW. **Weighted Score: 1.29**	Potential to affect 26.28 ha of Aggregate Resource Areas within the ROW. **Weighted Score: 1.29**	Potential to affect 6.76 ha of Aggregate Resource Areas within the ROW. **Weighted Score: 5.00**
		Final Weighted Score	**19.26**	**19.18**	**14.53**	**14.57**	**19.90**

Table 5-11: Indigenous Culture, Values and Land Use Category Comparative Evaluation Results

Criteria	Measure	Criteria Weight (%)	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
Addition to Reserve Lands	Lands identified by First Nations as interested or potential Addition to Reserve Land Areas within the ROW.	14.29	Affects 91.52 ha of Reserve Land Areas within the ROW. **Weighted Score: 12.51**	Affects 93.27 ha of Reserve Land Areas within the ROW. **Weighted Score: 12.27**	Affects 81.08 ha of Reserve Land Areas within the ROW. **Weighted Score: 14.12**	Affects 80.11 ha of Reserve Land Areas within the ROW. **Weighted Score: 14.29**	Affects 81.83 ha of Reserve Land Areas within the ROW. **Weighted Score: 13.99**
Intersects Areas of Historical Significance	Mapped areas of historical Indigenous significance within the ROW.	14.29	Similar to Route Alternative 1B, Route Alternative 1A has the most impacts on areas of historical Indigenous significance. **Weighted Score: 4.64**	Similar to Route Alternative 1A, Route Alternative 1B has the most impacts on areas of historical Indigenous significance. **Weighted Score: 4.57**	Similar to Route Alternative 2B, Route Alternative 2A has the least impacts on areas of historical Indigenous significance. **Weighted Score: 11.31**	Similar to Route Alternative 2A, Route Alternative 2B has the least impacts on areas of historical Indigenous significance. **Weighted Score: 11.29**	Route Alternative 3 has minimal impacts on areas of historical Indigenous significance. **Weighted Score: 10.73**
Areas that Support Hunting/Trapping, and/or Harvesting Grounds	Effects on lands with habitat or vegetation types that support or have potential to support hunting/trapping/harvesting activities and medicinal plants within the ROW.	14.29	Affects 10.97 ha of lands identified that have the potential to support hunting, trapping, and harvesting activities. **Weighted Score: 5.36**	Affects 9.86 ha of lands identified that have the potential to support hunting, trapping, and harvesting activities. **Weighted Score: 5.97**	Affects 7.11 ha of lands identified that have the potential to support hunting, trapping, and harvesting activities. **Weighted Score: 8.28**	Affects 7.83 ha of lands identified that have the potential to support hunting, trapping, and harvesting activities. **Weighted Score: 7.51**	Affects 4.12 ha of lands identified that have the potential to support hunting, trapping, and harvesting activities. **Weighted Score: 14.29**
Areas that Support Fish Bearing Waters with Identified or Inferred habitat of Game Fish Species	Effects to aquatic habitat including total number and, length of, watercourse crossings within ROW.	14.29	Requires 20 watercourse/municipal drain crossings in total with potential to affect fish bearing waters/habitat within the ROW. **Weighted Score: 12.86**	Requires 18 watercourse/ municipal drain crossings in total with potential to affect fish bearing waters/habitat within the ROW. **Weighted Score: 14.29**	Requires 18 watercourse/ municipal drain crossings in total with potential to affect fish bearing waters/habitat within the ROW. **Weighted Score: 14.29**	Requires 21 watercourse/ municipal drain crossings in total with potential to affect fish bearing waters/habitat within the ROW. **Weighted Score: 12.25**	Requires 19 watercourse/ municipal drain crossings in total, with potential to affect fish bearing waters/habitat within the ROW. **Weighted Score: 13.54**

Criteria	Measure	Criteria Weight (%)	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
Effects to Rare, Undisturbed Native Habitats/Ecosystems	Effects to rare habitats in southwestern Ontario including tall grass prairies, savannah, native woodlands, natural wetlands, etc., within the ROW, and measured level of disturbance of native habitat and ecosystems bases on calculated average of conservatism associated with the PSA.	14.29	Affects 9.85 ha of undisturbed habitat, including 2.60 ha of wetland habitat within the ROW. The level of disturbance to native habitats within the PSA is calculated at 3.94 average coefficient of conservatism (highly disturbed) **Weighted Score: 1.96**	Affects 9.02 ha of undisturbed native habitat, including 2.44 ha of wetland habitat within the ROW. The level of disturbance to native habitats within the PSA is calculated at 3.94 average coefficient of conservatism (highly disturbed). **Weighted Score: 2.08**	Affects 6.82 ha of undisturbed native habitat, including 0.88 ha of wetland habitat within the ROW. The level of disturbance to native habitats within the PSA is calculated at 4.35 average of coefficient conservatism (highly disturbed). **Weighted Score: 2.66**	Affects 7.26 ha of undisturbed native habitat, including 1.04 ha of wetland habitat within the ROW. The level of disturbance to native habitats within the PSA is calculated at 4.36 average of coefficient conservatism (highly disturbed). **Weighted Score: 2.54**	Affects 3.09 ha of undisturbed native habitat, including 0.01 ha of wetland habitat within the ROW. The level of disturbance to native habitats within the PSA is calculated at 3.32 average of coefficient conservatism (highly disturbed). **Weighted Score: 14.12**
Effects to Rare/Sensitive Species Regeneration Potential	Long-term effects to species at risk and their regeneration potential within the ROW.	14.29	Affects 37.39 ha of SAR and SWH, including 8.40 ha of SAR and potential SAR habitat within the ROW (Bat Habitat), as well as 28.99 ha of confirmed and candidate significant wildlife habitat within the ROW. **Weighted Score: 3.93**	Affects 31.61 ha of SAR and SWH, including 7.60 ha of SAR and potential SAR habitat within the ROW (Bat Habitat), as well as 24.01 ha of confirmed and candidate significant wildlife habitat within the ROW. **Weighted Score: 4.65**	Affects 27.77 ha of SAR and SWH, including 6.60 ha of SAR and potential SAR habitat within the ROW (Bat Habitat), as well as 21.17 ha of confirmed and candidate significant wildlife habitat within the ROW. **Weighted Score: 5.30**	Affects 31.79 ha of SAR and SWH, including 7.00 ha of SAR and potential SAR habitat within the ROW (Bat Habitat), as well as 24.79 ha of confirmed and candidate significant wildlife habitat in the ROW. **Weighted Score: 4.63**	Affects 10.29 ha of SAR and SWH, including 3.04 ha of SAR and potential SAR habitat within the ROW (Bat Habitat), as well as 7.25 ha of confirmed and candidate significant wildlife habitat in the ROW. **Weighted Score: 14.29**

Criteria	Measure	Criteria Weight (%)	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
Co-Location and Repurpose of Existing Infrastructure	Length of the proposed transmission line that parallels existing infrastructure, including roads, railways, pipelines and transmission line corridors.	14.29	Route Alternative 1A co-locates with 14.8 km of existing infrastructure, including transmission lines, Cheese Factory Road, and pipelines. **Weighted Score: 14.29**	Route Alternative 1B co-locates with 14.8 km of existing infrastructure, including transmission lines, Cheese Factory Road, and pipelines. **Weighted Score: 14.28**	Route Alternative 2A co-locates with 2 km of existing pipeline infrastructure. **Weighted Score: 1.92**	Route Alternative 2B co-locates with 2 km of existing pipeline infrastructure. **Weighted Score: 1.92**	Route Alternative 3 co-locates with 9 km of existing infrastructure, including a transmission line, Old Victoria Road, and pipelines. **Weighted Score: 8.66**
		Final Weighted Score	**13.89**	**14.53**	**14.47**	**13.61**	**22.40**

Table 5-12: Technical and Cost Category Comparative Evaluation Results

Criteria	Measure	Criteria Weight (%)	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
Line Length	Total length of each route.	5.00	Total line length is 19.52 km. **Weighted Score: 4.55**	Total line length is 19.91 km. **Weighted Score: 4.47**	Total line length is 18 km. **Weighted Score: 4.94**	Total line length is 17.78 km. **Weighted Score: 5.00**	Total line length is 18.15 km. **Weighted Score: 4.90**
Light angle and heavy angle structures	Number of turns in each route, as well as the angle of the turn.	15.00	Requires 8 medium angle structures, 16 heavy angle structures and approximately 56 suspension structures. **Weighted Score: 8.71**	Requires 8 medium angle structures, 19 heavy angle structures and approximately 57 suspension structures. **Weighted Score: 8.39**	Requires 4 medium angle structures, 11 heavy angle structures and approximately 57 suspension structures. **Weighted Score: 12.01**	Requires 7 medium angle structures, 7 heavy angle structures and 56 suspension structures. **Weighted Score: 13.19**	Requires 8 medium angle structures, 9 heavy angle structures and approximately 53 suspension structures. **Weighted Score: 11.46**
Non-Transmission Line Crossings	Total number of crossings of major waterbodies, major water infrastructure, railways, and 400 series highways.	5.00	Crosses 3 major watercourses, 1 highway (Highway 401), 2 watermains, and 1 railway. **Weighted Score: 3.67**	Crosses 3 major watercourses, 1 highway (Highway 401), 2 watermains, and 1 railway. **Weighted Score: 3.67**	Crosses 3 major watercourses, 1 highway (Highway 401), and 1 railway. **Weighted Score: 5.00**	Crosses 3 major watercourses, 1 highway (Highway 401), and 1 railway. **Weighted Score: 5.00**	Crosses 3 major watercourses, 1 highway (Highway 401), and 1 railway. **Weighted Score: 5.00**
Transmission Line Crossings	Total number of crossings of existing transmission lines.	10.00	Crosses 4 existing 115 kV transmission line circuits, and 1 existing 500 kV transmission line circuit. **Weighted Score: 8.25**	Crosses 4 existing 115 kV transmission line circuit, and 1 existing 500 kV transmission line. **Weighted Score: 8.25**	Crosses 2 existing 115 kV transmission line circuits and 1 existing 500 kV transmission line circuit. **Weighted Score: 10.00**	Crosses 2 existing 115 kV transmission line circuits and 1 existing 500 kV transmission line circuit. **Weighted Score: 10.00**	Crosses 2 existing 115 kV transmission line circuits and 1 existing 500 kV transmission line circuit. **Weighted Score: 10.00**
Co-Location of Existing Infrastructure	Length of line that is located in proximity to existing transmission line corridors.	10.00	Route Alternative 1A co-locates with 11.32 km of existing transmission line infrastructure. **Weighted Score: 10.00**	Route Alternative 1B co-locates with 11.31 km of existing transmission line infrastructure. **Weighted Score: 9.99**	Route Alternative 2A does not co-locate with exiting transmission line infrastructure. **Weighted Score: 0.00**	Route Alternative 2B does not co-locate with existing transmission line infrastructure. **Weighted Score: 0.00**	Route Alternative 3 co-locates with 1.04 km of existing transmission line infrastructure. **Weighted Score: 0.92**

Criteria	Measure	Criteria Weight (%)	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
Proximity to Pipelines	Total distance parallel/ adjacent and crossing of underground facilities (pipelines).	5.00	Route Alternative 1A crosses 8 pipelines and parallels 2.8 km of existing pipelines within 300 m. **Weighted Score: 2.17**	Route Alternative 1B crosses 8 pipelines and parallels 2.8 km of existing pipelines within 300 m. **Weighted Score: 2.17**	Route alternative 2A crosses 3 pipelines and parallels 2 km of existing pipelines within 300 m. **Weighted Score: 3.83**	Route alternative 2B crosses 3 pipelines and parallels 2 km of existing pipelines within 300 m. **Weighted Score: 3.83**	Route alternative 3 crosses 2 pipelines and parallels 1.7 km of existing pipelines within 300 m. **Weighted Score: 5.00**
Real Estate Considerations	Real estate and land acquisition considerations, including the total number of property parcels traversed and the anticipated number of property buyouts.	30.00	Impacts 41 private parcels, 17 road parcels, and 1 railway parcel within the ROW. **Weighted Score: 24.92**	Impacts 42 private parcels, 17 roads and 1 railway within the ROW. **Weighted Score: 24.50**	Impacts 37 private parcels, 14 roads, and 1 railway within the ROW. **Weighted Score: 28.27**	Impacts 36 private parcels, 14 roads, and 1 railway within the ROW. **Weighted Score: 28.82**	Impacts 30 private parcels, 18 roads, and 1 railway within the ROW. **Weighted Score: 30.00**
System Benefits & Impacts	Upgrade requirements for existing transmission lines.	5.00	Requires 1.83 km of circuit upgrade requirements to 230 kV transmission line (circuit M31W). Requires 0.65 km of relocation requirements to 230kV transmission line (circuits W44LC/W45LS). **Weighted Score: 3.50**	Requires 1.83 km of circuit upgrade requirements to 230 kV transmission line (circuit M31W). Requires 0.65 km of relocation requirements to 230kV transmission line (circuits W44LC/W45LS). **Weighted Score: 3.50**	Requires 3.23 km of circuit upgrade requirements to 230 kV transmission line (circuit M31W). No relocation requirements. **Weighted Score: 3.48**	Requires 3.23 km of circuit upgrade requirements to 230 kV transmission line (circuit M31W). No relocation requirements. **Weighted Score: 3.48**	Requires 3.71 km of circuit upgrade requirements to 230 kV transmission line (circuit M31W). No relocation requirements. **Weighted Score: 3.23**

Criteria	Measure	Criteria Weight (%)	Route Alternative 1A	Route Alternative 1B	Route Alternative 2A	Route Alternative 2B	Route Alternative 3
Overall Constructability	Number of bypasses required, 500 kV circuit modifications required, and approximate number of outages required.	15.00	Requires 1 bypass, a severe 500 kV circuit modification, and approximately 7 outages. **Weighted Score: 0.00**	Requires 1 bypass, a moderate 500 kV circuit modification, and approximately 7 outages. **Weighted Score: 0.00**	Requires a moderate 500 kV circuit modification, and approximately 2 outages. **Weighted Score: 3.75**	Requires a severe 500 kV circuit modification, and approximately 2 outages. **Weighted Score: 3.75**	Does not require bypasses, circuit modifications, or outages. **Weighted Score: 15.00**
Final Weighted Score			**16.44**	**16.24**	**17.82**	**18.27**	**21.37**

Table 5-13: Final Overall Weighted Scores

TOTAL WEIGHTED SCORE

CATEGORY	ROUTE ALTERNATIVE 1A	1B	2A	2B	3
Natural Environment	12.98 Least Preferred	14.70 Less Preferred	15.86 Less Preferred	14.59 Less Preferred	23.18 Most Preferred
Socio-Economic Environment	19.26 Less Preferred	19.18 Less Preferred	14.53 Least Preferred	14.57 Least Preferred	19.90 Most Preferred
Indigenous Culture, Values and Land Use	13.89 Least Preferred	14.53 Less Preferred	14.47 Less Preferred	13.61 Least Preferred	22.40 Most Preferred
Technical & Cost	16.44 Less Preferred	16.24 Least Preferred	17.82 Less Preferred	18.27 Less Preferred	21.37 Most Preferred
FINAL OVERALL WEIGHTED SCORE	**62.57 Less Preferred**	**64.64 Less Preferred**	**62.68 Less Preferred**	**61.04 Least Preferred**	**86.86 Most Preferred**

5.6. Summary of Comparative Evaluation

5.6.1. Natural Environment Category Summary

Overall, Route Alternative 3 is preferred from a Natural Environment perspective. Route Alternative 3 has the least effects overall to incompatible vegetation communities, and on wildlife and wildlife habitat, including SWH and Candidate SWH. Route Alternative 3 has the least effects to SAR and potential SAR habitat, including permanent habitat removal impacts. Route Alternative 3 also has the least effects to designated natural areas (e.g., Significant Valleylands, Significant Woodland, Environmentally Sensitive Areas).

5.6.2. Socio-Economic Environment Category Summary

Overall, Route Alternative 3 is preferred from a Socio-Economic perspective. Although Route Alternative 3 does not score the highest in co-locating with existing transmission line infrastructure, it traverses the fewest residential properties, and has the least effects to source water resources. In addition, Route Alternative 3 has the least effects to BHR, CHL, and Archaeological Resources, and has the least potential to affect Aggregate Resource Areas.

5.6.3. Indigenous Culture, Values and Land Use Category Summary

Overall, Route Alternative 3 is the preferred alternative from an Indigenous Culture, Values and Land Use perspective. Route Alternative 3 affects the least amount of hectares of lands that support hunting, trapping, and/or harvesting grounds, as well as rare native habitats in southwestern Ontario. Route Alternative 3 has the least long-term effects to SAR and their regeneration potential within the ROW, including potential SAR habitat and Confirmed and Candidate SWH. Route Alternative 3 also co-locates with approximately 9 km of existing infrastructure, including a transmission line, and Old Victoria Road.

5.6.4. Technical and Cost Category Summary

Overall, Route Alternative 3 is the preferred alternative from a Technical and Cost perspective. Route Alternative 3 is the most preferred from a real estate perspective as

it impacts the fewest property parcels. Route Alternative 3 crosses the least pipelines. From an overall constructability perspective, Route Alternative 3 is also the most preferred as it does not require bypasses, circuit modifications, or outages.

5.6.5. Technically Preferred Route Alternative

Overall, Route Alternative 3 (**Figure 5-3**) is preferred because it minimizes overall environmental impacts, particularly on wildlife, vegetation, and significant natural areas. It traverses the fewest residential properties, and involves fewer potential disruptions to source water resources, BHR, CHL, and archaeological sites, making it a more sustainable option. While it does not co-locate as much with existing infrastructure as some alternatives, its overall benefits in terms of environmental protection and socio-economic considerations make it the preferred option. Route Alternative 3 is preferred from an Indigenous Culture, Values and Land Use perspective, as it affects the least amount of lands that support hunting, trapping, and/or harvesting grounds, as well as rare habitats in southwestern Ontario, and disrupts the least long-term effects to SAR and their regeneration potential. Additionally, Route Alternative 3 is preferred in terms of constructability, as it requires no bypasses, outages, or modifications to the existing 500 kV transmission line, and also impacts fewer property parcels and crosses the least amount of pipelines.

Figure 5-3: Technically Preferred Route Alternative

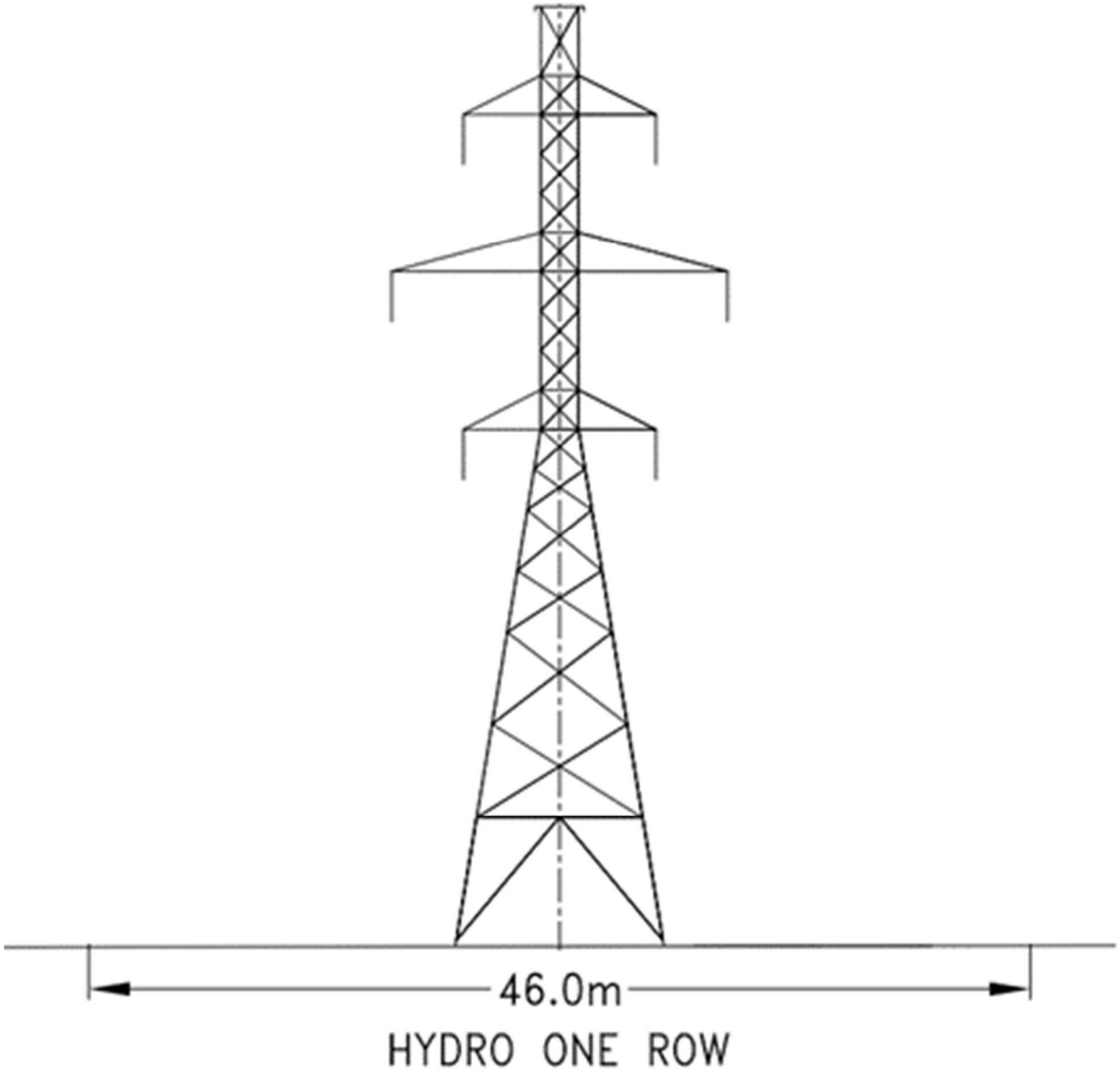
6.0 Project Description

The proposed Project is a customer funded project, which will connect the new PowerCo Canada Inc. electric vehicle battery cell manufacturing facility in the City of St. Thomas to Ontario's clean energy grid. The purpose of the new double-circuit 230 kV transmission line is to:

- Meet the electricity demands for the new PowerCo Canada Inc. electric vehicle battery cell manufacturing facility.

Figure 6-1 provides an example of the types of transmission structures (i.e., towers) proposed for the Project. The structure shown in the figure is considered a preliminary illustrative example as it is subject to the continuation of engineering and design work.

Figure 6-1: Example of Transmission Structure Proposed for the Project



6.1. Design Phase

Following completion of the Class EA process, detailed engineering and design for the proposed Project will be undertaken. The final design plans will be based on necessary surveys, including a geotechnical survey, and consultation with stakeholders. During the design phase, additional studies and surveys (e.g., Stage 2 Archaeological Assessment, geotechnical investigations, further SAR assessments) will be conducted as required. Concurrent with finalization of the design, required permits, licences and approvals, as listed in **Section 1.4.2**, will be obtained. Hydro One will also finalize restoration plans in consultation with appropriate stakeholders and local communities, as necessary.

Hydro One recognizes a changing climate is likely to result in an increase of unusual weather patterns and severe weather events, which could potentially damage or adversely affect infrastructure and other public facilities. Hydro One is confident the facilities being planned for this Project will be engineered to adequately withstand effects of climate change throughout the duration of their planned lifespan.

6.2. Construction Phase

Construction activities will be guided by Hydro One standards and guidelines as well as Project-specific documents; these are to be adhered to by all construction personnel including contractors and sub-contractors. In addition, a Project-specific Environmental Management Plan will be prepared, outlining specific requirements to be followed for the proposed Project.

Prior to construction, a detailed construction plan will be developed. Construction activities will be restricted to designated work areas and protective barriers, such as fencing, will be erected to protect features from construction related effects.

Throughout the construction period, an Environmental Specialist will be available to address unforeseen environmental effects and mitigation requirements. The Environmental Specialist will monitor activities to ensure conformance with the requirements set out in the Environmental Management Plan.

Should any archaeological finds be uncovered during construction, work in the vicinity will stop immediately pending assessment by the Project archaeologist and further

consultation with the MCM – Heritage Planning Unit, as well as the appropriate Indigenous communities.

Upon completion of construction, clean up and restoration (e.g., seeding, plantings) of areas disturbed by construction will occur, as required. Documents covering ongoing commitments, including monitoring and notification requirements will be prepared, and operation and maintenance staff will be briefed, as necessary.

Construction of the new double-circuit 230 kV transmission line will involve the following activities:

- Site preparation including clearing, and grading;
- Establishment of construction access roads;
- Installation of foundations at the new structure locations;
- Assembly and construction of the transmission structures;
- Stringing new transmission conductors (wires) on the structures and installation of associated equipment;
- Installation of counterpoise (if required); and,
- Clean up and site restoration.

Temporary facilities for the purpose of the proposed Project may include access roads, equipment staging areas and temporary stockpile areas and temporary rider poles or similar protective measures required during conductor stringing. Pulling pads or tension machine pads may also be temporary. Temporary facilities will be required prior to, and during, the construction period. The location of the temporary facilities will be determined by the Project team and their contractor(s) during the detailed design and construction planning phase.

The proposed Project may use either helical piles or augered concrete foundations for the tower footings. The Project team and contractor(s) will determine the foundation type during the detailed design and construction planning phase.

6.3. Maintenance, Operation and Retirement Phases

The proposed Project is planned to be in service in 2027. The new double-circuit 230 kV transmission line would undergo regular maintenance in adherence with Hydro One's

maintenance standards and regulatory requirements to maintain a safe and reliable electricity transmission system.

When transmission facilities become obsolete or unserviceable and/or deemed to be at end-of-life, the equipment is retired from service. Transmission facilities retired from service are often left in place (idle) for potential future use. The facilities may eventually be removed, and the site made suitable for other purposes. The foundations are typically cut back 1.0 m below ground surface when transmission structures are removed.

6.4. Project Schedule

The anticipated schedule for the proposed Project activities is provided below in **Table 6-1**. This schedule shows key steps remaining in the Class EA process and the subsequent anticipated timing of the start of construction.

Table 6-1: Project Schedule

Activity	Period
Draft ESR released for public review and comment period	May 28, 2025, to June 30, 2025
Comment integration and response	July to August 2025
Filing of final ESR and Class EA Statement of Completion with the MECP	August 2025
Construction Start	Late 2025
Planned in-service date	2027

7.0 Potential Environmental Effects and Mitigation Measures

This section describes the potential environmental effects and mitigation measures associated with the proposed Project's short-term (construction) and long-term (operation/maintenance) activities. The assessment of potential environmental effects for the proposed Project considered the baseline information on the environmental features presented in **Section 4.0**.

The potential environmental effects resulting from the construction and operation/maintenance of the proposed Project are similar to other projects undertaken by Hydro One and are well understood by the Project team. Hydro One has a strong track record of environmental compliance and stewardship and is committed to the completion of comprehensive environmental and social analysis and mitigation of potential effects.

The selection of mitigation measures are based on the following seven guiding principles:

- Avoidance of sensitive areas, where practical;
- Avoidance of watercourse crossings, where feasible, by use of an existing nearby crossing, access to structures from either side of the watercourse, or use of off-corridor access;
- Appropriate timing of construction activities, where feasible, to avoid sensitive time periods, such as fish spawning and egg incubation periods, or migratory bird nesting periods;
- Proactive communication with landowners, businesses, and interested community members on the proposed Project timelines and construction areas;
- Proactive communication with Indigenous communities, government agencies, stakeholders, and interest groups regarding the proposed Project;
- Implementation of conventional, proven mitigation measures during construction consistent with the criteria set out in Appendix E of the Class EA for Minor Transmission Facilities (Hydro One, July 2022), and in accordance with applicable legislative requirements; and,

- Development of environmental enhancement or compensation measures to offset the residual net effects of the Project where such effects exist.

Based on the Project design and implementation of the proposed mitigation measures, no “significant” adverse net effects (e.g., effects following the implementation of mitigation) are anticipated. The following subsections detail the effects assessment and identify avoidance, mitigation, and/or compensation commitments required for the proposed Project.

7.1. Agricultural Resources

The majority of lands within the PSA are designated as agricultural (see **Figure 4-2**). As noted under **Section 4.1**, the agricultural sector plays a significant role in economic prosperity for both the City of London and the Municipality of Central Elgin. The majority of agricultural land in the PSA is considered prime agricultural land (Class 1 to Class 3). A large portion of the agricultural fields within and beyond the PSA have an agricultural field tile drainage system using a random or systematic design (LIO, 2019).

The Preferred Route will cross several agricultural property parcels and will have temporary and long-term effects on agricultural operations in the area. There are no agricultural buildings within the new transmission line ROW.

Potential effects from the Project include:

- Permanent loss of agricultural land for production of crops within the new towers’ physical footprint;
- Temporary loss of agricultural land for production of crops associated with construction activities in the ROW;
- Temporary soil compaction from construction vehicles;
- Potential for construction activities to mix soil horizons, lowering the quality of soil, or mixing of soil across agricultural properties;
- Potential disturbance to farm operations including planting and harvesting schedules, spraying, and tilling activities;
- Removal of sections of agricultural hedgerows;
- Application of herbicides within the ROW with the potential to spread into adjacent farm operations;
- Potential damage to field tile drains;

- Potential effects to adjacent livestock including stress, injury, or loss from construction activities including the use of implosive conductor splicing methods; and,
- Potential for transmission line interference with automated GPS-guided farm equipment.

While some of the effects on agricultural operations will be long-term and result in net effects, many are temporary in nature and can be mitigated with diligent construction planning and implementation of mitigation measures during construction. No significant net effects on agricultural resources are anticipated.

The following subsections outline the effects assessment for each potential agricultural effect and outline anticipated avoidance, mitigation, and/or compensation strategies to be employed by Hydro One and their contractor(s).

7.1.1. Loss of Agricultural Lands and Crops

The Project will result in the temporary removal of planted/established crops and/or lands available for crop production to facilitate construction activities within the transmission line ROW. Some agricultural lands will be permanently lost as a result of Project infrastructure (e.g., tower footing locations), however, the majority of the ROW can still be utilized for crops or pasture after construction. All lands out of production and crops lost as a result of the Project's construction activities will be compensated following Hydro One's crop loss/croplands out-of-production policies. Additionally, the following mitigation measures are proposed for effects on agricultural lands and crops:

- Contact will be maintained with landowners and stakeholders regarding work schedules and other items of interest (e.g., access roads, minimizing disturbances to existing and planned farm operations);
- Where practical, some construction and maintenance activities will be scheduled to avoid the growing season or sensitive times of year (e.g., extreme wet periods), although it is recognized that this will not be possible in all circumstances;
- Access roads, staging areas, tower construction, and stringing activities will be constructed to a minimum length and width required to accommodate the safe movement of construction equipment;

- Work will be limited to the planned access roads, staging, and work areas. If a later expansion to these areas is required, it will be discussed with the landowner in advance;
- Existing farm lanes and other existing access roads will be used whenever practical. In the event farm lanes are absent, access will be focused within the ROW or along field edges, to the extent practical; and,
- Restoration measures, as informed by discussions with landowners (e.g., alleviate soil compaction, remove excess aggregate on areas affected by construction, may be undertaken following the completion of construction and removal of temporary construction access, as necessary.

7.1.2. Soil Compaction

Project activities have the potential to cause soil compaction through the use of heavy equipment. Compaction of soil may occur during both the construction and operation/maintenance phases of the Project. Soil compaction resulting from these activities is largely unavoidable and is anticipated to be temporary. Measures to mitigate soil compaction include:

- Equipment with low bearing capacity will be used, where practical;
- Access will be located along existing farm lanes or field edges, where practical;
- Access roads, staging areas, and tower and stringing activities will be constructed to a minimum length and width required to accommodate the safe movement of construction equipment;
- Work will be limited to the planned access roads, staging, and work areas. If a later expansion to these areas is required, it will be discussed with the landowner in advance;
- Temporary access roads and work pads will be built in agricultural fields using mats, geotextile, gravel, or equivalent means, which can be easily removed when construction is complete to allow for re-cultivation of the area; and,
- Restoration measures, as informed by discussions with landowners, to cultivate or otherwise alleviate soil compaction in areas affected by construction, may be undertaken following the completion of construction and removal of temporary construction access, as necessary.

7.1.3. Soil Mixing

Mixing of soil including soil horizons and movement of soil between property parcels is a potential effect of the Project. Excavations may be required for construction activities. Excavation has the potential to result in the mixing of soil horizons, reducing the quality of surface topsoil for agricultural purposes. This effect is anticipated to be minimal and limited to areas of deep ground disturbance (e.g., some tower footing locations), but may be permanent. Additionally, the movement of construction equipment through the ROW may cause the migration of soils from one agricultural field to another. Mitigation measures to minimize topsoil and subsoil mixing will include:

- Where geotechnical conditions and engineering requirements allow, foundation types (such as helical piles) that minimize surface disturbance and do not require soil excavation or soil stripping of the foundation site will be used;
- Stripping or excavation of soils will be minimized to the extent practical;
- Where soil stripping is required, topsoil and subsoils will be removed and stockpiled separately;
- Depths of soil being removed will be carefully monitored and minimized during stripping activities;
- Volume of topsoil and subsoil salvaged for replacement or re-use on site will be maximized, where practical;
- Soils will be stripped under generally dry conditions (not saturated), such that rutting, soil mixing, or other undesired ground disturbance is minimized to the extent practical;
- Vegetation, stone piles, fencing and deleterious materials will be removed before stripping;
- For backfilling operations, topsoil and subsoil will be replaced in reverse order of excavation to minimize the potential for additional mixing and maximize future growing potential;
- Soil cover on exposed areas within agricultural areas will be discussed with the landowner for the most appropriate solution;
- Equipment and vehicle inspections and cleaning will be conducted as required during construction, to minimize the potential for inadvertent transport of trace soils between contaminated and non-contaminated agricultural fields;

- Cleaning will be conducted using a risk-based approach, whereby vehicles and equipment that have come in contact with soils will be inspected and cleaned of dirt/debris/seeds; and,
- Cleaning will occur in a manner that ensures that runoff is contained, and waste materials can be collected.

7.1.4. Disturbance to Farm Operations

Project activities will require the construction and maintenance of the transmission line ROW. Effects on agricultural operations from construction and maintenance activities may include impediments to farm vehicle maneuverability or disruption to farm operations including planting and harvesting or tilling and spraying. Generally, disruption effects are anticipated to be temporary and can be mitigated by:

- Where practical, and through consultation with landowners, the location of towers will be placed to minimize impacts on the maneuverability of agricultural equipment (e.g., along lot lines or field boundaries);
- Contact will be maintained with affected landowners regarding work schedules and other items of interest (e.g., access roads, minimizing disturbances to farm operations);
- Access roads, staging areas, tower construction, and stringing activities will be constructed to a minimum length and width required to accommodate the safe movement of construction equipment;
- Work will be limited to the planned access roads, staging, and work areas. If a later expansion to these areas is required, it will be discussed with the landowner in advance;
- To the extent practical, some construction and maintenance activities will be scheduled to avoid sensitive times of the year with regards to agricultural operations, although it is recognized that this will not be feasible in all circumstances; and,
- Constructed access roads will be smooth and tapered to allow for vehicular, pedestrian, and equipment crossings, where applicable.

7.1.5. Vegetation Removal

Construction and maintenance of the transmission line ROW will require the removal of approximately 3.94 ha of incompatible vegetation including trees typically found in

hedgerows or windbreaks. Incompatible vegetation communities associated with the Project include the following:

- Deciduous Forest (FOD)
- Deciduous Forest / Mixed Meadow Complex (FOD/MEM)
- Deciduous Forest / Deciduous Thicket Complex (FOD/THD)
- Dry – Fresh Sugar Maple Deciduous Forest (FODM5)
- Fresh – Moist Sugar Maple Deciduous Forest (FODM6)
- Deciduous Swamp (SWD)
- Fencerow/Hedgerow (TAGM5)

Construction and maintenance activities may require mechanical removal of vegetation (tree felling) and/or application of herbicides to species incompatible with overhead transmission lines. Effects from vegetation removal include the potential for herbicide overspray and/or fragmentation of existing hedgerows and windbreak systems. Where incompatible vegetation must be removed (e.g., hedgerows), these areas will be restored with compatible vegetation (e.g., shrubs, forbs) in discussion with landowners. Additional mitigation measures include:

- Vegetation that will not affect construction or line clearances will be retained, where possible;
- Hedgerows and windbreak areas impacted by construction will be replaced with compatible vegetation post-construction, in consultation with the landowner; and
- Consult with Indigenous communities and private landowners to identify potential opportunities to facilitate pre-construction harvest of plant species of interest to Indigenous communities.

Construction and maintenance activities have the potential to utilize herbicides to control noxious weeds and/or incompatible vegetation. There is also potential for inadvertent movement of trace soils between agricultural fields. Chemical control methods have the potential to overspray to adjacent crops and the movement of soils has the potential to transport undesirable soil types and compounds. It is recognized that some agricultural operations in the PSA may include certified organic and/or Identity Preserved (IP) crops. Other agricultural operations may transition to organic/IP crop types. To minimize potential disruption or contamination on organic or IP agricultural operations, the following mitigation measures will be implemented:

- Contact will be made with landowners to determine if organic or IP operations are present which may require additional considerations during construction planning;
- Equipment and vehicle inspections and cleaning will be established during construction, to minimize the potential for inadvertent transport of trace soils;
- Cleaning will occur in a manner that ensures that runoff is contained and waste materials can be collected;
- Field crews will be informed if working in organic or IP croplands; and,
- Mitigation strategies will be discussed with landowners prior to construction and field crews will be informed of the required mitigation and monitored to ensure these strategies are properly implemented.

7.1.6. Damage to Field Tile Drains

The use of heavy equipment for construction and maintenance activities has the potential to cause damage to agricultural tile drains. If damage to tile drains occurs as a result of construction or maintenance activities, the tile will be repaired by a licensed tile drainage contractor in consultation with the affected landowner. To minimize the potential for tile drain damage, the following mitigation measures will be implemented for the Project:

- Landowners will be consulted to determine existing field tile locations in support of avoidance/protection measures;
- Tile drains will be avoided and/or protected (e.g., tower locations, temporary construction access), to the extent practical;
- Access roads, staging areas, tower construction, and stringing activities will be constructed to a minimum length and width required to accommodate the safe movement of construction equipment;
- Work will be limited to the planned access roads, staging, and work areas. If a later expansion to these areas is required, it will be discussed with the landowner in advance;
- Where temporary access roads and work pads are built in tiled agricultural areas, mats, geotextile, gravel, or equivalent means, will be utilized to protect tile drains;
- Equipment with low bearing capacity will be used to minimize potential damage to tile drains, where practical; and,

- Where practical, some construction and maintenance activities will be scheduled to avoid sensitive times of the year (e.g., extreme wet periods), although it is recognized that this may not be feasible in all circumstances.

7.1.7. Livestock Stress, Loss or Injury

Construction and maintenance activities are inherently loud and will occur in proximity to livestock-managed areas (grazing fields, pastures, etc.) resulting in the potential for livestock stress, injury, or loss. Some construction activities such as the potential use of implosive conductor splicing may scare or startle agricultural livestock. These effects are anticipated to be temporary and of a relatively short duration. To minimize impacts on livestock the following mitigation measures will be implemented:

- Landowners will be informed in advance of upcoming work activities that may disturb or pose a risk to livestock, and consulted on potential mitigation measures, such as moving or containing livestock, as necessary;
- Vehicle and equipment travel on agricultural lands will follow the ROW, or existing roads, trails, and paths to the extent practical;
- Field crews will be informed about livestock in the vicinity of work areas to confirm they are aware of the need to secure gates, are cognizant of noise sensitivity controls, and ensure clean–up of construction materials and debris at the end of each day to minimize potential livestock ingestion;
- If excavations cannot be closed immediately, exclusion fencing will be erected to protect livestock from entering;
- Vehicles/equipment will be inspected and cleaned as necessary to prevent the potential introduction or spreading of diseases;
- Existing gates and fences will be used as required. All fences and gates will be left in "as-found" condition following construction;
- Livestock access control gates and fencing will be installed during construction at roads and between fenced fields as necessary to prevent escape of livestock or movement of livestock into work areas;
- Equipment and machinery used on site will be maintained in good working condition with functioning mufflers;
- If implosive splicing is required:
    - a Blasting Communication and Management Plan will be developed outlining proper storage, security, detonation, and notification requirements;

- Area residents, municipal authorities, police department, and other crews within 1.6 km will be notified of the planned use of implosive splicing, at least one week prior to the work commencing;
- Signs shall be posted on all roadways leading to a blasting area in accordance with government rules and regulations; and,
- Maintain safe distances of the blasting site from other employees, vehicles, equipment, structures, and fire hazard sources. Perform blasts during pre-determined times.

7.1.8. Potential GPS Signal Interference

Hydro One acknowledges concerns have been raised by farmers working beneath transmission lines regarding interference with automated or GPS-guided agricultural equipment (e.g., auto-steer).While we do not anticipate effects on communication systems in farm equipment, Hydro One will work with concerned farmers to collect information on the systems of concern and contact manufacturers of these systems to gain further insight into potential concerns and possible solutions if applicable. While obstructions such as buildings or trees are known to block the reception of GPS signals, published studies assessing these concerns indicate that overhead power line conductors are too thin to cause appreciable screening.

7.2. Forestry Resources

As noted under **Section 4.2**, no forestry resources were identified within the PSA; therefore, no potential effects have been identified for the proposed Project.

7.3. Archaeological Resources

As noted in **Section 4.3.1**, a Stage 1 Archaeology Assessment was completed by TMHC (2024; PIF # P324-0921-2024). The Stage 1 Archaeological Assessment determined that the PSA for the Preferred Route contains lands with potential to support archaeological resources.

A Stage 2 Archaeological Assessment is required for the technically Preferred Route for all lands exhibiting archaeological potential that have not been previously assessed. Hydro One commits to completing Stage 2 Archaeological Assessments for these identified areas of archaeological potential along the preferred route as early as

possible during detailed design and prior to ground disturbing activities associated with construction work occurring on these areas, or with acceptable avoidance and mitigation measures applied. If the Stage 2 Archaeological Assessment identifies the need for further assessment, a Stage 3 or 4 Archaeological Assessment will occur as required and as outlined in the “Standards and Guidelines for Consultant Archaeologists” (MCM, 2011). Copies of all Archaeological Assessment reports will be filed for acceptance with MCM.As noted in the Stage 1 Archaeological Assessment, a more detailed review of existing conditions and assessment areas will be undertaken as part of the Stage 2 assessment planning. Any areas of low-archaeological potential along the Preferred Route will need to be photo-documented as part of the Stage 2 assessment.

Should previously undocumented (i.e., unknown or deeply buried) archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48(1) of the *Ontario Heritage Act.* In the event human remains are encountered, the *Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33* requires that any person discovering human remains must cease all activities immediately and notify the police or coroner. If the coroner does not suspect foul play in the disposition of the remains, in accordance with Ontario Regulation 30/11 the coroner shall notify the Registrar, Ontario Ministry of Public and Business Service Delivery, which administers provisions of that Act related to burial sites. In situations where human remains are associated with archaeological resources, the MCM should also be notified (at archaeology@ontario.ca) to ensure that the archaeological site is not subject to unlicensed alterations which would be a contravention of the Ontario Heritage Act. In addition, all Indigenous communities that have an interest in the Project and/or location will also be immediately contacted so that, in the event such remains are Indigenous in origin, protocols can be established.

7.4. Built Heritage Resources and Cultural Heritage Landscapes

As noted in **Section 4.3.2**, the CHEC identified 20 properties and two waterways of known or potential CHVI along the Preferred Route. The identified properties included:

- 8 known and potential BHRs and 6 known and potential CHLs within the Preferred Route ROW;
- 20 known or potential BHRs and CHLs within 60 m of the projected ROW edge of the Preferred Route; and,
- 22 potential BHR and CHL on a property intersecting the 120 m Preferred Route Buffer, but more than 60 m from the ROW edge.

To minimize potential adverse effects to BHRs and CHLs, work will be planned in a manner that avoids adverse effects to the identified potential BHRs and CHLs to the extent practical. Construction access and laydown areas will be temporary and restored to pre-existing conditions following the completion of construction. Where an identified BHR or CHL cannot be feasibly avoided and will be directly impacted through destruction, alteration, or disruption, Hydro One will undertake property-specific Cultural Heritage Evaluation Reports (CHERs) and/or Heritage Impact Assessments (HIAs). CHERs and HIAs will be conducted as early as possible during the detailed design phase, subject to receiving permission to access the properties for these surveys. The additional studies will confirm the CHVI and heritage attributes of the BHR or CHL and identify all adverse effects. All evaluation and assessment will comply with the Hydro One Cultural Heritage Identification and Evaluation Process (2019) and MCM Standards and Guidelines (2011).

7.5. Land Use and Communities

The Project is within the City of London, Municipality of Central Elgin, and City of St. Thomas's OP designated areas. A summary of how the Project fits into provincial policy and local OPs is outlined in **Section 4.4.1**. Generally, OPs include support towards energy transmission and investment in southwestern Ontario. Specifically, the local OPs allow for the provision of opportunities to develop energy supply including electricity transmission facilities in all land use types. It is recognized that the proposed Project will

cross multiple types of current land use designations, including agricultural, wooded areas, open space/green space, and industrial lands.

7.5.1. Business Operations

Project activities are required in areas designated as industrial lands in the City of St. Thomas, which includes the Yarmouth Yards Industrial Park, near the new Centennial TS. There is potential for Project construction activities to overlap with construction activities at Yarmouth Yards Industrial Parks; however, disruption to Yarmouth Yards Industrial Park construction activities is expected to be minimal and temporary and coordinated with onsite contractors, as required for the projects.

To minimize disruptions and/or impacts, contact will be maintained with the City of St. Thomas and commercial property owners who may be potentially impacted during construction. Access routes and laydown areas will be planned and coordinated with the surrounding construction activities occurring in the Industrial Park to meet Notice of Project requirements of separate access and work areas and appropriate road signage.

Where seasonal businesses are identified, efforts will be made to avoid disruption during peak/busy seasons, to the extent practical.

Access to construction areas will be carefully designed to avoid and minimize adverse effects. Advanced notice will be provided to nearby residences, farmers, landowners and commercial operations, the MTO, and emergency response services outlining the location of entry/exit points for the construction site (e.g., at the transmission line and Highway 401), as well as the schedule for construction work or construction related traffic in those areas. Road signage will also be created and installed to reflect this information.

7.5.2. Effects to Existing and Future Land Use Designations and Potential Future Development

While there are several compatible land uses within the transmission line corridor, the location of a transmission line corridor will introduce certain restrictions to future development potential within the corridor.

Throughout the province, development (both residential and commercial/industrial) occurs around and adjacent to existing transmission line corridors and stations. Uses deemed to be compatible with overhead transmission lines are often approved within transmission line ROWs. Hydro One has existing departments and processes to review proposals for developments that are planned adjacent to or within transmission line ROWs and facilitate compatible uses of these corridors. Typically, there are no restrictions placed on development or new construction outside of the transmission line ROW itself.

Where and when future development projects or initiatives are proposed to occur along or within the ROW for the Project, Hydro One will apply its existing processes to review and facilitate these future developments, including potential compatible uses within the transmission line ROW. In addition, Hydro One will work with local municipalities to consider potential means of accommodating potential future development during the design of the transmission line, within the property fabric traversed by the transmission line ROW.

Minor refinements to the proposed Project alignment are being considered, where feasible and reasonable within the existing property fabric traversed by the transmission line ROW to reduce the Project's level of adverse effects to existing development applications.

7.5.3. Effects to Local Roads, Traffic and Transportation

The Project is located within a predominantly rural landscape, with several local and regional roads serving as key access routes in the PSA. Highway 401 travels east-west in the northern extent of the PSA, serving as a key access route through southwestern Ontario. The southern portion of the PSA is also within the outer surface zone of the St. Thomas Municipal Airport, designated under the City of St. Thomas Airport Zoning By-law 36-2019.

Construction activities have the potential to disrupt provincial highway traffic and local traffic on municipal and county roads during the construction phase of the proposed Project. Specifically, the stringing of conductors across roads and highways and the

construction of new access roads may require temporary road closures, rolling closures, lane occupancy, and/or detours.

Access to construction areas will be carefully designed to avoid and minimize adverse effects. Advanced notice will be provided to nearby residences, farmers, landowners and commercial operations, the MTO, and emergency response services outlining the location of entry/exit points for the construction site (e.g., at the transmission line and Highway 401), as well as the schedule for construction work or construction related traffic in those areas. Road signage will also be created and installed to reflect this information.

The presence of heavy equipment may also increase traffic and loads which may result in localized wear and tear on lower order roadways. Effects on road and highway traffic and roadways are expected to be minimal and temporary.

Temporary effects on roads and traffic are largely unavoidable. To mitigate potential impacts from construction activities, Hydro One will:

- Obtain required permits from MTO and obtain approval for any necessary rolling lane closures prior to construction activities within and adjacent to the Highway 401 ROW;
- Complete a pre- and post-construction road survey to document impacts on local roads caused by heavy equipment and increased construction traffic during construction activities. Survey results will be shared with Municipal staff in advance of construction work commencing, as necessary. Damage caused as a direct result of construction activities associated with the Project will be repaired upon completion of construction activities;
- The Project will adhere to seasonal load restrictions;
- Where required, a Traffic Control Plan will be developed and shared with local municipalities, as necessary;
- Construction haul routes and schedules will be shared with local municipalities in advance of construction, as necessary;
- Construction traffic will access the construction area from the existing road network at specified construction access/egress locations;
- Common parking areas will be established for construction crews;

- To the extent practical, to avoid road closures and other disruptions during stringing, conductor stringing will utilize rider poles, boom-tipped riders, or other protective measures, to the extent practical;
- If temporary road or highway closures (e.g., rolling closures) are required during stringing or other construction activities, the construction contractor will coordinate closely with the appropriate road authority to ensure that proper notice is provided and that required signage and traffic controls are utilized, and that the duration of any temporary closures will be minimized to the extent practical;
- Where construction work is planned to directly affect local traffic (e.g., temporary road or lane closures), local advertisements (e.g., radio, newspaper) will be issued and road signage will be erected to provide notification / pre-construction information to area residents on timelines and potential detours if required; and,
- Traffic control officers or flag persons will be assigned to assist with construction entry/exit, as necessary.

The Project is in proximity to local airports and operational disruptions are not anticipated. An aeronautical review compliant with TC requirements will be completed prior to construction.

The Preferred Route crosses one railway line. Hydro One and their contractor will consult with the railway company prior to work in the vicinity of the railway line, as well as coordinate with the City of St. Thomas and PowerCo Canada Inc. for construction staging where the proposed new transmission line is planned to be located parallel to the planned railway spur and shunting yards in Yarmouth Yards Industrial Park. To facilitate the construction of the aerial crossings associated with the railway line, crossing permits and temporary flagging operations may be required.

With the implementation of the mitigation measures described above, the proposed Project is not anticipated to have a long-term net effect on local roads and traffic.

7.5.4. Mud and Construction Debris

Construction activities may result in the accumulation of mud and construction debris on and adjacent to local roads in construction areas. These effects have the potential to migrate to areas outside of the construction zone.

Construction will be completed with general clean site policies enforced requiring pick-up and disposal of refuse and construction waste at an approved waste management facility regularly. Mud related to construction activities will be removed from local roads and access roads as necessary throughout construction. Mud mats will be installed (as needed) as a mechanism to reduce the transport of debris off-site. Vehicles and equipment will be regularly inspected, washed, and maintained at work areas as necessary. Formal cleanup and site restoration (e.g., restoration planting and seeding) will further minimize this potential effect as construction progresses and is completed.

With the implementation of the mitigation measures described above, mud and construction debris generated by the proposed Project is not anticipated to have a long-term net effect.

7.5.5. Electric and Magnetic Fields

Electric and magnetic fields (EMF) are invisible fields that surround electrical equipment, such as power cords, wires, and everyday household items like microwaves, televisions, and vacuums. EMFs are strongest when close to their source. As you move away from the source, the strength of the fields fades rapidly.

Hydro One has a dedicated team that regularly monitors global studies around EMFs and ensures that our infrastructure is built and maintained following best practices and industry standards. We look to Health Canada, the World Health Organization, and the International Commission on Non-Ionizing Radiation Protection (ICNIRP) for guidance on EMF and our approach. Based on global studies that have, and continue to be regularly monitored, these organizations indicate members of the public do not need to take precautions to protect from fields produced by extremely low frequencies such as transmission lines.

A Hydro One developed Information Sheet that addresses concerns related to EMF is available in **Appendix D**.

EMF values from the proposed Project are expected to remain significantly below the ICNIRP exposure guidelines.

7.5.6. Noise and Vibration

Construction and maintenance activities have the potential to affect ambient noise and vibration levels. These effects, in turn, may create temporary nuisance or disturbance effects for local residents, land users, and wildlife.

All work is expected to be completed using common construction methods. The noise and vibration associated with construction would most likely be a result of activities, such as general site grading, foundations work, construction traffic, and implosive splicing. Each of the aforementioned activities requires the use of various pieces of heavy equipment, such as bulldozers, front-end loaders, small trucks, backhoes, bobcats, dump trucks, compactors, concrete trucks, and/or cranes. The movement of delivery and worker vehicles would also add to the noise levels during the construction period.

Noise and vibration effects are anticipated to be short-term, temporary, and transient during the construction period. It is expected that vibration effects will be temporary, occur only during specific activities (e.g., implosive splicing), and be limited to the immediate vicinity of the construction work area. Indirect noise disturbance effects on wildlife during construction can include temporary declines in habitat occupancy, as well as changes to mobility and feeding habitat patterns.

Mitigation measures to reduce potential nuisance effects resulting from noise and vibration include:

- Sensitive receptors will be identified in the Project Environmental Management Plan (EMP), for consideration when planning work such as implosive splicing locations;
- Equipment and machinery used on site will be maintained in good working condition;
- If implosive splicing is required, Hydro One will ensure:
    - a Blasting Communication and Management Plan will be developed outlining proper storage, security, detonation, and notification requirements;
    - Area residents, municipal authorities, police department, and other crews within 1.6 km will be notified about the use of implosive splicing one week before the work commences;

- Signs shall be posted on all roadways leading to a blasting area in accordance with government rules and regulations; and,
- A safe distance of the blasting site will be maintained from other employees, vehicles, equipment, structures, and fire hazard sources. Blasts will be performed during pre-determined times and outside of electrical storms or adverse weather conditions.

Construction activities will also conform to local noise control by-laws (City of London Sound By-law-PW-12, 2021; Municipality of Central Elgin Noise By-Law No.212; and City of St. Thomas By-Law 160-2020). Noise By-Law exemptions will be sought if work is required outside of the hours specified in the aforementioned by-laws (e.g., overnight).

Noise sources and vibration levels from maintenance activities after construction would be variable, limited to a short duration, and would occur periodically over the life of the proposed Project. Except for periodic maintenance activities (e.g., inspection from ground-based vehicles and vegetation maintenance), no additional noise (or vibration) sources are expected during the maintenance of the proposed Project. Noise emitted by transmission lines during normal operation relates to a number of different factors, such as weather conditions and how heavily loaded the line is. For example, during regular weather, transmission lines are typically almost silent, but during more severe weather like thunderstorms, the noise levels could be raised, but would be minimal and temporary. Therefore, no additional mitigation is required during the maintenance and operation of the Project.

With the implementation of the mitigation measures described above, noise sources and vibration levels generated by the proposed Project are not anticipated to have a long-term net effect.

7.6. Mineral and Petroleum Resources

7.6.1. Aggregate Extraction

As discussed in **Section 4.5**, there are many areas within the LSA of the Preferred Route identified as an Area of Potential Aggregate Resource; however, there are no active aggregate pits located within the PSA. No active or abandoned mines were

identified within the PSA or on adjacent lands. Therefore, no potential effects have been identified for the proposed Project.

7.6.2. Petroleum Resources

The proposed Project crosses two natural gas pipelines, and as discussed in **Section 4.5**, the PSA of the Preferred Route contains two abandoned petroleum wells. The proposed Project PSA does not fall within a petroleum pool resource area. Therefore, the proposed Project is not anticipated to have a temporary and/or permanent effect on active petroleum operations; and no potential effects have been identified for the proposed Project.

7.7. Natural Environment Resources

7.7.1. Physical Environment

7.7.1.1. Physiography and Geology

The existing physiography, topography, and geology are expected to remain as is following the construction of the proposed Project. Therefore, no net effects on the physical environment have been identified for the proposed Project.

7.7.1.2. Spills

During construction and maintenance activities, there is the possibility of spills from the release of oils and fuels from construction/maintenance vehicles and equipment. There are several mitigation measures to reduce the risk of spills and to minimize the effect in the unlikely event that a spill occurs.

A Spills Response Plan and spill cleanup equipment will be maintained and readily accessible at all times during construction and maintenance activities. Refueling of vehicles and equipment will be completed in designated locations, a minimum of 30 m away from sensitive receptors (e.g., source water protection areas, watercourse, wetlands) while utilizing emergency spill trays. In the event refueling is required outside of designated areas, additional containment or other mitigation and spill prevention measures will be utilized. Fuelling operations will require the operator to visually observe the fuelling process at all times.

There are several additional mitigation measures to reduce the risk of spills and to minimize the effect in the unlikely event that a spill occurs. These measures include the following:

- Equipment will be inspected regularly during construction to ensure it is clean and free of leaks;
- Areas impacted by a spill will be secured, and unauthorized personnel will be kept out of the affected area until further assessment and/or clean-up is conducted;
- Clean-up and the disposal of contaminated materials will be managed in accordance with provincial regulations and guidelines;
- Fuels, chemicals, lubricants, or other deleterious substances will be stored on level ground in properly contained storage areas;
- Only approved aboveground petroleum storage tanks will be used during the construction phase of the Project and will be stored in designated fuelling areas and with additional temporary containment measures; and,
- UTRCA, KCCA, CCCA and/or the City of London, the Municipality of Central Elgin, and the City of St. Thomas will be consulted in order to undertake the proper action for managing the potential threats to source water protection areas.

Should a reportable spill occur, the MECP Spills Action Centre (SAC) will be notified of all reportable spills and containment and remediation measures undertaken.

7.7.1.3. Waste Generation

Construction waste would be generated by the proposed Project and would need to be disposed of at appropriate waste reception or recycling facilities. Waste produced during the construction period may include non-hazardous wastes (packaging, spent lubricating cartridges, coffee cups, etc.) and hazardous wastes (pneumatic oils from hydraulic systems, gasoline, and other lubricants/oils).

Hazardous waste (solid and liquid) should be transported by MECP-licensed waste haulers to MECP-registered disposal sites. Good management practices are recommended to prevent spills and contamination during construction (see **Section 7.7.1.2** above). Any temporary waste on-site should include the use of secured containers in designated sites away from sensitive areas and removed from the site on an ongoing basis. Concerning concrete wash water, designated concrete washout

area(s) will be identified by the Project team and their contractor(s) during detailed design/construction planning, and all water from concrete chute washing activities will be contained in leakproof containers, or an approved settling pond off-site. Waste produced will be minimized, segregated, and recycled where possible, and all testing, handling, storage, transport, and disposal of waste will be completed in accordance with all applicable legislation.

With the implementation of the mitigation measures described above, waste generated by the proposed Project is not anticipated to have a long-term net effect.

7.7.1.4. Excess Materials Management

Project activities have the potential to produce excess materials during the construction and maintenance phases. Excess materials can include topsoil and subsoil from excavation or stripping activities. All efforts will be made to reuse soils onsite where practical and feasible; however, excess materials that cannot be managed onsite will be handled in accordance with O. Reg. 406/19.

Soil testing to meet the requirements of O. Reg. 406/19 will be completed, if necessary, during geotechnical investigations prior to or during construction. If excess material is deemed suitable, Hydro One will work with landowners to explore opportunities for beneficial reuse within the property parcel. Reuse sites will be selected based on the characterization of excess soils, the need for beneficial reuse, and the volume of excess soils required. Any excess soil required to leave the site will be tracked for the Project area to the final deposit site, if required, and taken to an approved facility licensed to accept excess soil based on its characterization or other off-site location that can demonstrate beneficial reuse.

7.7.2. Atmospheric Environment

7.7.2.1. Climate Change

It is important to note that the proposed Project is not a power generation project, and its operation would not emit greenhouse gases. However, there would be temporary emissions of fossil fuels from the vehicles and equipment used during construction and maintenance activities associated with the proposed Project. Idling of construction vehicles and equipment will be kept to a minimum and GPS or other navigational tools

will be utilized to optimize routing to reduce fossil fuel emissions. The emissions directly related to the construction and maintenance of this Project would be minimal.

Hydro One recognizes that a changing climate is likely to result in an increase in unusual weather patterns and severe weather events, which could potentially damage or adversely affect infrastructure and other public facilities. The infrastructure being planned for this proposed Project will be engineered to adequately withstand the effects of climate change.

7.7.2.2. Air Quality

Construction activities have the potential to create temporary, localized effects on air quality near the proposed Project. Emissions from construction activities are primarily comprised of fugitive dust and combustion products from the movement and operation of construction equipment and vehicles. These emissions, in turn, may create a nuisance or disturbance effect for residents and land users during the construction phase.

During construction, equipment and machinery will be maintained in good working condition to minimize excessive exhaust. Idling of construction vehicles and equipment will be kept to a minimum and GPS will be available in vehicles to optimize routing to reduce fossil fuel emissions. Additional mitigation measures to reduce the nuisance effects of dust and air emissions during construction include the following:

- Vehicles will not exceed posted speed limits;
- Minimize and stabilize vehicular traffic and exposed soils in high-traffic areas with suitable cover material;
- Avoid excavation and other construction activities that have the potential to release airborne particulates during windy periods, to the extent practical;
- If excavation or other construction activities with a potential to release airborne particulates must occur during windy conditions, dust controls will be utilized;
- Effective dust suppression techniques, such as on-site watering, will be implemented as necessary. Non-chloride dust suppressants will be used;
- Cover or otherwise contain loose construction materials with the potential to release airborne particulates during transport, installation, or removal to the extent practical; and

- Disturbed areas will be restored as soon as practical to minimize the duration of soil exposure.

Emissions from maintenance activities during operation will be variable, are expected to be short-term in duration, and will occur periodically over the life of the proposed Project. Nuisance effects posed by these temporary activities are expected to be negligible and would not result in noticeable or long-term changes to local air quality.

7.7.3. Noise and Vibration

There is the potential for increased noise and vibration during the construction and maintenance activities; however, as noted in **Section 7.5.6**, they are anticipated to be short-term, temporary, transient, and intermittent. This is because the proposed Project is linear, and activities would be planned sequentially. The duration of construction and maintenance activities at any one location along the transmission line corridor would be limited and intermittent: thereby, reducing the amount of time of noise and vibration at any given area. From an operational perspective, the transmission line's potential to affect noise levels is specifically associated with temporary weather events (i.e. foul-weather).

7.7.4. Surface Water Resources

During construction and certain maintenance activities, the potential effects of the proposed Project on surface water include changes in surface water quantity or quality conditions in nearby municipal drains or watercourses due to site preparation, earthworks, discharge of construction water, and operation of vehicles and equipment.

7.7.4.1. Potential Effects on Surface Water Quantity

Project activities during the construction phase that have the potential to influence surface water quantity conditions in nearby municipal drains and watercourses include:

- Site preparation for the new transmission towers, construction of temporary access roads, and temporary laydown areas;
- Construction adjacent to municipal drains, watercourses, and in/adjacent to wetland areas; and,
- Discharge of construction water from dewatering activities.

Site preparation, including activities such as removal of vegetation, locates/daylighting of potential existing buried utilities, and construction of temporary access roads would be required in support of transmission tower installation. Vegetation removals during construction have the potential to result in a temporary increase in overland flows, potential organic and sediment loading to nearby municipal drains and watercourses, as well as potential water temperature increases in instances where vegetation removal adjacent to watercourses is required. Similarly, vehicle and construction equipment have the potential to create temporary rutting in soils which has the potential to result in localized ponding and/or channelization leading to additional erosion of soils.

To avoid or minimize the potential adverse effects related to vegetation removals and soil rutting on surface water quantity, the following mitigation measures would be implemented:

- Where practical, activities with the potential to cause rutting, ponding/channelization, or erosion will be planned during stable and dry ground conditions;
- Existing watercourse crossings and constructed access roads will be utilized to the extent practical;
- The use of Erosion Sediment Control (ESC) measures (e.g., erosion blankets/coir mats, silt socks) will be utilized, where necessary;
- Where required, temporary crossing structures will be installed for construction access at watercourses and other low-lying areas and will be removed upon completion of construction;
- The use of constructed access (e.g., mats or geotextile/crushed stone) roads will be utilized and will be monitored to ensure there is no surface ponding to minimize rutting and pooling of water;
- Vegetation removals will be minimized to the extent practical. Compatible vegetation will be retained within riparian areas adjacent to watercourses;
- Machine clearing and grubbing will be restricted near sensitive environmental areas; hand clearing will be required within watercourse banks/riparian areas;
- Replant with compatible vegetation (e.g., shrubs and native seed mix) as required;
- Where erosion is a concern, exposed soils in previously vegetated areas will be re-vegetated as practical or have other erosion or sedimentation measures applied as necessary;

- Where applicable and possible, vegetative buffers will be maintained to protect receptors;
- Temporary construction access and laydown areas will be restored following completion of construction;
- Work will be staged to minimize the extent of exposed soils (i.e., bare soils without vegetative cover or erosion and sediment controls such as coir blankets) at any given time;
- Cleared vegetation will be relocated to designated areas away from water features;
- Topsoil will be stockpiled in designated areas away from water features and will utilize containment measures such as erosion and sediment control as appropriate;
- Disturbed areas will be stabilized and restored as soon as practical;
- Equipment operation adjacent to watercourses and wetlands will be minimized, where possible;
- Works adjacent or around water feature banks will be conducted during appropriate conditions and times of the year (e.g., dry or frozen conditions), to the extent practical;
- Vegetation buffers along water feature banks will be maintained to the extent practical, and restored; and,
- KCCA, CCCA and UTRCA will be consulted (specifically for ESC measures within regulated areas) during detail design.

With the implementation of the mitigation measures described above, vegetation removals and temporary soil rutting are not anticipated to have a long-term net effect on surface water quantity in the receiving municipal drains/watercourses.

The Project is predominantly located within agricultural lands. It is anticipated that the proposed Project will utilize existing access routes wherever practical, and the number and location of access roads will be established during the detailed design phase. Access roads will be chosen to avoid crossing municipal drains or watercourses, or use existing crossings, where practical. In the event the proposed Project requires the construction of new access roads, their construction has the potential to disrupt the sheet flow of surface waters over agricultural lands.

To avoid or minimize the potential adverse effects associated with the installation of access roads on surface water quantity, the following mitigation measures would be implemented:

- Existing, natural drainage patterns and flows will be identified and maintained to the extent practical;
- Equalization culverts or similar methods may be used in the construction of access roads. If surface water accretion issues are identified during construction, remedial measures (e.g., retroactive installation of equalization culverts within temporary access roads) will be undertaken promptly;
- Existing watercourse crossings and constructed access roads will be utilized to the extent practical;
- Construction and access planning will take into account tile drains to ensure the continued function of drainage tiles to the extent practical. Discussions with landowners will be held where further information is needed to avoid adverse effects; and,
- The use of ESC measures (e.g., erosion blankets/coir mats, silt socks) will be utilized, where necessary.

With the implementation of the mitigation measures described above, the installation of temporary and permanent access roads is not anticipated to have a long-term net effect on surface water quantity in the receiving municipal drains/watercourses.

Site preparation would also be required for temporary laydown areas, and conductor “pulling pads”; the locations of which have not been established. These areas would be placed away from sensitive areas (e.g., municipal drains, watercourses, wetlands, woodlots) to the extent feasible.

The removal and discharge of construction water may be required as a result of dewatering activities in holes or trenches related to foundations. Discharge is expected to occur to nearby lands, of which quantities are expected to be relatively minor. It is not expected that a construction dewatering Environmental Activity and Sector Registry (EASR) approval or Permit to Take Water (PTTW) would be required from the MECP, but this can only be established with certainty during detailed design. The discharge of construction water from dewatering activities may result in slight increases in surface

water levels of aquatic features; however, much of the surface water discharged onto land could infiltrate through permeable agricultural lands.

To avoid or minimize the potential adverse effects of dewatering activities on surface water quantity, the following mitigation measures would be implemented:

- Construction water will be discharged in compliance with permits and/or approvals from MECP and the County of Elgin, City of London, Municipality of Central Elgin and City of St. Thomas, as required;
- A construction water management plan will be developed before construction and implemented appropriately (e.g., passing discharge water through a filter bag or drum before discharge to the environment to capture sediment and slow down the water velocity), as required;
- Where possible, opportunities to maximize retention times and reduce surface flow velocities will be executed; and,
- Where practical, discharge of construction waters is to occur at least 30 m away from sensitive receptors (e.g., watercourses, wetlands). If the discharge of construction waters must occur within 30 m of a watercourse or wetland, additional erosion and sediment controls will be utilized.

With the implementation of the preliminary designs and mitigation measures described above and the short duration of the dewatering activities, these activities are not anticipated to have a long-term net effect on surface water quantity in the receiving municipal drains/watercourses.

There is potential for Project infrastructure (access roads, towers) to be located within KCCA, CCCA, and UTRCA regulated lands with the potential to result in impacts to natural hazard lands, wetlands and/or areas of interference. The location of Project infrastructure will be determined during detail design. Net effects on surface water quantity in association with Project infrastructure is addressed in the text above.

To avoid or minimize potential adverse effects of Project infrastructure within KCCA, CCCA, and UTRCA regulated lands on surface water quantity, the following mitigation measures would be implemented:

- KCCA, CCCA and UTRCA will be consulted during detailed design and construction planning;

- Design of the transmission line will avoid or minimize the extent to which transmission towers are located within regulated areas, to the extent practical;
- If necessary, a Permit in accordance with Section 28.1 of the *Conservation Authorities Act* will be obtained through the applicable Conservation Authority (KCCA, CCCA and UTRCA) prior to construction;
- Construction work (e.g., tower construction) within Regulated Areas will be conducted during stable (frozen/dry) ground conditions, to the extent practical (acknowledging that this will likely not be feasible in all situations); and,
- Temporary construction access through regulated areas may involve additional ESC or other environmental mitigation measures.

At the end of construction, the work areas (i.e., tower foundation areas, access roads, pulling pads, and temporary laydown areas) will be seeded/re-vegetated and the temporary laydown areas will be restored to their original condition to the extent feasible. The construction phase of the proposed Project is not anticipated to have a long-term net effect on surface water quantity.

Maintenance activities will be variable, are expected to be short-term in duration, and will occur periodically over the life of the proposed Project. Though short-term in duration, maintenance activities have the potential to result in soil rutting, disrupt sheet flow of surface water over agricultural lands, increase overland flow, and mobilization/transportation of organic debris and sediment loading in nearby municipal drains and watercourses.

To avoid or minimize the potential adverse effects of maintenance activities on surface water quantity, the implementation of mitigation measures outlined above for construction-related activities (where applicable) would be implemented during maintenance activities. As a result, maintenance activities are not anticipated to have a long-term net effect on surface water quantity.

7.7.4.2. Potential Effects on Surface Water Quality

Project activities during the construction phase that have the potential to influence surface water quality conditions in nearby aquatic features (e.g., municipal drains, watercourses) include:

- Site preparation for the new transmission towers, construction of temporary and permanent access roads, and temporary laydown areas;
- Earthworks associated with the construction of access roads, temporary laydown areas, puller pads, etc.;
- Discharge of construction water from dewatering activities to nearby lands; and,
- Operation of vehicles and equipment throughout the construction phase.

Site preparation would consist of removal of vegetation, topsoil stripping and rough grading (where necessary), and stockpiling of materials. These activities would result in the temporary exposure and disturbance of soil with the potential for wind and water erosion and the transport of sediment to aquatic features. Site preparation would also result in the temporary accumulation of cleared vegetation with the potential for mobilization of organic debris and its transport to aquatic features during runoff events. Earthworks would consist of excavation, fill, and stockpiling activities, and would similarly result in disturbance and exposure of soil to wind and water erosion and the transport of sediment to aquatic features. It is expected that the transmission ROW associated with the proposed Project will be restored to similar grades at the various areas of disturbance.

Earthworks will also be required for the construction of temporary access roads, temporary laydown areas, and pulling pads within the various disturbed work areas along the transmission line ROW. Earthworks may also be required for the installation of temporary culverts, including excavation, preparation of culvert pipe bedding, culvert pipe placement, and backfilling. Stockpiling of soil and aggregate materials will also be required in support of earthworks.

Earthworks for the construction of temporary laydown areas, pulling pads, etc., would similarly consist of excavation, fill, and sub-grade preparation, followed by the installation of crushed stone overtop of geotextile fabric. Soil and aggregate materials would be stockpiled. Earthworks would also potentially be required during foundation preparations, though, depending on the technology, this may not be required. Earthworks to support the above activities would include stockpiling of soil and aggregate materials.

The measures outlined above to avoid or minimize potential impacts the proposed Project may have on surface water quantity will also serve to avoid or minimize the potential adverse effects of site preparation and other earthwork activities on surface water quality in aquatic features.

In addition, and in support of site preparation and earthwork activities, the following ESC measures will be implemented as a mechanism to avoid and minimize impacts on surface water quality:

- An ESC plan will be developed before construction and ESC measures will be identified and implemented as required. Measures such as erosion blankets/coir mats, silt socks, etc., or similar, are expected to form part of the ESC plan, where appropriate;
- Areas with high erosion potential will be identified and avoided, where possible;
- Construction activities near sensitive features or areas may be suspended during extreme wet weather events, and crews will review and consider weather forecasts in their planning of such work;
- ESC installations will only be removed after disturbed areas are restored, accumulated sediment has been disposed of, and construction activities in the vicinity are completed;
- In an effort to reduce potential erosion, mechanical or vegetation erosion control measures will be employed, such as buffer strips, erosion control blankets, and sedimentation fences, as required;
- Equipment operation on slopes adjacent to streams will be minimized to the extent practical;
- Disturbed areas near watercourses and wetlands or sensitive environmental areas will be restored as soon as practical; and,
- ESC measures will be regularly inspected, including after each significant [>10 mm] rainfall event, and repaired where necessary to maintain functionality.

With the implementation of the mitigation measures described above, and the limited duration of the construction works, site preparation and earthwork activities are not anticipated to have long-term net effects on surface water quality conditions in aquatic features.

The removal and discharge of construction water may be required as a result of dewatering activities in holes or trenches related to the foundations of transmission

towers. The measures outlined above to avoid or minimize the discharge of construction water on surface water quantity will also serve to avoid or minimize the potential adverse effects on surface water quality. As a result, dewatering activities are not anticipated to have long-term net effects on surface water quality in the receiving aquatic features.

7.7.5. Groundwater Resources

During construction, the potential effects of the proposed Project on groundwater include changes in water quality due to disturbance of pre-existing soil contamination which may exist, changes to existing groundwater quality or quantity due to excavation and construction dewatering, and changes in groundwater flow regime due to the installation of foundations for transmission line towers. It is not expected that there would be any effects on groundwater during the maintenance and operation phase, due to a lack of subsurface disturbance once the transmission line is operational.

Changes in groundwater due to Project activities during construction could also affect the amount of groundwater discharged to nearby watercourses and natural environmental features (e.g., vegetation, fish habitat, wetlands).

Effects on groundwater due to dewatering would be ephemeral with a zone of influence measured in the range of several tens of metres. This effect would be limited to the construction phase only.

7.7.5.1. Potential Effects on Groundwater Quality

Contaminated soil and groundwater containment and disposal measures would be implemented according to the pertinent regulations, as required.

As noted in **Section 4.6.1**, the quaternary geology of the PSA consists mainly of Port Stanley Till, and glaciolacustrine deposits. The overburden thickness varies and is generally thicker in the centre and southern portions of St. Thomas (between 72 m and 88 m) and becomes thinner near London (between 50 m and 68 m), with a band of thinner overburden thickness along Kettle Creek (approximately 70 m).

No adverse effects are anticipated for changes in groundwater quality due to the construction of the proposed Project. If changes in groundwater quality were to occur, it

is anticipated that groundwater quality would return to baseline conditions following the implementation of mitigation measures previously outlined above, such as containment and removal of contaminated soils.

7.7.5.2. Potential Effects on Groundwater Quantity

Groundwater base flow (quantity) is seasonally important to nearby waterbodies and Natural Environment features, including vegetation, fish, and aquatic habitat. The effects on groundwater quantity associated with the construction of transmission towers are anticipated to be local to the hole or excavation. Foundation excavations would be backfilled in a timely manner. As such, it is predicted that there would be limited to no temporal effects on groundwater levels and quantity as a result of construction activities.

Construction is occurring predominantly within active agricultural lands. It is anticipated that discharge would be to nearby agricultural lands. There would be some runoff from this discharge and some infiltration.

Transmission line structure footings generally do not adversely affect the quantity of water resources, as effects of construction are often shallow relative to deeper aquifers, temporary in duration, and often less intrusive than other construction methodologies (e.g., excavations for building foundations or driven pile footings).

Though currently not anticipated, if detailed design suggests that construction dewatering of transmission tower foundation holes/excavations is required at a rate greater than 50,000 L/day, a PTTW or EASR would be obtained from the MECP. The proposed Project would comply with applicable guidelines and legislation, including Provincial Water Quality Objectives, Ontario Drinking Water Standards, Objectives and Guidelines, and O. Reg. 153/04. Adequate dewatering and discharge plans would be developed before construction, and collected water would be contained and tested prior to disposal, if required.

It is anticipated that the municipal wells and local private water wells within the area will not be significantly affected as a result of dewatering activities associated with transmission line tower foundation holes or excavations. Where necessary, a hydrogeological assessment will be conducted to inform construction planning, permitting, and management.

The effects of any dewatering activities during construction are expected to be temporary, and groundwater levels and flows are expected to return to pre-construction conditions following the construction period. The nature of the subsurface soils, the existence of a high-water table regime, and the small zone of influence to be created by construction dewatering are expected to result in a recovery to the pre-disturbance state in a matter of several days.

7.7.6. Source Water Protection

During construction and maintenance activities, there is the possibility of contamination of surface water through spills or leaks from the release of oils and fuels from vehicles and equipment. There are several mitigation measures to reduce the risk of contamination of source water in the unlikely event that a spill or leak occurs. These measures include the following:

- Maintain a Spills Response Plan and have readily accessible cleanup materials and equipment at all times during construction and maintenance activities;
- Remediate spills/leaks as soon as possible upon identification and notify the MECP SAC, as required;
- Refuelling will be conducted in designated areas with appropriate protective measures and equipment available; and,
- Refuelling areas will be located outside of Source Water Protection (SWP) areas to the extent practical. If refueling must occur within SWP areas, additional protective measures (emergency spill trays, etc.) may be employed as necessary.

As outlined in **Section 4.6.5**, there are no WPAs and IPZs in the PSA, and the City of London has decommissioned their backup water wells within the Source Protection Region. The proposed Project ROW does include SGRA and HVA and Project-specific mitigation measures and best management practices have been detailed above, to minimize the potential threat within SWP areas.

7.7.7. Designated or Special Natural Areas

7.7.7.1. Conservation Areas

As noted under **Section 4.6.6**, no Conservation Areas are within the PSA; therefore, no effects on Conservation Areas as a result of the proposed Project are anticipated.

7.7.7.2. Environmentally Sensitive Areas

One Environmentally Sensitive Area, the Central Elgin Environmentally Sensitive Area, was identified within the PSA associated with the proposed Project. The new transmission line ROW will traverse 0.07 ha of this Environmentally Sensitive Area. Mitigation measures described in **Sections 7.7.8.3** and **7.7.6** would also be employed for Environmentally Sensitive Areas. In general, the removal of trees and ground vegetation will be minimized during construction to the extent practical. In addition, construction activities for the proposed Project will be restricted to designated work areas. Wherever practical, access to the construction areas for the proposed Project will utilize existing access roads.

7.7.8. Natural Heritage Features

As mentioned previously in **Section 4.6.7**, while the majority of the PSA consists of active agricultural lands, the Preferred Route was identified to contain woodlands, wetlands, wildlife, and SAR habitat, as well as direct and/or seasonal fish habitat.

Construction associated with the proposed Project may induce both temporary and permanent disturbance to natural heritage features. Permanent adverse effects may include the potential removal of 3.94 ha of incompatible vegetation and associated wildlife habitat to accommodate the proposed Project. With exception to the 3.94 ha of incompatible vegetation removal requirements, it is anticipated that the long-term adverse effects on natural heritage features can generally be avoided or mitigated through tower placements and other mitigation measures; the locations for towers will be determined during the detailed design phase. Temporary adverse effects include those from work operations that physically, or visually disrupt wildlife during active construction. No effects on natural heritage features are anticipated during the maintenance and operation phase.

Construction activities will be restricted to designated work areas and protective barriers, such as fencing, will be erected to protect adjacent features from construction-related effects. For example, silt fencing and/or other sediment and erosion control measures will be installed as required to prevent the migration of sediment-laden water from the site. In addition, vegetation removal limits will be clearly demarcated. Before

construction, a detailed construction plan will be developed and the KCCA, CCCA and the UTRCA will be consulted for work in regulated areas.

Other measures that will be undertaken to reduce adverse effects resulting from the construction of the proposed Project include:

- Restricting access and minimizing travel/work areas to maximize retention of compatible vegetation;
- Implementing sediment and erosion controls as deemed necessary;
- Selectively cutting and retaining compatible vegetation to promote regeneration;
- Disposing of non-salvageable limbs by chipping or removal to designated areas;
- Removal of isolated trees with the potential to support bats will occur outside of the bat active season (i.e., April 1 through September 30), to the extent practical;
- Using constructed access (mats, or geotextile and gravel), to avoid or minimize effects to soils (compaction, rutting etc.);
- Restoring compacted areas, as required; and,
- Retention of compatible vegetation to the extent practical.

Temporary construction access (e.g., access mats or geotextile and gravel) will be removed upon completion of construction. Temporary laydown areas will be installed during construction and these areas will be restored following removal.

Most wildlife species that have the potential to occur within the Project work areas are habituated to human activities and are mobile. For the most part, sensitive resident animals can relocate temporarily to nearby habitats through flight or via existing corridors (e.g., fencerows, watercourse riparian areas) to seek shelter as a mechanism to avoid noise and disturbance associated with construction activities and return after construction completion. Displacement of wildlife during construction is anticipated to be minimal as construction disturbance will be localized and temporary. Therefore, the effect of the proposed Project on wildlife will be minimal.

Removal of vegetation has the potential to disturb nesting migratory birds. The MBCA prohibits the disturbance, destruction or removal of a nest, egg or nest shelter of most migratory birds during the active nesting season. In order to avoid contravention of the MBCA, vegetation removal should not be conducted during the migratory bird breeding season from April 1 to August 31, where feasible.

7.7.8.1. Wetlands

One PSW, Pitcher Plant Fen, was identified within the PSA associated with the Preferred Route (see **Section 4.6.7.2**), based on MNR mapping. The proposed Project ROW does not overlap with the Pitcher Plant Fen PSW; therefore, no effects on the PSW as a result of the proposed Project are anticipated.

While the proposed Project ROW does not overlap with the PSW, the ROW crosses 0.01 ha of wetland (SWD). Avoidance of wetlands and establishing construction setbacks to wetland areas will be considered during project planning as a mechanism to minimize Project impacts.

Wetlands play an important role with Indigenous communities as they support elements required for continued practice of Indigenous culture and rights (e.g., hunting, trapping, plant harvesting, ceremony). Although vegetation clearing will result in temporary loss of vegetation cover along the Preferred Route, the amount of vegetation proposed for removal is considered relatively minor, and will not result in a change of vegetation composition across the landscape. Such transitions have the potential to produce edge effects along naturally occurring vegetation communities, as well as the potential for habitat fragmentation. Habitat fragmentation can result in a change of contiguous wildlife habitat and occupancy, and/or habitat quality for flora and fauna.

Tower locations and access roads will be located such that they will avoid wetlands, to the extent practical. The limits of wetlands will be demarcated to limit construction activities within wetland communities, where practical.

Generally, mitigation measures described in **Section 7.7.2, 7.7.4,** and **7.7.6** would also be employed with respect to wetland areas. The removal of trees and ground vegetation will be minimized during construction to the extent practical. In addition, construction activities for the proposed Project will be restricted to designated work areas. Wherever practical, access to the construction areas for the proposed Project will utilize existing access roads. Where construction access in wetlands cannot be avoided, temporary access roads and work pads will be built using measures such as mats, geotextile, gravel, or equivalent means, which will protect the underlying soils during construction and can be easily removed when construction is complete.

Equalization culverts, French drains, or similar measures may be employed as necessary for any constructed access required within wetlands to maintain surface flow and drainage patterns during construction. Additional materials (i.e., rip-rap, filter cloth, and silt fencing) should be readily available in case they are needed promptly for erosion and/or sediment control.

No maintenance or fueling of machinery and/or vehicles will be permitted to occur within 30 m of wetlands to avoid potential spills (e.g., fuel, oil, lubricant) from migrating and entering aquatic habitats. If such work must occur within 30 m of a wetland community due to unforeseen circumstances, additional spill protection measures (e.g., portable containment) will be utilized. Spill kits will be located in work areas to mitigate the effects of accidental spills or releases, should they occur during construction.

Any wetlands disturbed during construction will be restored following completion of construction with compatible native species (e.g., native wetland seed mix, shrub stock, or a combination of both as appropriate). Where practical, incompatible vegetation within wetland communities will be cut during firm soil conditions and will be restored with compatible vegetation. Wetland areas impacted during construction (directly or indirectly) will be restored to pre-construction drainage patterns.

An Erosion and Sediment Control Plan will be employed to identify mitigation for wetland communities and will identify locations for protective fencing.

7.7.8.2. Aquatic and Fish Habitat

The proposed Project crosses several watercourses identified as direct fish habitat (see **Section 4.6.7.3**). Although transmission towers will be located to avoid impacts on fish and aquatic habitat, there is potential for fish and aquatic habitat to be affected short-term during the construction phase of the proposed Project through the removal of trees within riparian areas which are incompatible with overhead transmission lines (i.e. their height at maturity has potential to interfere with the safe and reliable operation of the line) and potential temporary watercourse crossings required to facilitate construction activities.

The removal of trees within riparian areas has the potential to affect fish habitat as it may reduce the amount of potential shade provided to fish and aquatic habitat, thereby

influencing potential changes in water temperature. In instances where trees within riparian areas require removal, their root structures will remain intact (i.e., grubbing will not be conducted within riparian areas) as a mechanism to maintain their current soil stabilization characteristics. With respect to temporary watercourse crossings, potential effects on fish and aquatic habitat include alterations to riparian areas, increased turbidity, and release of deleterious substances. In the event in-water works are required to support the construction of potential watercourse crossings, necessary permits and approvals from MECP, Conservation Authorities, and DFO would be obtained before the commencement of work.

Other potential disturbances to fish and aquatic habitat resulting from construction activities near water would be minimized through the development of an ESC plan, which would include mitigation measures such as crossings during low flow conditions, retaining stream bank vegetation (where practical), and storing materials away from water features. In addition, no refuelling or vehicles and/or equipment would be permitted within 30 m of a watercourse to prevent potential spills (e.g., fuel, oil, lubricant) from entering aquatic features.

As previously stated, although the transmission towers will be located to avoid impacts to fish and aquatic habitat, the aforementioned potential short-term effects on fish and aquatic habitat can be avoided and or mitigation through the application of mitigation measures included in **Sections 7.7.4, 7.7.6,** and **7.7.8.** In addition, if implosive conductor splicing is utilized, work will be planned and conducted in accordance with the Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters (DFO), as deemed necessary.

7.7.8.3. Woodlands

Twelve significant woodlands were identified to intersect with the PSA of the Preferred Route through a review of MNR mapping, the London Plan (2024), and the Municipality of Central Elgin OP (2022). These features identified as significant woodlands were coincidental to the boundaries of mapped MNR woodlands. The new transmission line ROW will traverse 3.63 ha of significant woodlands.

Vegetation clearing will be required for the portion of the significant woodlands within the new transmission line ROW to ensure the safe and reliable operation of the transmission line. These removals will be limited to the extent practical and will not represent an overall loss of vegetation cover across the local landscape, but rather a transition from vegetation that is incompatible with overhead transmission line corridors (e.g., woodland or forest cover), to compatible vegetation cover (e.g., short to mid-sized shrubs, meadow species).

There are several mitigation measures that can be utilized to reduce the proposed Project's impacts on significant woodlands. These measures include the following:

- Minimize the extent of vegetation clearing required for the Project;
- Incompatible vegetation will be salvaged or felled as appropriate;
- Refuelling of vehicles and/or equipment will occur within a designated refueling area located away from significant woodlands;
- Tree removals adjacent to watercourses will be cut such their root systems remain intact to maintain soil stability, and compatible bank/riparian vegetation will be retained to the extent practical;
- Tree removals and other vegetation clearing will be completed outside of the migratory bird breeding season (i.e., April 1 through August 31), where practical; and the bat active season (i.e., April 1 through September 30);
- Where vegetation clearing is required during the migratory bird breeding season, nest searches will be conducted by a qualified person in accordance with applicable provincial and federal requirements to determine species and nest activity. In the event an active migratory bird nest is identified, a qualified professional should provide a recommended buffer to the nest, which will remain until the nest can be confirmed as inactive by the qualified professional;
- Snags (dead standing trees) and cavity trees that do not pose a risk to the construction or operation of the transmission line will be identified and retained, to the extent practical; and,
- Woodlands and treed areas disturbed and/or removed during construction will be restored following completion of construction with compatible native species (e.g., native seed mix and shrub stock).

Woodlands play an important role with Indigenous Communities as they support elements required for continued practice of Indigenous culture and rights (e.g., hunting, trapping, plant harvesting, ceremony).

Although vegetation clearing for the new transmission line will not represent a complete removal of vegetation for the new ROW, it will result in changes in vegetation composition within an existing woodland community (e.g., transition from taller tree/large shrub communities to shorter-growing shrub or meadow communities comprised of forb and graminoid species). Such transitions have the potential to produce edge effects along naturally occurring vegetation communities, as well as the potential for habitat fragmentation. Habitat fragmentation can result in a change of contiguous wildlife habitat and occupancy, and/or habitat quality for flora and fauna.

Hydro One further commits to supporting Indigenous Communities with land use planning initiatives, including traditional plant rehabilitation efforts.

7.7.8.4. Invasive Species

There is potential for the proposed Project to inadvertently facilitate the spread of invasive species that may occur within or adjacent to work areas during the construction phase. Construction staff will be educated on the identification of invasive species and the importance of avoiding their spread to new areas. Additional measures that would be undertaken to reduce the spread of invasive species include:

- Abiding by the *Invasive Species Act* regulations;
- Taking care to avoid spreading invasive species (especially invasive plant species) that occur in or adjacent to work areas and educating crews on the importance of preventing the spread of invasive species;
- Proper handling, containment, and disposal of invasive plant material, where required;
- Inspecting and cleaning equipment and vehicles as necessary to reduce the potential for spreading invasive species;
- Utilizing native plant species during construction restoration; and
- Tracking special treatment areas (e.g., large established populations of invasive species within the ROW) for consideration when planning future maintenance works.

7.7.8.5. Valleylands

One significant valleyland associated with Dingman Creek was identified within the PSA of the Preferred Route based on a review of The London Plan (2024). No additional

topographic features or valleylands meeting the criteria of Section 8.0 (Significant Valleylands) of the 2010 MNR Natural Heritage Reference Manual were observed as a result of the 2024 field investigations. The proposed transmission ROW will traverse 0.45 ha of significant valleyland. The valleyland feature will be considered during detailed design with respect to tower locations. To the extent practical, work or disturbance will be avoided within the valleyland feature or areas adjacent to the edge of the valleyland feature. Additional effects and mitigation measures for valleylands associated with river crossings in support of the proposed Project are described in **Section 7.7.4**.

7.7.8.6. Wildlife and Significant Habitat

Based on the results of the background review, ELC mapping, and results of the 2024 field investigations (see **Section 4.6.7.6**), the following confirmed and candidate SWH types were identified within the PSA for the Preferred Route:

- Candidate Amphibian Breeding Habitat (Woodland and Wetlands);
- Candidate Bald Eagle Nesting, Foraging and Perching Habitat;
- Candidate Bat Maternity Colonies;
- Candidate SWH for Special Concern and Rare Wildlife Species:
    - Eastern Wood-pewee
    - Wood Thrush; and,
    - Northern Sunfish.
- Candidate Terrestrial Crayfish;
- Candidate Turtle Wintering Areas
- Confirmed Terrestrial Crayfish;
- Confirmed SWH for Special Concern and Rare Wildlife Species:
    - Eastern Wood-pewee; and,
    - Wood Thrush.

During Project construction activities, the following would be taken into consideration as a mechanism to avoid and/or mitigate impacts to wildlife habitat:

- Boundaries of important wildlife habitats will be identified, and the ROW boundaries flagged before clearing;
- Retention of snags and cavity trees with the potential to support bats, to the extent practical;

- Tree/vegetation clearing will be avoided during the migratory bird breeding season (April 1 to August 31) where practical. In the event vegetation removal is required during this period, the following mitigation measures are recommended:
    - Engage a qualified professional to conduct pre-construction migratory bird nest sweeps of the work areas if vegetation clearing will occur during the migratory bird breeding season (April 1 to August 31). Vegetation clearing is recommended within 48 hours of the nest sweep but can be completed up to seven days following the nest sweep based on the recommendation of the qualified professional. If active nests are encountered in the work area or immediately adjacent to the work area:
        - Establish an appropriate setback to the nest, as determined by a qualified professional;
        - Flag or stake the outer boundary of the setback (preferably with indiscrete rope or tape to avoid attracting predators to the area through the use of brightly coloured markings); and,
        - Monitor active bird nests during the implementation of work to identify what level of disturbance the work is having on the nesting birds. Nests will be monitored to determine when a nest is no longer active, and the protective buffer can be removed.
- Where vegetation removal is required during the bat active period, suitable roosting trees (as determined by a qualified professional) will not be removed between April 1 and September 30 unless otherwise authorized by MECP;
- Where vegetation clearing is required, some of the cleared vegetative material may be used to create brush piles along the ROW edges to promote wildlife habitat were deemed appropriate;
- General avoidance of wildlife habitats, where practical;
- Promotion of wildlife habitat through vegetation control;
- Retention of natural vegetation, where possible;
- Use of native plant species where restoration seeding or planting is conducted; and,
- Construction personnel will be educated on the potential for wildlife which may be encountered within the general work areas.

7.7.8.7. Species at Risk

As noted in **Section 4.6.7,** species designated as either endangered or threatened under the ESA are provided species and habitat protection. Additionally, migratory birds

listed under Schedule 1 of SARA are afforded species and residence protection. Generally, impacts to SAR habitat will be avoided during detailed design, where possible. Where encroachment to potential SAR habitat, or impacts to SAR may occur, consultation and required permitting or authorizations under the ESA (*2007*) will be obtained prior to construction and site alteration activities. In addition, construction personnel will be aware of the potential presence of, and able to identify, SAR with the potential to occur within work areas.

The proposed Project ROW was assessed to have the potential to provide habitat for SAR bats (see **Section 4.6.7.7**). Removal of 3.04 ha of potential SAR bat habitat was identified in association with the new transmission line ROW.

Habitat with the potential to support SAR bats will be assessed for the presence of habitat trees (snags, cavities) during 2025 to support potential constraints during detailed design and to identify areas where habitat can be retained prior to construction, where possible. Contractors will be educated on the potential for bats/bat habitat which may be encountered within the general work areas. In the event potential SAR bat habitat (trees with a 10 cm or greater diameter at breast height with supporting roosting characteristics) requires removal in support of the proposed Project, bat visual exit and/or acoustic surveys will be completed during the month of June in accordance with agency approved protocols to determine SAR bat use (or lack thereof).

To mitigate impacts to SAR bats, tree removals are required to take place during the non-active bat period (October 1 to March 31). Trees that may be impacted by removal activities will be evaluated for their potential to provide suitable bat roosting habitat.

As noted in **Section 4.6.7.7**, Barn Swallow and Wood Thrush were observed in the PSA for the preferred route during the field program; however, the nesting habitat for Barn Swallow was not identified. As both Barn Swallow and Wood Thrush are migratory birds protected under the MBCA, and listed as threatened under Schedule 1 of SARA, individuals and their residences are afforded protection under SARA. Under SARA, a Barn Swallow's residence is defined as the nest (ECCC, 2019). Though Wood Thrush do not have a species-specific definition for 'residence' under SARA, the nest as well as the tree the nest resides in would qualify as the residence of a Wood Thrush based on the following definition: "*a dwelling place, such as a den, nest or other similar area or*

place, that is occupied or habitually occupied by one or more individuals during all or part of their life cycle, including breeding, rearing, staging, wintering, feeding, or hibernating."

Therefore, in the event a Barn Swallow or Wood Thrush nest is confirmed within the ROW, removals would be required outside of the migratory bird breeding season (April 1 to August 31). In the event a Barn Swallow or Wood Thrush nest is required for removal during the migratory bird nesting season, a permit under the SARA may be required and would be determined in consultation with ECCC. Removal of Barn Swallow or Wood Thrush nests during the active nesting season for these species would result in potential adverse impacts to the species residence.

Potential occurrence of SAR vegetation (Butternut and Black Ash) was identified to potentially occur within the proposed Project ROW. Although these two species were not identified during the 2024 field investigations, areas that were not surveyed along the proposed Project ROW (i.e., where access was not available) will be surveyed in 2025 to assess the presence of these two species. In the event these species are identified, a health assessment will be completed to determine if the trees are retainable (healthy) and general characteristics to determine if they meet eligibility for protection under the ESA.

As noted in **Section 4.6.7**, no aquatic SAR were identified in the PSA.

Construction personnel will be aware of the potential presence of, and able to identify, SAR with the potential to occur within the general work areas. Should SAR be encountered during construction activities, activities will be stopped until it has been determined that harm will not occur. The required activities will be assessed to determine whether the work/schedule can be modified, or mitigation measures employed, to avoid potential effects on SAR and their habitat. If avoidance of SAR and/or SAR habitat is not possible, MECP and ECCC/CWS will be consulted in advance of construction to discuss detailed mitigation measures and or/assess the need for permitting/approvals under the ESA, and SARA.

7.7.8.8. Areas of Natural and Scientific Interest

As noted under **Section 4.6.7.8**, no ANSIs were identified within the PSA; therefore, no effects on ANSIs as a result of the proposed Project are anticipated.

7.8. Indigenous Culture, Values and Land Use

As indicated in **Section 4.4.3**, there are no First Nation reserve lands located in the PSA.

Hydro One is committed to developing and maintaining relationships of mutual respect with Indigenous communities and recognizes that Indigenous communities and their lands are unique in Canada, with distinct legal, historical, and cultural significance. Hydro One meets Indigenous communities where they are in their governance, capacity and priorities. Additionally, Hydro One is committed to continuing engagement with the Indigenous communities to provide Project updates throughout the lifecycle of the asset. Hydro One engaged with the Indigenous communities to identify areas of historical significance, areas that support hunting, fishing, trapping and/or harvesting, including areas of known traditional medicinal plants and sites of spiritual and cultural significance to avoid and/or mitigate. Hydro One also engaged with communities regarding areas of interest of Addition to Reserve Lands to avoid. Hydro One engaged for input and feedback regarding rare native habitats and ecosystems, and ones with sensitive generation potential.

Similarly, Indigenous communities will be provided opportunities to review the draft ESR and the findings of archaeological field surveys and assessment reports.

Hydro One understands that Bald Eagles are considered sacred. As noted in **Section 4.6.7**, though no nesting or breeding evidence was observed during the field program, the forest communities (FOD, FOM, SWD) within the PSA associated with Kettle Creek are considered Candidate SWH for Bald Eagle Nesting, Foraging and Perching Habitat. The proposed Project's PSA crosses 7.26 ha of Candidate SWH for Bald Eagle Nesting, Foraging and Perching Habitat. Given that Bald Eagles occasionally build nests on transmission line structures, in the event there are eggs or young present in the nest on an existing transmission tower, it is Hydro One protocol to

leave the nest until the young have fledged unless there is an immediate safety concern.

Some communities expressed interest in being involved with future archaeological and Natural Environment fieldwork. Hydro One and its consultants have been working closely with interested communities and have included representatives from interested communities in archaeological and environmental fieldwork. Indigenous communities will be provided opportunities to review the findings of archaeological field surveys and archaeological assessment reports.

Hydro One will continue to seek to identify community concerns and build appropriate actions into proposed Project plans to address expressed concerns.

7.9. Recreational Resources

There is potential that some recreational resources (e.g., walking and cycling trails) may be temporarily affected during the construction and maintenance phase of the proposed Project due to the presence of construction laydown areas within the corridor, as well as construction equipment and the presence of construction crew members and traffic. Impacts during the operations phase are not anticipated.

While there may be some temporary impacts on the enjoyment of recreational resources adjacent to the proposed Project, such impacts are expected to be short-term. Advanced notice will be provided to nearby residences, farms, landowners, and commercial operations, outlining the location of entry/exit points for the construction site as well as the schedule for construction work or construction-related traffic in those areas. Clear and temporary road signage will also be created and installed to reflect this information. Disturbance to existing recreational resources will be avoided to the extent practical. This may include timing work to avoid seasons of heavier use. Safety precautions will be utilized throughout the Project area to protect the public such as anti-climbing devices and appropriate signage where necessary.

7.10. Visual and Aesthetic Resources

The proposed Project is located within a relatively rolling or flat topography with predominantly agricultural lands, providing views that are open and expansive. Existing

vertical elements include traffic and light standards, solar panels, and existing distribution and transmission lines. Most sensitive receptors are residences with wide views into the horizon. Many of the properties have existing tree-lined windbreaks, natural features, and hedgerows that offer localized privacy from adjacent visual elements.

The location of transmission structures is one of the largest factors influencing the visual effects on specific receptors. The design of the transmission line (e.g., placement of structure locations) will be visible to nearby sensitive receptors.

During detailed design (selection of transmission structure placement), consideration will be given to proximity to nearby sensitive receptors, existing visual screening (e.g., vegetation), and existing infrastructure and other landscape characteristics, in order to mitigate the net visual change resulting from the new transmission structures.

7.11. Technical Considerations

7.11.1. Infrastructure Crossings

Construction of the proposed Project will require crossings of existing linear infrastructure; including provincial Highway 401, a railway line, municipal drains, major waterbodies (e.g., Dingman Creek, Kettle Creek, Salt Creek), existing transmission lines, and pipelines, as well as running parallel to existing pipelines, roadways and along and over several municipal roads. Permanent or long-term impacts to existing linear infrastructure are not anticipated. Rider poles, boom-tipped riders or similar protection will be utilized during conductor stringing. Disruption to traffic on roads and the highway during construction is anticipated to be temporary and short in duration. Use of temporary or rolling closures of Highway 401 may be required to facilitate stringing activities. Where the proposed new transmission line crosses Highway 401, setback distances provided by MTO will be respected and adhered to. Work within MTOs highway ROW or permit control area will require an Encroachment Permit and Building and Land Use Permit, as well as a consultation with MTO during detailed design. Hydro One's Contractor will obtain all necessary Encroachment Permits and Building and Land Use Permits from MTO before the start of construction in the vicinity of Highway 401. To facilitate the construction of the aerial crossings associated with the

railway line, crossing permits and temporary flagging operations may be required. Hydro One and their contractor will consult with the railway company prior to work in the vicinity of the railway line, as well as coordinate with the City of St. Thomas and PowerCo Canada Inc. for construction staging where the proposed new transmission line is planned to be located parallel to the planned railway spur and shunting yards in Yarmouth Yards Industrial Park. Lastly, municipal drainage superintendents will be consulted during detailed design and construction planning to discuss the potential effects on municipal drains. Placement of transmission structures will avoid municipal drains to the extent practical, including consideration of setbacks as communicated by the municipal drainage superintendents and their staff. The creation of new crossings will be avoided to the extent practical by using existing access and crossings and by accessing work areas from either side of drains, where feasible. Disturbed areas will be restored to a pre-disturbed state or better following the completion of construction.

7.12. Summary of Potential Environmental Effects, Mitigation Measures, and Net Effects

Table 7-1 provides a summary of potential effects, the associated mitigation, and the net effects identified for the proposed Project, during the construction and operation and maintenance phase.

Table 7-1: Summary of Potential Effects, Mitigation Measures and Net Effects

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
Agricultural Resources: Crop Loss	**Construction & Maintenance:** Temporary removal of crops and soils supporting crop production, as well as permanent removal of land available for agricultural production as a result of Project infrastructure (e.g., tower footings).	The following mitigation is recommended to address these potential effects: • Contact will be maintained with landowners regarding work schedules and other items of interest (e.g., access roads, minimizing disturbances to existing and planned farm operations). • Where practical, some construction and maintenance activities will be scheduled to avoid the growing season or sensitive times of year (e.g., extreme wet periods) although it is recognized that this may not be feasible in all circumstances. • Access roads, staging areas, tower construction and stringing activities will be constructed to a minimum length and width required to accommodate the safe movement of construction equipment. • Work will be limited to the planned access roads, staging and work areas. If a later expansion to these areas is required, it will be discussed with the landowner in advance. • Existing farm lanes and other existing access roads will be used whenever practical. In the event farm lanes are absent, access will be focused along field edges, to the extent practical. • Lands will be restored following construction and maintenance activities (e.g., removal of temporary access roads, removal of erosion and sediment controls (ESC), disking of lands, aeration, and cultivation of soils to alleviate soil compaction where required), where feasible.	Net effects include permanent removal of land available for agricultural production as a result of Project infrastructure (e.g., tower footings); not considered significant. Crop loss and lands out of production temporarily as a result of the proposed Project (e.g., during construction) will be compensated.
Agricultural Resources: Soil Compaction	**Construction & Maintenance:** Compaction of soil caused by movement of construction equipment or maintenance vehicles over agricultural lands.	In addition to the mitigation outlined above, the following additional mitigation is recommended to address these potential effects: • Equipment with low bearing capacity will be used, where practical. • Access will be located along existing farm lanes or field edges, where practical. • Temporary access roads and work pads will be built in	No significant net effects are predicted.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
		agricultural fields using measures such as mats or, geotextile and gravel, or equivalent means, which can be easily removed when construction is complete to allow for re-cultivation of the area.	
Agricultural Resources: Soil Mixing	**Construction:** Potential for excavation activities to cause mixing of soil horizons, thus lowering the quality of soil.	In addition to the mitigation outlined above, the following additional mitigation is recommended to address these potential effects: • Where geotechnical conditions and engineering requirements allow, foundation types (such as helical piles) that minimize surface disturbance and do not require soil excavation or soil stripping of the foundation site will be used. • Stripping or excavation of soils will be minimized to the extent practical. • Where soil stripping is required, topsoil and subsoils will be removed and stockpiled separately. • Depths of soil being removed will be carefully monitored and minimized during stripping activities. • Volume of topsoil and subsoil salvaged for replacement or re-use on site will be maximized, where practical. • Soils will be stripped under generally dry conditions (not saturated), such that rutting, soil mixing, or other undesired ground disturbance is minimized to the extent practical. • Vegetation, stone piles, fencing and deleterious materials will be removed before stripping. • For backfilling operations, topsoil and subsoil will be replaced in reverse order of excavation to minimize the potential for admixing and maximize future growing potential. • Soil cover on exposed areas within agricultural areas will be discussed with the landowner for most appropriate solution. • Equipment and vehicle inspections and cleaning will be conducted as required during construction, to minimize the potential for inadvertent transport of trace soils between contaminated and non-contaminated agricultural fields.	No significant net effects are predicted.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
		• Cleaning will be conducted using a risk-based approach, whereby vehicles and equipment that have come in contact with soils will be inspected and cleaned of dirt/debris/seeds. • Cleaning will occur in a manner that ensures that runoff is contained and waste materials can be collected.	
Agricultural Resources: Disturbance to Farm Operations	**Construction:** Potential to disturb farm operations including planting and harvesting schedules, spraying, tiling activities, etc. **Operation:** Impediments to the maneuverability of agricultural equipment.	In addition to the mitigation outlined above, the following additional mitigation is recommended to address these potential effects: • Where practical, and through consultation with landowners, the location of towers will be placed to minimize impacts on the maneuverability of agricultural equipment (e.g., along lot lines or field boundaries). • Constructed access roads will be smooth and tapered to allow for vehicular, pedestrian, and equipment crossings, where applicable	Agriculture is a compatible use within overhead transmission line ROWs. Some agricultural fields will have new transmission structures. No significant net effects are predicted.
Agricultural Resources: Vegetation Removal	**Operation:** Partial removal or fragmentation of existing hedgerows and windbreaks between agricultural land parcels.	The following mitigation is recommended to address these potential effects: • Vegetation that will not affect construction or line clearances will be retained, where practical. • Hedgerows and windbreak areas impacted by construction will be replaced with compatible vegetation post-construction, in consultation with the landowner.	Net effects include permanent removal of incompatible vegetation (hedgerows/windbreaks) to ensure the safe operation of the transmission line; not considered significant. Incompatible vegetation removal will not represent a loss of vegetation on the landscape, but rather a transition from vegetation that is incompatible with transmission line corridors, to vegetation that is compatible.
Agricultural Resources: Contamination of Organic or Identity Preserved (IP) Crops	**Construction & Maintenance:** Potential for activities, including use of herbicides to control noxious weeds or vegetation, to contaminate organic or IP crops or agricultural fields transitioning to organic/IP crop types. Potential for inadvertent movement of trace soils between agricultural fields which contain organic or IP crops.	In addition to the mitigation outlined above, the following additional mitigation is recommended to address these potential effects: • Contact will be made with landowners to determine if organic or IP operations are present which may require additional considerations during construction planning. • Field crews will be informed if working in organic or IP croplands. • Equipment and vehicle inspections and cleaning will be established during construction, to minimize the potential for inadvertent transport of trace soils between contaminated and non-contaminated agricultural fields. • Cleaning will be conducted using a risk-based approach,	No significant net effects are predicted.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
		whereby vehicles and equipment that have come in contact with soils will be inspected and cleaned of dirt/debris/seeds as deemed necessary. • Cleaning will occur in a manner that ensures that runoff is contained and waste materials can be collected. • Work areas will be assessed during pre-construction activities to identify the presence of weed species, degree of infestation, and the distribution of weeds within the Project footprint and the immediately adjacent areas. • Work areas will be monitored for weeds throughout the Project and until the Project has been completed. • A Project-specific Weed Control Plan will be developed in consultation with landowners before construction, as necessary. • The Weed Control Plan will be managed by an Ontario Professional Agrologist to meet the requirements of the municipal and land use authority. • The transmission ROW will be monitored for establishment of weeds until construction is completed. • Corrective measures for managing weeds may include herbicide application, mowing, and hand pulling. • Weed control during construction will be conducted by the construction contractor.	
Agricultural Resources: Damage to Field Tiles	**Construction & Maintenance:** Potential for equipment to damage or crush existing agricultural tile drains.	In addition to the mitigation outlined above, the following additional mitigation is recommended to address these potential effects: • Landowners will be consulted to determine existing field tile locations in support of avoidance/protection measures. • Tile drains will be avoided and/or protected (e.g., through tower locations, temporary construction access), to the extent practical. • Where temporary access roads and work pads are built in agricultural fields, measures such as mats, geotextile, gravel, or equivalent means will be used to protect tile drains. • Where practical, some construction and maintenance activities will be scheduled to avoid the growing season	No significant net effects are predicted. If tile damage to tile drains occurs as a result of construction activities and/or maintenance activities, the tile will be repaired by a licensed tile drainage contractor in consultation with affected landowner.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
		or sensitive times of year (e.g., extreme wet periods) although it is recognized that this may not be feasible in all circumstances.	
Agricultural Resources: Livestock Stress, Loss or Injury	**Construction & Maintenance:** Potential for activities to be required within livestock managed areas (grazing fields, pastures, etc.) resulting in potential for livestock stress, injury or loss. In addition, potential use of implosive splicing may scare or startle agricultural livestock.	In addition to the mitigation outlined above, the following additional mitigation is recommended to address these potential effects: • Landowners will be informed in advance of upcoming work activities that may disturb or pose a risk to livestock, and consulted on potential mitigation measures, such as moving or containing livestock, as necessary. • Vehicle and equipment travel on agricultural lands will follow the ROW, or existing roads, trails and paths to the extent practical. • Field crews will be informed about livestock in the vicinity of work areas to confirm they are aware of the need to secure gates, are cognizant of noise sensitivity controls, and ensure clean–up of construction materials and debris at the end of each day to minimize potential livestock ingestion. • If excavations cannot be closed immediately, exclusion fencing will be erected to protect livestock from entering. • Vehicles and equipment will be inspected and cleaned as necessary to prevent the potential introduction or spreading of diseases. • Existing gates and fences will be used as required. All fences and gates will be left in "as-found" condition following construction. • Livestock access control gates and fencing will be installed during construction at roads and between fenced fields as necessary to prevent escape of livestock or movement of livestock into work areas. • Equipment and machinery used on site will be maintained in good working condition with functioning mufflers. • If implosive splicing is required: ◦ A Blasting Communication and Management Plan will be developed outlining proper storage, security, detonation, and notification requirements.	No significant net effects are predicted. No significant net effects are predicted. Compensation will be made for loss or injury to livestock directly resulting from activities associated with the proposed Project.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
		• Area residents, municipal authorities, the police department, and other crews within 1.6 km will be notified of the planned use of implosive splicing, at least one week prior to the work commencing. • Signs shall be posted on all roadways leading to a blasting area in accordance with government rules and regulations. • Safe distances of the blasting site will be maintained from other employees, vehicles, equipment, structures, and fire hazard sources. Blasts will be performed during pre-determined times.	
Agricultural Resources: Potential GPS Signal Interference	**Operation:** Potential for overhead transmission lines to interfere with automated or GPS-guided farm equipment, when said equipment is directly below the conductors.	Hydro One acknowledges concerns have been raised by farmers working beneath the transmission lines regarding interference with automated or GPS-guided agricultural equipment (e.g., auto-steer).While we do not anticipate effects to communication systems in farm equipment, Hydro One will work with concerned farmers to collect information on the systems of concern, and contact manufacturers of these systems to gain further insight into potential concerns and possible solutions, if applicable.	No significant net effects are predicted. While obstructions such as buildings or trees are known to block reception of GPS signals, published studies assessing these concerns indicate that overhead power line conductors are too thin to cause appreciable screening. Likewise, corona or sparking on a power line generates insufficient noise at frequencies used for GPS to interfere with its operation.
Archaeological Resources	**Construction:** Disturbance to lands with potential to support archaeological resources.	Prior to construction, a Stage 2 Archaeological Assessment will be completed within the identified areas of archaeological potential along the new transmission line corridor and in accordance with Ministry of Citizenship and Multiculturalism (MCM) requirements. In the event the Stage 2 Archaeological Assessment identifies the need for further assessment, a Stage 3 Archaeological Assessment will occur as required and as outlined in the “Standards and Guidelines for Consultant Archaeologists (MCM, 2011). Should archaeological artifacts be encountered during construction, work in the vicinity will cease and a licensed consultant archaeologist will be engaged immediately to ensure compliance with the *Ontario Heritage Act*. Likewise, should any human remains be encountered during construction, the *Funeral, Burial and Cremation Services Act* requires that work in the vicinity will cease and the police or coroner notified immediately. If the coroner does not suspect foul play in the disposition of the remains, in accordance with	No significant net effects are predicted. Additional archaeological investigations will be completed prior to construction, as required.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
		Ontario Regulation 30/11 the coroner shall notify the Registrar, Ontario Ministry of Public and Business Service Delivery. In situations where human remains are associated with archaeological resources, the MCM should also be notified to ensure compliance with the *Ontario Heritage Act*.	
Cultural Heritage Resources	**Construction:** Based on the baseline findings of the Cultural Heritage Existing Conditions Report, there is the potential for project-related works to adversely affect known and potential Built Heritage Resources (BHRs) and Cultural Heritage Landscapes (CHLs) within the ROW.	Additional studies are required to confirm potential BHRs and CHLs along the transmission line ROW for the proposed Project. To the extent practical, work will be planned in a manner that avoids adverse effects to identified BHRs and CHLs. In the event that BHRs and CHLs cannot be feasibly avoided and will be directly impacted through destruction, alternation, or disruption, a property specific Cultural Heritage Evaluation Report (CHER) and/or Heritage Impact Assessment (HIA) will be completed. The CHER and/or HIA will confirm the cultural heritage value or interest, the heritage attribute(s) of the impacted built heritage resource and will identify adverse effects. All evaluation and assessments will be in compliance with the Hydro One Cultural Heritage Identification and Evaluation Process and MCM Standards and Guidelines. Appropriate mitigation or conservation measures that reduce or avoid potential adverse effects will be recommended based on the understanding of the cultural heritage value or interest, and heritage attributes of potential affected BHRs or CHLs.	No significant net effects are predicted. CHERs and/or HIAs will be completed prior to construction where impacts to known or potential BHRs or CHLs may occur.
Land Use and Communities: Business Operations	**Construction:** Potential for activities to disrupt commercial or industrial operations.	In addition to the applicable mitigation outlined in this table, the following additional mitigation is recommended to address these potential effects: • Contact will be maintained with the City of St. Thomas and commercial property owners who may be potentially impacted by construction regarding work schedule and other items of interest. • Access routes and laydown areas will be planned and coordinated with the surrounding construction activities occurring in the Industrial Park to meet Notice of Project requirements of separate access and work areas and appropriate road signage. • Construction activities and equipment will be managed to avoid damage and disturbance to adjacent properties, structures and operations.	No significant net effects are predicted.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
		• Where seasonal businesses are identified, efforts will be made to avoid disruption during peak/busy seasons, to the extent practical.	
Land Use and Communities: Existing and Future Land Use Designations and Potential Future Development	**Operation:** While transmission lines can be largely compatible with development, its location will introduce certain restrictions to future uses within the lands occupied by the transmission line ROW.	The following mitigation is recommended to address these potential effects: • Throughout the province, development (both residential and commercial/industrial) occurs around existing transmission line corridors and stations. Uses deemed to be compatible with overhead transmission lines are often approved within transmission line ROWs. Hydro One has existing departments and processes to review proposals for developments that are planned adjacent to or within transmission line ROWs and facilitate compatible uses of these corridors. • Typically, there are no restrictions placed on development or new construction outside of the transmission line ROW itself. • Where and when future development projects or initiatives are proposed to occur along or within the ROW for the new transmission line, Hydro One will apply its existing processes to review and facilitate these future developments, including potential compatible uses within the transmission line ROW. • Hydro One will work with Municipalities to consider potential means of accommodating potential future development during design of the transmission line, within the property fabric traversed by the line.	No significant net effects are predicted.
Land Use and Communities: Local Roads, Traffic and Transportation	**Construction:** Potential for increased traffic, including heavy equipment, on local and regional roads. In addition, stringing of conductors across highways and roadways may require temporary road closures and detours. The Project is in proximity to local airports and operational disruptions are not anticipated.	The following mitigation is recommended to address these potential effects: • Obtain required permits from MTO and obtain approval for necessary rolling lane closures prior to construction activities within and adjacent to the Highway 401 ROW. • A pre- and post-construction road survey will be completed to document impacts to local roads caused by heavy equipment and increased construction traffic during construction activities and will be shared with municipal staff in advance of construction work commencing. • Adherence to seasonal load restrictions.	No significant net effects are predicted.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
		• Damage to local and regional roads as a direct result of construction activities associated with the proposed Project will be repaired. • Where required, a Traffic Control Plan will be developed and shared with local municipalities, as necessary. • Construction haul routes and schedules will be shared with local municipalities in advance of construction, as necessary. • Construction traffic will access the construction area from the existing road network at specified construction access/egress locations. • Common parking areas will be established for construction crews. • Conductor stringing will utilize rider poles, boom-tipped riders or other protective measures, to the extent practical. • If temporary road or highway closures (e.g., rolling closures) are required during stringing, access road construction, or other construction activities, the construction contractor will coordinate closely with the appropriate road authority to ensure that proper notice is provided and that required signage and traffic controls are utilized. The duration of temporary closures will be minimized to the extent practical. • Where construction work is planned to directly affect local traffic (e.g., temporary road or lane closures), local advertisements (e.g. radio, newspaper) will be issued and road signage will be erected to provide notification/pre-construction information to area residents on timelines, and potential detours, if required. • Traffic control officers or flag persons will be assigned to assist with construction entry/exit, as necessary. • An aeronautical review compliant with TC requirements will be completed prior to construction.	
Land Use and Communities: Mud and Construction Debris	**Construction & Maintenance:** Potential for tracking of mud and migration of construction debris to areas outside of the construction zone.	The following mitigation is recommended to address these potential effects: • Roads will be cleaned/scraped to remove mud on an as needed basis. • Mud mats will be installed (on an as needed basis) as a	No significant net effects are predicted.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
		mechanism to reduce the transport of mud. • Vehicles and equipment will be regularly inspected and cleaned as necessary, construction sites will be kept generally tidy at the extent practical and waste bins will be available wherever solid wastes are generated. • Waste materials will be collected and transported to a licensed or approved waste management facility regularly. • General clean site policies will be implemented requiring pick-up and disposal of refuse and construction waste on a regular basis.	
Land Use and Communities: Electric and Magnetic Fields (EMF)	**Operation:** Potential exposure to increased EMF once the transmission line is energized.	The following mitigation is recommended to address these potential effects: • EMF levels associated with the proposed Project are anticipated to remain significantly lower than the general public exposure limits. • The proposed Project will be designed and operated in accordance with appropriate regulatory requirements.	No significant net effects are predicted. Health Canada does not consider that any precautionary measures are needed regarding daily exposures to EMFs at extremely low frequencies. There is no conclusive evidence of any harm caused by exposures at levels found in Canadian homes and schools, including those located just outside the boundaries of power line corridors.
Land Use and Communities: Noise & Vibration	**Construction:** Potential disturbance as a result of noise, including potential use of implosive splicing and their associated increased vibrations levels.	In addition to the applicable mitigation outlined in this table, the following additional mitigation is recommended to address these potential effects: • Sensitive receptors will be identified in the Project Environmental Management Plan (EMP) for consideration when planning work such as implosive splicing locations. • Construction will be completed in accordance with local noise control by-laws (City of London Sound By-law-PW-12, 2021; Municipality of Central Elgin Noise By-Law No.212; and City of St. Thomas By-Law 160-2020), or applicable exemptions.	No significant net effects are predicted.
Natural Environment Resources - **Physical Environment:** Spills	**Construction & Maintenance:** Potential inadvertent release of deleterious substances including oil, gasoline or other liquids.	The following mitigation is recommended to address these potential effects: • Refueling of vehicles and equipment will be completed in a designated location a minimum of 30 m away from sensitive receptors, such as designated source water protection areas, watercourses, surface drainage	No significant net effects are predicted.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
		features, wetlands, etc. • Fuelling of vehicles/equipment will occur utilizing an emergency spill tray to capture accidental release of fluids. • Fuelling operations will require the operator to visually observe the fuelling process 100% of the time. • If refueling must occur outside of designated areas, additional containment or other mitigation and spill prevention measures will be utilized. • Equipment will be inspected regularly during construction to ensure it is clean and free of leaks. • A Spills Response Plan and spill cleanup equipment will be maintained and be readily accessible at all times during construction and maintenance activities. • Spills will be addressed and remediated as soon as possible after a spill. • Areas impacted by a spill will be secured, and unauthorized personnel will be kept out of the affected area until further assessment and/or clean-up is conducted. • Clean-up and the disposal of contaminated materials will be managed in accordance with provincial regulations and guidelines. • Fuels, chemicals, lubricants or other deleterious substances will be stored on level ground in properly contained storage areas. • Only approved aboveground petroleum storage tanks will be used during the construction phase of the Project, and will be stored in designated fuelling areas and with additional temporary containment measures. • The MECP Spills Action Centre will be notified of all reportable spills. • UTRCA, CCCA, KCCA, and/or the City of London, the Municipality of Central Elgin, and the City of St. Thomas will be consulted as required in order to undertake the proper action for managing the potential threats to source water protection areas.	
Natural Environment Resources - **Physical Environment:** Waste	**Construction & Maintenance:** Solid and/or liquid waste will be generated.	The following mitigation is recommended to address these potential effects:	No significant net effects are predicted.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
Generation		• Waste and recyclables will be sorted, segregated and removed to a licensed or approved waste management facility and/or recycling facility. • Excess construction materials (i.e., waste, granular fill, clay) will be removed from construction sites and areas on an ongoing basis. • Concrete wash water will not be discharged onto the ground at the Project site. All water from concrete chute washing activities will be contained in leak proof containers or in an approved settling pond. Designated concrete washout area(s) will be identified by the Project team and their contractor(s) during detailed design/construction planning. • Liquid and solid sewage wastes held in portable tanks will be removed by a licensed contractor and taken to licensed or approved disposal areas. • Waste materials will be contained and not allowed into sensitive receptors such as waterbodies, riparian areas, wetlands or agricultural fields. • Testing, handling, storage, transport and disposal of waste will be completed in accordance with applicable legislation.	
Natural Environment Resources - **Physical Environment:** Excess Materials Management	**Construction & Maintenance:** Excess materials including topsoil and subsoil, may be produced during site excavations.	The following mitigation is recommended to address these potential effects: • Soils stored on-site (e.g., in stockpiles) will be managed in accordance with Ontario Regulation 406/19. • Excess soils proposed to be removed from the site will be characterized during geotechnical investigations, or before, or during construction and managed in accordance with Ontario Regulation 406/19. Efforts will be made to increase the reuse of soils on-site. • Excess soils will be managed off-site based on the quality of the material (i.e., sent for reuse or disposal). Reuse sites will be selected based on the characterization of excess soils, the need for a beneficial reuse and the volume of excess soils required. • Acknowledgement from reuse sites will be obtained before the movement of excess soils. • Soil movements will be tracked from the Project area to the final deposit site, if required.	No significant net effects are predicted.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
		• A notice will be submitted to the MECP for the Project, if required.	
Natural Environment Resources – **Atmospheric Environment:** Climate Change	**Construction & Maintenance:** Emissions will be generated from vehicles and equipment.	In addition to the applicable mitigation outlined in this table, the following additional mitigation is recommended to address these potential effects: • Equipment will be properly serviced and maintained. • Idling of construction vehicles and equipment will be kept to a minimum and GPS or other navigation tools will be used in vehicles to optimize routing. • The transmission line will be designed to adequately withstand the effects of climate change.	No significant adverse net effects are predicted.
Natural Environment Resources - **Atmospheric Environment:** Air Quality	**Construction & Maintenance:** Potential for fugitive dust and impacts to air quality from vehicle emissions.	In addition to the applicable mitigation outlined in this table, the following additional mitigation is recommended to address these potential effects: • Vehicles will not exceed posted speed limits. • Minimize and stabilize vehicular traffic and exposed soils in high traffic areas with suitable cover material. • Avoid excavation and other construction activities that have the potential to release airborne particulates during excessively windy periods, to the extent practical. • If excavation or other construction activities with a potential to release airborne particulates must occur during windy conditions, dust controls will be utilized. • Cover or otherwise contain loose construction materials with the potential to release airborne particulates during transport, installation or removal to the extent practical. • Disturbed areas will be restored as soon as practical to minimize duration of soil exposure. • Effective dust suppression techniques, such as on-site watering, will be implemented as necessary. Non-chloride dust suppressants will be used.	No significant net effects are predicted.
Natural Environment Resources – **Atmospheric Environment:** Noise and Vibration	**Construction & Maintenance:** Potential disturbance as a result of noise, including potential use of implosive splicing and their associated increased vibrations levels. Indirect noise disturbance effects on wildlife during construction can include temporary declines in habitat occupancy, as well as	Refer to the mitigation recommended for Noise and Vibration under Land Use and Communities above.	No significant net effects are predicted.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
	changes to mobility and feeding habitat patterns.		
Natural Environment Resources - **Surface Water Resources:** Soil Rutting & Vegetation Removals	**Construction & Maintenance:** Potential for vehicles and equipment to create rutting in soils, creating ponding or channelization leading to additional erosion of soils. Vegetation removals have the potential for increases in both overland flow and water temperature, as well as mobilization and transport of organic debris and sediment to nearby watercourses and municipal drains.	In addition to the applicable mitigation outlined in this table, the following additional mitigation is recommended to address these potential effects: • Where practical, activities with potential to cause rutting, ponding/channelization or erosion will be planned during stable and dry ground conditions. • Existing watercourse crossings and constructed access roads will be utilized to the extent practical. • Where required, temporary crossing structures will be installed for construction access at watercourses and other low-lying areas and will be removed upon completion of construction. • Existing, natural drainage patterns and flows will be identified and maintained to the extent possible. • Equalization culverts or similar methods may be used in construction of access roads. If surface water accretion issues are identified during construction, remedial measures (e.g., retroactive installation of equalization culverts within temporary access roads) will be undertaken promptly. • Compatible vegetation will be retained and buffered to protect sensitive receptors, where practical. • Machine clearing and grubbing will be restricted near sensitive environmental areas, hand clearing may be required within watercourse banks/riparian areas, where practical. • Vegetation removals will be minimized to the extent possible, and replanted/seeded with compatible vegetation as required. • Where erosion is of concern, exposed soils in previously vegetated areas will be re-vegetated as practical, or have other ESC measures (e.g., erosion blankets/coir mats, silt socks) applied as necessary. • Temporary construction access and laydown areas will be restored following completion of construction. • Cleared vegetation will be relocated to designated areas away from aquatic features.	No significant net effects are predicted.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
		• Equipment operation adjacent to watercourse and wetlands will be minimized, where practical. • Works adjacent or around watercourse banks will be conducted during appropriate conditions and times of the year (e.g., dry or frozen conditions), to the extent practical. • KCCA, CCCA, and UTRCA will be consulted (specifically for ESC measures) during detailed design.	
Natural Environment Resources - **Surface Water Resources:** Dewatering	**Construction:** Potential increase in surface water flows resulting from dewatering activities.	The following mitigation is recommended to address these potential effects: • Construction water will be discharged in compliance with permits and/or approvals from the MECP, the County of Elgin, City of London, Municipality of Central Elgin and City of St. Thomas, as required. • A construction water management plan will be developed before construction and implemented appropriately (e.g., passing discharge water through a filter bag or drum before discharge to the environment to capture sediment and slow down the water velocity), as required. • Where practical, opportunities to maximize retention times and reduce surface flow velocities will be executed. • Where practical, discharge of construction waters is to occur at least 30 metres away from sensitive features (e.g., watercourses, wetlands). If discharge of construction waters must occur within 30 m of a watercourse or wetland, erosion and sediment controls will be utilized.	No significant net effects are predicted.
Natural Environment Resources - **Surface Water Resources:** Erosion and Sedimentation	**Construction:** Potential for erosion, sedimentation and soil loss during site preparation and construction.	In addition to the applicable mitigation outlined in this table, the following additional mitigation is recommended to address these potential effects: • An ESC plan will be developed before construction and ESC measures will be identified and implemented as required. Measures such as erosion blankets/coir mats, silt socks, etc., or similar, are expected to form part of the ESC plan, where appropriate. • Areas with high erosion potential will be identified and avoided, to the extent practical.	No significant net effects are predicted.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
		• Construction activities near sensitive features or areas may be suspended during extreme wet weather events, and crews will review and consider weather forecasts in their planning of such work. • ESC installations will only be removed after disturbed areas are restored, accumulated sediment has been disposed, and construction activities in the vicinity are completed. • In an effort to reduce potential erosion, mechanical or vegetation erosion control measures will be employed, such as buffer strips, erosion control blankets and sedimentation fences, as required. • Equipment operation on slopes adjacent to watercourses will be minimized to the extent practical. • Disturbed areas near watercourses and wetlands or sensitive environmental areas will be restored as soon as practical. • ESC measures will be regularly inspected (including after each significant rainfall event >10 mm) and repaired where necessary to maintain functionality.	
Natural Environment Resources - **Surface Water Resources:** Construction work within areas regulated by Conservation Authorities	**Construction:** Potential for infrastructure (towers, watercourse crossings) to be located within Conservation Authority regulated lands.	The following mitigation is recommended to address these potential effects: • UTRCA, CCCA and KCCA will be consulted during detailed design and construction planning. • Design of the transmission line will avoid or minimize the extent to which transmission towers are located within regulated areas, to the extent practical. • If necessary, a Permit in accordance with Section 28.1 of the *Conservation Authorities Act* will be obtained through the applicable Conservation Authority (UTRCA, CCCA and KCCA) before construction. • Construction work (e.g., tower construction, temporary construction access) within regulated areas will be conducted during stable (frozen/dry) ground conditions, to the extent practical or isolated with appropriate ESC measures and other environmental mitigation measures.	No significant net effects are predicted. Permit in accordance with Section 28.1 of the *Conservation Authorities Act* will be obtained in advance of construction, where necessary.
Natural Environment Resources - **Groundwater Resources:** Groundwater	**Construction:** Disturbance of contaminated soil has the potential to contribute to groundwater contamination.	Refer to the mitigation recommended for Spills and Excess Materials Management under Physical Environment, Soil Rutting under Surface Water Resources and for Soil Mixing	No significant net effects are predicted.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
Quality		under Agricultural Resources.	
Natural Environment Resources - **Groundwater Resources:** Groundwater Quantity	**Construction:** Disturbance and compaction to soil has the potential to inhibit infiltration.	Refer to mitigation recommended for Soil Compaction under Agricultural Resources.	No significant net effects are predicted.
Natural Environment Resources - **Groundwater Resources:** Groundwater Quantity	**Construction:** Dewatering activities/removal of groundwater have the potential to result in temporary lowering of aquifers.	Refer to mitigation recommended for Dewatering under Surface Water Resources. Additional mitigation recommended includes: If deemed necessary, a hydrogeological assessment will be conducted to inform construction planning, permitting and management.	No significant net effects are predicted. Groundwater resources within the area are not anticipated to be adversely affected by dewatering of tower foundation holes or excavations from tower construction. Such effects will cease upon the completion of construction dewatering.
Natural Environment Resources - **Source Water Protection:** Source Water Protection	**Construction and Maintenance:** Potential for contamination of surface water through spills or leaks.	Refer to the mitigation recommended for Spills under Physical Environment.	No significant net effects are predicted.
Natural Environment Resources - **Source Water Protection:** Source Water Protection	**Construction:** Potential for impacts to private drinking water wells.	In addition to the applicable mitigation outlined in this table, the following mitigation is recommended to address these potential effects: • Municipal wells and local private water wells within the area are not anticipated to be affected in any measurable way by potential construction dewatering of tower foundation holes or excavations from tower construction.	No significant net effects are predicted.
Natural Environment Resources - **Natural Heritage Features:** Wetlands	**Construction:** Potential impacts to 0.01 ha of wetlands as a result of vegetation loss, soil erosion, sedimentation, etc.	Refer to mitigation recommended for Spills under Physical Environment, Soil Rutting & Vegetation Removal under Surface Water Resources and Woodlands under Designated or Special Natural Areas. Additional Recommended Mitigation includes: • Work activities and access within wetlands will be minimized to the extent practical. • Where construction access in wetlands cannot be avoided, temporary access roads and work pads will be built using measures such as mats or, geotextile and gravel, or equivalent means, which will protect the underlying soils during construction and can be easily removed when construction is complete.	Net effects include permanent removal of incompatible vegetation to ensure the safe operation of the transmission line; not considered significant. Incompatible vegetation removal will not represent a loss of vegetation on the landscape, but rather a transition from vegetation that is incompatible with transmission line corridors, to vegetation that is compatible.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
		• Equalization culverts, French drains or similar measures may be employed as necessary for any constructed access required within wetlands to maintain surface flow and drainage patterns during construction. • Any wetlands disturbed during construction will be restored following completion of construction with compatible native species (e.g., native wetland seed mix, shrub stock, or a combination of both). • Additional materials (i.e., rip rap, filter cloth, and silt fencing) should be readily available in case they are needed promptly for erosion and/or sediment control. No maintenance or fueling of machinery will be planned to occur within 30 m of the wetland. If such work must occur within 30 m of a wetland community due to unforeseen circumstances, additional spill protection measures (e.g., portable containment) will be utilized.	
Natural Environment Resources - **Natural Heritage Features:** Fish and Fish Habitat	**Construction & Maintenance:** Potential disturbance to fish habitat as a result of vegetation loss, soil erosion, sedimentation, etc.	Refer to mitigation recommended for Spills under Physical Environment. Additional recommended mitigation includes: • The creation of new watercourse crossings during construction will be avoided to the extent practical by using existing access and crossings (e.g., bridges, culverts) and by accessing work areas from either side of watercourses/drains. • Construction access, laydown and work areas will be planned to avoid waterbodies and potential fish habitat to the extent practical (e.g., maintaining distance from watercourse banks except where crossings exist or are required). • Disturbance to waterbodies, shorelines, riparian areas, etc. will be stabilized to prevent erosion. • An ESC plan will be developed to include mitigation measures such as constructing watercourse crossings during low flow conditions, retaining compatible stream bank vegetation, use of ESC during construction and restoration, and storing materials away from sensitive receptors (e.g., watercourses, drains, wetlands). • Project wastes will be immediately removed from and stored away from riparian areas. • No refueling or vehicles and/or equipment will be	No significant net effects are predicted.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
		permitted within 30 m of a watercourse to prevent potential spills (e.g., fuel, oil, lubricant) from entering aquatic features. • Disturbed areas will be restored to a pre-disturbed state or better, upon completion of construction, with compatible native species (e.g., seed mix, shrub stock, or a combination of both). • If permanent or temporary works are required below the high-water mark of a watercourse with potential fish habitat, a Request for Review will be prepared and submitted to the DFO in support of a Letter of Advance and/or approvals under the Fisheries Act. • If implosive conductor splicing is utilized, work will be planned and conducted in accordance with the Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters (DFO) as deemed necessary. • Transmission line structures will be set back from watercourse banks and located outside of regulatory floodplains, to the extent practical. Work will be conducted in accordance with a permit from the applicable Conservation Authority when working within their regulated area.	
Natural Environment Resources – Natural Heritage Features: Significant Woodlands	**Construction:** Removal of 3.63 ha of significant woodland (transition to compatible vegetation) within the ROW. **Maintenance:** Vegetation management within the ROW to ensure that incompatible vegetation does not threaten the safe and reliable operation of the transmission line.	In addition to the applicable mitigation outlined in this table, the following additional mitigation is recommended to address these potential effects: • The extent of clearing and vegetation removal required for the transmission line ROW within woodlands will be minimized to the extent practical. • Woodlands will be taken into account when planning access, and the footprint of work areas/access within woodlands will be minimized to the extent practical. • Incompatible vegetation will be salvaged or felled as appropriate. • Conduct tree removals associated with woodlands outside of the migratory bird breeding season (i.e., April 1 through August 31) and the bat active season (i.e., April 1 through September 30), where practical. • In the event vegetation clearing is required during the	Net effects include permanent removal of incompatible vegetation (portions of woodland) to ensure the safe operation of the transmission line; not considered significant. Incompatible vegetation removal will not represent a loss of vegetation on the landscape, but rather a transition from vegetation that is incompatible with transmission line corridors, to vegetation that is compatible.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
		breeding bird season, nest searches will be conducted by a qualified person in accordance with applicable provincial and federal requirements. • In the event woodlands with the potential to support bats require tree removals, bat acoustic surveys may be completed by the contractor's Environmental Lead during the month of June in accordance with agency approved protocols to determine Species at Risk (SAR) bat habitat use (or lack thereof). • Before construction, the MECP will be consulted regarding permitting/approvals next steps under ESA. • Snags (dead standing trees) and cavity trees that do not pose a risk to the construction or operation of the transmission line will be identified and retained, to the extent practical. Woodlands disturbed during construction will be restored following completion of construction with compatible native species (e.g., native seed mix and shrub stock).	
Natural Environment Resources - **Natural Heritage Features:** Vegetation	**Construction & Maintenance:** Removal of vegetation within proposed activity work areas. Compatible vegetation will be retained, where practical.	Refer to mitigation recommended for Hedgerows and Windbreak under Agricultural Resources and Woodlands under Designated or Special Natural Areas. Additional recommended mitigation includes: • Tree protection zones will be used to delineate and protect trees that do not require removal for construction activities or operation of the transmission line, as necessary. • Non-salvageable limbs will be disposed of by chipping or removal to designated areas. • Tree removals adjacent to watercourses will be cut such that their root systems remain intact to maintain soil stability, and compatible bank/riparian vegetation will be retained to the extent practical. Isolated trees (i.e., not associated with woodlands) identified by a qualified person as having the potential to support bats will be removed outside of the bat active season (i.e. April 1 through September 30).	Net effects include permanent removal of incompatible vegetation to ensure the safe operation of the transmission line; not considered significant. Incompatible vegetation removal will not represent a loss of vegetation on the landscape, but rather a transition from vegetation that is incompatible with transmission line corridors, to vegetation that is compatible.
Natural Environment Resources - **Natural**	**Construction:** Potential for inadvertent spread of invasive species through the	Refer to mitigation recommended for Agricultural Resource effects. Additional mitigation includes:	No significant net effects are predicted.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
Heritage Features: Invasive Species	movement of soil, debris and/or plant material via construction vehicles and equipment.	• Construction crews will be educated on the importance of avoiding inadvertent spread of invasive species, and to identify the invasive species that are known to occur or are likely to occur within work areas. • Areas identified as having invasive species present will be considered during access and construction planning. Stands of invasive plant species will be avoided to the extent practical during construction. • Equipment and vehicle inspections and cleaning will be established during construction, to minimize the potential for inadvertent transport of invasive species. Special treatment areas (e.g., large established populations of invasive species within the ROW) will be tracked for consideration when planning future maintenance works.	
Natural Environment Resources – Natural Heritage Features: Significant Valleylands	**Construction & Maintenance:** Potential impacts to valleylands due to removal of vegetation, soil erosion, sedimentation, etc. Effects are associated with Dingman Creek.	The following mitigation is recommended to address these potential effects: • Valleylands will be considered during detailed design with respect to tower locations. • To the extent practical, avoid work or disturbance to the valleylands or areas adjacent to the edge of the valleylands. • Where tree removals are required in association with valleylands the measures described below in “Natural Environment Resources - Natural Heritage Features: Vegetation” should be followed.	Net effects include permanent removal of incompatible vegetation to ensure the safe operation of the transmission line; not considered significant. Incompatible vegetation removal will not represent a loss of vegetation on the landscape, but rather a transition from vegetation that is incompatible with transmission line corridors, to vegetation that is compatible.
Natural Environment Resources - **Natural Heritage Features:** Wildlife Habitat	**Construction & Operation:** Potential disturbance or loss of wildlife habitat, including habitat fragmentation.	Refer to mitigation recommended for Woodlands under Designated or Special Natural Areas, Species at Risk (SAR) under Natural Heritage Features, and Vegetation under Natural Heritage Features. Additional mitigation includes: • Boundaries of important wildlife habitats will be identified and the ROW boundaries flagged before clearing. • Where vegetation clearing is required, some of the cleared vegetative material may be used to create brush/habitat piles along the ROW edges, where appropriate. • Tree/vegetation clearing will be avoided during the migratory bird breeding season where practical. In the event vegetation removal is required during this period,	Net effects include permanent removal of incompatible vegetation to ensure the safe operation of the transmission line; not considered significant. Incompatible vegetation removal will not represent a loss of vegetation on the landscape, but rather a transition from vegetation that is incompatible with transmission line corridors, to vegetation that is compatible.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
		the following mitigation measures are recommended: • Engage a qualified professional to conduct pre-construction migratory bird nest sweeps of the work areas if vegetation clearing will occur during the migratory bird breeding season (April 1 to August 31). Vegetation clearing is recommended within 48 hours of the nest sweep but can be completed up to seven days following the nest sweep based on the recommendation of the qualified professional. If active nests are encountered in the work area or immediately adjacent to the work area: o Establish an appropriate setback to the nest, as determined by a qualified professional; o Flag or stake the outer boundary of the setback (preferably with indiscrete rope or tape to avoid attracting predators to the area through the use of brightly coloured markings); and, o Monitor active bird nests during the implementation of work to identify what level of disturbance the work is having on the nesting birds. Nests will be monitored to determine when a nest is no longer active, and the protective buffer can be removed. • Where vegetation removal is required during the bat active period, suitable roosting trees (as determined by a qualified professional) will not be removed between April 1 and September 30 unless otherwise authorized by MECP. Construction personnel will be educated on the potential for wildlife which may be encountered within the general work areas.	
Natural Environment Resources - **Natural Heritage Features:** Species at Risk	**Construction & Maintenance:** Potential disturbance or loss of SAR and/or SAR habitat.	Refer to mitigation recommended for Soil Rutting & Vegetation Removal under Surface Water Resources, Significant Woodland and Vegetation under Natural Heritage Features. Additional mitigation includes:	Net effects include permanent removal of incompatible vegetation to ensure the safe operation of the transmission line; not considered significant.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
		• Impacts to potential SAR habitat will be avoided, where possible. In the event impacts cannot be avoided, MECP will be consulted regarding permitting/approval requirements under the ESA during detailed design. • Boundaries of SAR habitats will be identified and flagged off. • To the extent possible, incompatible vegetation/trees with the potential to provide SAR habitat will be removed/trimmed to the extent that they no longer pose a risk to overhead transmission lines while still maintaining their potential SAR habitat characteristics. • Snags (dead standing trees) and cavity trees with the potential to provide SAR habitat that do not pose a risk to the operation of the transmission line will be identified by a qualified person and retained to the extent practical. • Construction personnel will be aware of the potential presence of, and able to identify, SAR with the potential to occur within the general work areas. • Should SAR be encountered during construction activities, activities will be stopped until it has been determined that harm will not occur. The required activities will be assessed to determine whether the work/schedule can be modified, or mitigation measures employed, to avoid potential effects on SAR and their habitat. • If avoidance of SAR and/or SAR habitat is not possible, MECP will be consulted in advance of construction to discuss detailed mitigation measures and/or assess the need for permitting/approvals under the ESA or SARA. • If a SAR is harmed or killed as a result of work activities, the MECP will be notified and the relevant work activities will cease within the immediate area until the species has been removed by personnel authorized to handle SAR. • SAR observed during construction activities will be reported to the MECP, as required.	Incompatible vegetation removal will not represent a loss of vegetation on the landscape, but rather a transition from vegetation that is incompatible with transmission line corridors, to vegetation that is compatible. Permitting under the ESA and SARA will be obtained in advance of construction, where necessary.
Natural Environment Resources – Natural Heritage Features: Species	**Construction & Maintenance:** Potential disturbance or loss of SAR and/or SAR habitat	The following mitigation is recommended to address these potential effects: • The potential to impact SAR bats would be restricted to	Net effects include permanent removal of incompatible vegetation to ensure the safe operation of the transmission line; not considered

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
at Risk (SAR) – Bats		maternity sites or day-roosts. • Assess for maternity roosts along the preferred route alternative before construction for habitat retention, to the extent practical. • Educate contractors by informing them of the bat species in Ontario which receive species and habitat protection. • Remove all trees that are 10 cm in diameter at breast height or larger between October 1 and March 31 (bat active season is April 1 to September 30).	significant. Incompatible vegetation removal will not represent a loss of vegetation on the landscape, but rather a transition from vegetation that is incompatible with transmission line corridors, to vegetation that is compatible. Permitting under the ESA and SARA will be obtained in advance of construction, where necessary.
Natural Environment Resources – Natural Heritage Features: Species at Risk (SAR) – Birds	**Construction & Maintenance:** Potential disturbance or loss of SAR and/or SAR habitat	The following mitigation is recommended to address these potential effects: • Habitat removal during the migratory bird breeding season (April 1 to August 31) will be avoided to the extent feasible. • Non-intrusive nest surveys will be undertaken by a qualified biologist if habitat removal is required during the April 1 to August 31 period. • In the event there is potential for work occurring within the nesting period, additional measures to exclude Barn Swallow and Wood Thrush from nesting in structures (e.g., installing netting) may be considered as a mechanism to avoid impacts to the species.	Net effects include permanent removal of incompatible vegetation to ensure the safe operation of the transmission line; not considered significant. Incompatible vegetation removal will not represent a loss of vegetation on the landscape, but rather a transition from vegetation that is incompatible with transmission line corridors, to vegetation that is compatible. In the event there is potential for work to occur during the nesting period in confirmed nesting habitat for these species, a permit under the SARA would be required.
Indigenous Culture, Values and Land Use	**All Phases:** Potential to affect Indigenous Community interests.	• Some Indigenous communities expressed interest in being involved with future archaeological and Natural Environment field work. Hydro One and its consultants have been working closely with interested communities and have included representatives from interested communities in archaeological and environmental fieldwork. • Indigenous communities will be provided opportunities to review the findings of archaeological field surveys and archaeological assessment reports. • If archaeological artefacts are encountered during construction, work in the vicinity will cease and a licensed archaeologist will be engaged immediately to ensure compliance with the *Ontario Heritage Act*. • Hydro One understands that Bald Eagles are considered sacred. Bald Eagles occasionally build nests on	No significant net effects are predicted.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
		transmission line structures; if there are eggs or young in the nest on existing transmission towers, it is Hydro One protocol to leave the nest until the young have fledged unless there is an immediate safety concern. If there are no eggs or young, the nest will be removed and replaced. • Should Hydro One become aware of a deceased Bald Eagle along the transmission line corridor, we will note their location and inform interested communities, in the event that they would like to provide a ceremony. • Several communities have expressed a desire to protect and mitigate adverse effects to natural environment features such as SAR, wildlife and aquatic habitat, and natural or naturalized areas within their traditional territory that could be used for hunting, gathering, harvesting or other traditional uses. Mitigation measures to address effects to these features are described above under Natural Heritage Features.	
Recreational Resources	**Construction & Maintenance:** Potential for temporary disturbance to tourism and enjoyment of recreational resources (e.g., trails, etc.).	The following mitigation is recommended to address these potential effects: • Though there may be temporary impacts to the enjoyment of recreational resources adjacent to the proposed Project, such impacts are expected to be short-term in nature. • Advanced notice will be provided to nearby residences, farms, landowners and commercial operations, outlining the location of entry/exit points for the construction site as well as the schedule for construction work or construction related traffic in those areas. Clear and temporary signage will be created and installed to reflect this information. • Disturbance to existing recreational resources will be avoided, to the extent practical. This may include timing work to avoid seasons of heavier use. • Safety precautions will be utilized throughout the Project area to protect the public such as anti-climbing devices and appropriate signage, where necessary.	No significant net effects are predicted.
Visual and Aesthetic Resources: Visibility of the	**All Phases:** Potential visual impacts to sensitive receptors with views of the Project.	Location of transmission structures is one of the largest factors influencing the visual effects to specific receptors. Design of	Construction of the new transmission structures will result in a visual change to the landscape.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
Project by Sensitive Receptors		the transmission line (e.g., placement of structure locations) will consider visibility to nearby sensitive receptors.	
Technical Considerations: Infrastructure Crossings	**All Phases:** Permanent overhead crossing of Highway 401, as well as construction of a new transmission line parallel to other roadways.	Refer to mitigation recommended for Local Roads & Traffic under Land Use Communities. Additional mitigation includes: • Permanent impacts to Highway 401 or any other municipal road crossings are not anticipated as part of this project. • Temporary or rolling closure of Highway 401 may be required to facilitate stringing, and duration of any temporary closures will be minimized to the extent practical. • Where the new transmission line crosses Highway 401, setback distances provided by the MTO will be respected. • Work within the MTO Highway 401 ROW will require an Encroachment Permit and/or a Land Use Permit as well as consultation and input from Ministry staff during design.	No significant net effects are predicted.
Technical Considerations: Infrastructure Crossings	**Construction:** Underground utility crossing.	The following mitigation is recommended to address these potential effects: • Equipment with low bearing capacity will be used, where feasible. • Temporary and permanent access roads and work pads will be built using mats or geotextile and gravel, and/or other protective measures will be implemented as deemed necessary. • Contact will be maintained with applicable utility operators regarding work schedule and other items of interest.	No significant net effects are predicted.
Technical Considerations: Infrastructure Crossings	**All Phases:** Permanent overhead crossing of the existing railway line ROWs.	The following mitigation is recommended to address these potential effects: • To facilitate the construction of the aerial crossings associated with the railway line, crossing permits and temporary flagging operations may be required. • Hydro One will work with the applicable rail authority during detailed design, as well as coordinate with the City of St. Thomas and PowerCo Canada Inc. for construction staging where the proposed new	No significant net effects are predicted.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Net Effects
		transmission line is planned to be located parallel to the planned railway spur and shunting yards in Yarmouth Yards Industrial Park.	
Technical Considerations: Infrastructure Crossings	**All Phases:** Crossings of constructed drains.	Refer to applicable mitigation recommended for Fish and Fish Habitat under Natural Heritage Features and Spills under Physical Environment. Additional mitigation includes: • Municipal drainage superintendents will be consulted during design and construction planning, to discuss any potential effects to municipal drains. • Placement of transmission structures will avoid municipal drains to the extent practical, including consideration of setbacks as communicated by the municipal drainage superintendents and their staff. • The creation of new crossings during construction will be avoided to the extent practical by using existing access and crossings (e.g., bridges, culverts) and by accessing work areas from either side of drains, where feasible. • Disturbed areas will be restored to a pre-disturbed state or better following completion of construction.	No significant net effects are predicted.

7.13. Cumulative Effects Assessment

The Cumulative Effects Assessment (CEA) for the Project has been completed in accordance with the Class EA for Minor Transmission Facilities (Hydro One, July 2022) requirements: “The assessment will include the proposed undertaking and any other proposed undertakings in the immediate project area where documentation is available (e.g., other environmental assessments”). For this Project, the CEA involved the consideration of Project effects combined with effects from other proposed undertakings in the immediate Project area (overlapping the 500 m LSA) where documentation was publicly available. To extend a CEA beyond the immediate Project area (i.e., to assess trajectories of change over time on a broader regional basis) is outside the scope of the Class EA and Hydro One’s ability to influence, control, or reasonably predict.

7.13.1. Regional and Historic Cumulative Effects to Aboriginal Treaties and Indigenous Rights

Hydro One recognizes and appreciates the legacies of settlement, including agricultural and land conversion and development activities have, and continue to put pressure on Indigenous communities’ current and future use of lands and resources. In the spring of 2023, the provincial and federal governments secured an investment with the Volkswagen Group and its subsidiary PowerCo Canada Inc., which plans to build its largest electric vehicle battery cell manufacturing facility in the City of St. Thomas. To support this undertaking, Hydro One has been directed to provide a high-voltage connection to Ontario’s electricity grid and has proposed constructing a new 230 kV double-circuit transmission line from existing transmission infrastructure near Hydro One’s existing Buchanan TS in the City of London to the new Hydro One Centennial TS being constructed in the City of St. Thomas. Hydro One's role is to provide the necessary electrical infrastructure to fulfill the PowerCo Canada Inc.’s request to connect the new electric vehicle battery cell manufacturing facility to Ontario’s energy grid. Hydro One conducted a CEA for the Project in accordance with the Class EA requirements. The CEA involved the consideration of Project effects combined with effects from other proposed undertakings in the immediate Project area based on publicly available documentation.

7.13.2. Project Inclusion List

Figure 7-1 provides an overview of known projects that overlap with the LSA for the Preferred Route, which have been included in this CEA. As summarized in **Table 7-2**, overlapping projects have been categorized into the following three tiers (in decreasing order of information available):

1. Projects with completed and publicly available impact assessments or environmental assessments;
2. Known current, and future Hydro One projects where the environmental assessment (including selection of a preferred alternative) is not yet completed but where, as owners of transmission line infrastructure, Hydro One has a reasonable understanding of what future potential effects may be; and
3. Other future projects where proponents have not yet completed an environmental assessment or other planning study such that insufficient information is publicly available to meaningfully assess interactions with the Project. It is noted that for these future projects, this Class EA and CEA will be available for consideration to their benefit, including the potential to assess cumulative effects of the Project combined with those future projects.

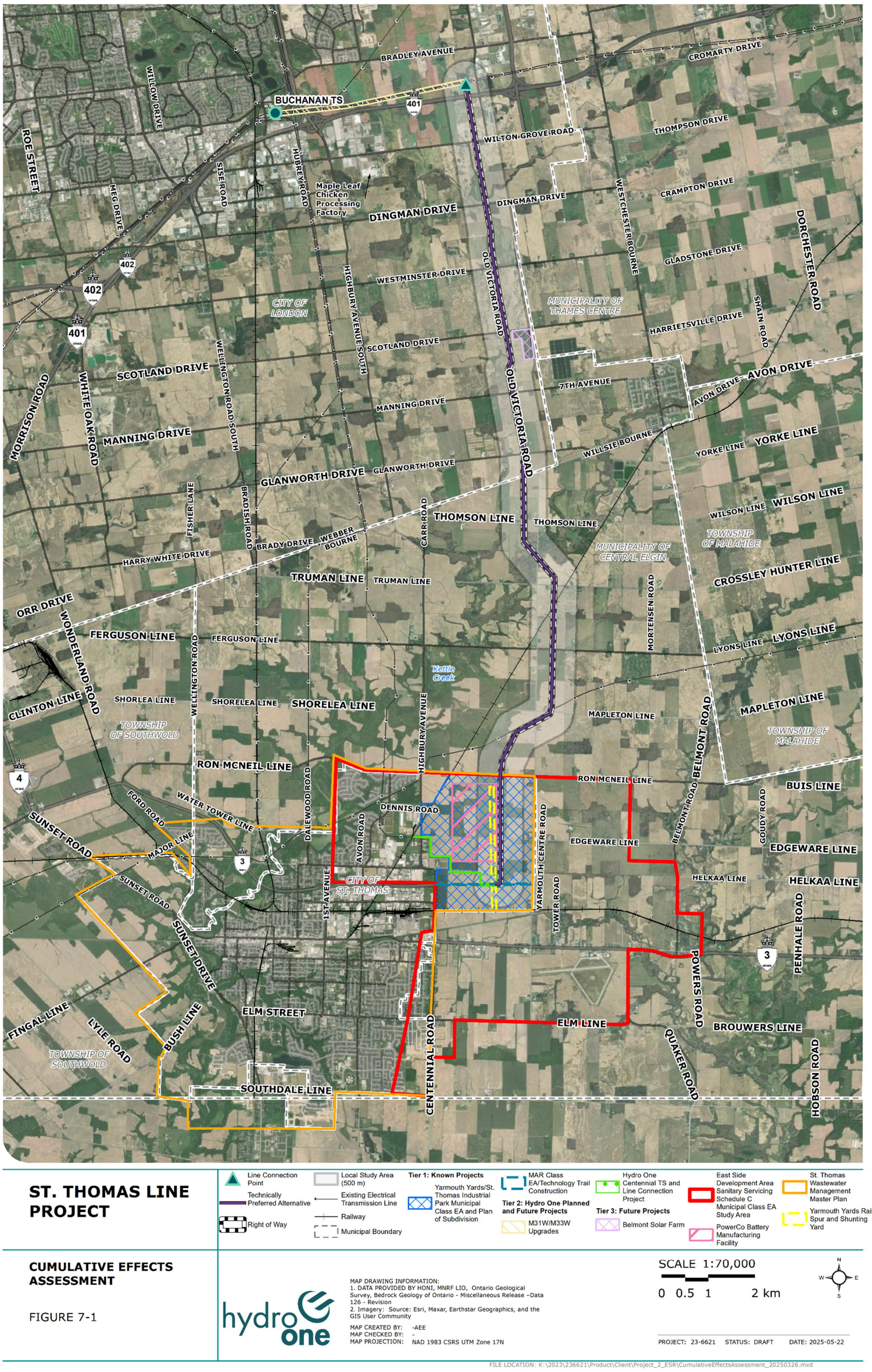
Table 7-2: Projects Included in the Cumulative Effects Assessment

Project Name	Proponent	Interaction with St. Thomas Line Project
Tier 1 Projects: Effects Assessment Documentation Publicly Available		
Major Arterial Roadway Connection (Technology Trail) – Centennial Avenue and Yarmouth Centre Road	City of St. Thomas	The proposed new road will overlap with the St. Thomas Line Project at the southern end of the Project LSA near the terminal end of the line.
St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park)	City of St. Thomas	The under-construction project overlaps with the St. Thomas Line Project at the southern end of the Project LSA encompassing the terminal end of the Project.

Project Name	Proponent	Interaction with St. Thomas Line Project
Tier 2 Projects: Hydro One Planned Future Undertakings with Owner Predicted High-Level Effect Knowledge		
Hydro One Centennial Transformer Station and Line Connection Project	Hydro One Networks Inc.	St. Thomas Line Project connects to the Centennial TS, which is also a terminal station for the St. Thomas Line Project. The Centennial transmission line also overlaps with the southern end of the Project LSA.
M31W/ M33W Upgrades	Hydro One Networks Inc.	Circuit upgrades will be required to M31W/M33W as a result of the proposed St. Thomas Line Project and would be completed as a separate undertaking at a later date.
Tier 3 Projects: Future Projects in Area where Assessment of Effects are not yet known		
East Side Development Area Sanitary Servicing Schedule C Municipal Class Environmental Assessment	City of St. Thomas	The Study Area of the Municipal Class Environmental Assessment overlaps with the St. Thomas Line Project at the southern end of the LSA.
Yarmouth Yards Rail Spur and Shunting Yard	City of St. Thomas	The proposed project will overlap with the St. Thomas Line Project at the southern end of the LSA.

Project Name	Proponent	Interaction with St. Thomas Line Project
St. Thomas Wastewater Management Master Plan	City of St. Thomas	The proposed project will overlap with the St. Thomas Line Project at the southern end of the LSA.
Belmont Solar Farm	First Solar Development (Canada) Inc.	The project overlaps with the St. Thomas Line Project LSA near the centre of the LSA.

Figure 7-1: Cumulative Effects Assessment



7.13.3. Analysis of Cumulative Effects

Table 7-3 summarizes the cumulative effects analysis completed for Tier 1 and Tier 2 projects on the Project Inclusion List. Cumulative effects were assessed by looking at each project's effects assessment tables, identifying potential temporary and long-term effects and net effects for each project, and assessing the potential for cumulative effects of multiple projects overlapping the Project LSA. Cumulative effects were analyzed from a “temporary effect” or a “long-term effect” perspective. Temporary effects are effects primarily related to construction activities associated with the respective infrastructure. Long-term effects represent potential project effects that may be experienced over the life of the project. It is noted, however, that some long-term effects are related to periodic maintenance activities which will not be persistent throughout the entire lifespan of the project but will be limited to periodic maintenance events (e.g., maintenance vehicles tracking mud on local roads will only occur if and when maintenance activities are required in muddy areas).

Table 7-3: Cumulative Effects Assessment

Environmental Concern	Major Arterial Road Connection - Temporary Effect	Major Arterial Road Connection - Long-Term Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Temporary Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Long-Term Effect	Centennial TS and Line Project - Temporary Effect	Centennial TS and Line Project - Long-Term Effect	M31W/M33W Upgrades – Temporary Effect	M31W/M33W Upgrades – Long-Term Effect	Cumulative Effects Analysis - Temporary Effect	Cumulative Effects Analysis - Long-Term Effect	Determination of Significance
Agricultural Resources: Crop Loss	**No** No Applicable.	**No** Not Applicable.	**No** Land has already been rezoned and the area has been removed entirely from agricultural production. Further construction for the development of the Industrial Park will have no temporary effects on Agricultural Resources, as all effects will be permanent.	**Yes** Permanent removal of land available for agricultural production (approximately 247 hectares) as a result of rezoning and industrial development.	**Yes** Removal of crops and soils supporting crop production.	**Yes** Permanent removal of land available for agricultural production as a result of Project infrastructure.	**Yes** Reasonable to assume there may be a temporary removal of crops and soils supporting crop production.	**Yes** Reasonable to assume there may be a permanent removal of land available for agricultural production as a result of project infrastructure.	**Yes** Multiple projects have the potential to temporarily remove crops and soils from agricultural production to accommodate construction activities of multiple projects. If multiple projects are under construction at the same time this may result in a temporary cumulative effect of reduced agricultural production.	**Yes** Multiple projects have the potential to permanently remove agricultural land from production to accommodate new infrastructure. Multiple projects on the landscape will compound this effect.	**Not Considered Significant** Long-term permanent removal of land available for agricultural production is not considered significant in the larger landscape of southern Ontario. Agriculture is a compatible use within overhead transmission line ROWs and the extent of agricultural land permanently removed for transmission

Environmental Concern	Major Arterial Road Connection - Temporary Effect	Major Arterial Road Connection - Long-Term Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Temporary Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Long-Term Effect	Centennial TS and Line Project - Temporary Effect	Centennial TS and Line Project - Long-Term Effect	M31W/M33W Upgrades – Temporary Effect	M31W/M33W Upgrades – Long-Term Effect	Cumulative Effects Analysis - Temporary Effect	Cumulative Effects Analysis - Long-Term Effect	Determination of Significance
											line projects is limited to the tower footings themselves. The City of St. Thomas had previously rezoned the lands that will encompass the Industrial Park from Agricultural to Employment Lands
Agricultural Resources: Soil Compaction	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Yes** Reasonable to assume there will be a compaction of soil caused by the movement of construction equipment over agricultural land.	**Yes** Reasonable to assume there will be a compaction of soil caused by the movement of maintenance vehicles over agricultural land.	**Yes** Reasonable to assume there will be a compaction of soil caused by the movement of maintenance vehicles over agricultural land.	**Yes** Reasonable to assume there will be a compaction of soil caused by the movement of maintenance vehicles over agricultural land.	**No** Multiple projects have the potential for isolated soil compaction within their respective project limits. Cumulative effects are not anticipated as Project-	**No** Multiple projects have identified isolated soil compaction in operation and during maintenance phases, Project-specific mitigation measures can	**No** Cumulative effects are not anticipated as project-specific mitigation measures can be implemented to address the effect.

Environmental Concern	Major Arterial Road Connection - Temporary Effect	Major Arterial Road Connection - Long-Term Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Temporary Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Long-Term Effect	Centennial TS and Line Project - Temporary Effect	Centennial TS and Line Project - Long-Term Effect	M31W/M33W Upgrades – Temporary Effect	M31W/M33W Upgrades – Long-Term Effect	Cumulative Effects Analysis - Temporary Effect	Cumulative Effects Analysis - Long-Term Effect	Determination of Significance
									specific mitigation measures can be implemented to address the effect.	be employed to mitigate the effects.	
Agricultural Resources: Soil Mixing	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Yes** Reasonable to assume there is potential for excavation activities to cause the mixing of soil horizons.	**No** Not Applicable	**Yes** Reasonable to assume there is potential for excavation activities to cause the mixing of soil horizons.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**No** Multiple projects have the potential for soil mixing within their respective project limits. Cumulative effects are not anticipated as Project-specific mitigation measures can be implemented to address the effect.	**No** Not Applicable.	**No** Cumulative effects are not anticipated as project-specific mitigation measures can be implemented to address the effect.

Environmental Concern	Major Arterial Road Connection - Temporary Effect	Major Arterial Road Connection - Long-Term Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Temporary Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Long-Term Effect	Centennial TS and Line Project - Temporary Effect	Centennial TS and Line Project - Long-Term Effect	M31W/M33W Upgrades – Temporary Effect	M31W/M33W Upgrades – Long-Term Effect	Cumulative Effects Analysis - Temporary Effect	Cumulative Effects Analysis - Long-Term Effect	Determination of Significance
Agricultural Resources: Disturbance to Farm Operations	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Yes** Reasonable to assume there is potential to disturb farm operations.	**Yes** Reasonable to assume there will be permanent impediments to the maneuverability of agricultural equipment.	**Yes** Reasonable to assume there is potential to disturb farm operations.	**Yes** Reasonable to assume there will be permanent impediments to the maneuverability of agricultural equipment.	**No** Multiple projects have the potential to temporarily disturb farm operations within their respective project limits. Cumulative effects are not anticipated as Project-specific mitigation measures can be implemented to address the effect.	**No** Multiple projects have the potential to create impediments to the maneuverability of agricultural equipment. However, impediments would not impact the larger agricultural community, and effects would be on a site-by-site basis. Project-specific mitigation measures can be implemented to address the effect.	**Not Considered Significant** Cumulative effects are not anticipated as project-specific and site-specific mitigation measures can be implemented to address the effect.

Environmental Concern	Major Arterial Road Connection - Temporary Effect	Major Arterial Road Connection - Long-Term Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Temporary Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Long-Term Effect	Centennial TS and Line Project - Temporary Effect	Centennial TS and Line Project - Long-Term Effect	M31W/M33W Upgrades – Temporary Effect	M31W/M33W Upgrades – Long-Term Effect	Cumulative Effects Analysis - Temporary Effect	Cumulative Effects Analysis - Long-Term Effect	Determination of Significance
Agricultural Resources: **Vegetation Removal**	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Yes** The project area includes approximately 26 ha of agricultural lands where vegetation will be removed for the project footprint.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**No** One project has the potential to temporarily disturb agricultural vegetation. Cumulative effects are not anticipated as project-specific mitigation measures can be implemented to address this effect.	**No** One project has the potential to disturb agricultural vegetation. Cumulative effects are not anticipated as project-specific mitigation measures can be implemented to address the effect.	**Not Considered Significant** Cumulative effects are not anticipated as project-specific mitigation measures can be implemented to address the effect.
Agricultural Resources: Contamination of Organic or Identity Preserved (IP) Crops	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.

Environmental Concern	Major Arterial Road Connection - Temporary Effect	Major Arterial Road Connection - Long-Term Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Temporary Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Long-Term Effect	Centennial TS and Line Project - Temporary Effect	Centennial TS and Line Project - Long-Term Effect	M31W/M33W Upgrades – Temporary Effect	M31W/M33W Upgrades – Long-Term Effect	Cumulative Effects Analysis - Temporary Effect	Cumulative Effects Analysis - Long-Term Effect	Determination of Significance
Agricultural Resources: Damage to Field Tiles	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Yes** The project has the potential to damage tile drains during construction.	**No** Not Applicable	**Yes** Reasonable to assume the potential for equipment to damage or crush existing agricultural tile drains during construction.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**No** Multiple projects have the potential for temporary impacts on agricultural tile drains. Cumulative effects are not anticipated as Project-specific mitigation measures can be implemented to address the effect.	**No** Not Applicable.	**Not Considered Significant** Effects from multiple projects can be mitigated or repaired (post-construction) at a project level.
Agricultural Resources: Livestock Stress, Loss or Injury	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**No** Not Applicable.	**No** Not applicable.	**No** Not Applicable.

Environmental Concern	Major Arterial Road Connection - Temporary Effect	Major Arterial Road Connection - Long-Term Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Temporary Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Long-Term Effect	Centennial TS and Line Project - Temporary Effect	Centennial TS and Line Project - Long-Term Effect	M31W/M33W Upgrades – Temporary Effect	M31W/M33W Upgrades – Long-Term Effect	Cumulative Effects Analysis - Temporary Effect	Cumulative Effects Analysis - Long-Term Effect	Determination of Significance
Agricultural Resources: Potential GPS Signal Interference	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.
Archaeological Resources	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable – Effects on Archaeological Resources are long-term/permanent only.	**No** Approximately 100 archaeological locations were identified in the new Industrial Park area, with only a few sites identified for further Stage 3 and Stage 4 archaeological assessment. All of the studies and associated mapping have been	**No** Not Applicable.	**No** Not Applicable.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**No** One project has the potential for temporary impacts on archaeological resources. Cumulative effects are not anticipated as project-specific mitigation measures can be implemented to address the effect.	**No** One project has the potential for impacts on archaeological resources. Cumulative effects are not anticipated as project-specific mitigation measures can be implemented to address the effect.	**Not Considered Significant** Not considered significant because potential impacts to Archaeological Resources can be mitigated on a project-specific basis.

Environmental Concern	Major Arterial Road Connection - Temporary Effect	Major Arterial Road Connection - Long-Term Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Temporary Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Long-Term Effect	Centennial TS and Line Project - Temporary Effect	Centennial TS and Line Project - Long-Term Effect	M31W/M33W Upgrades – Temporary Effect	M31W/M33W Upgrades – Long-Term Effect	Cumulative Effects Analysis - Temporary Effect	Cumulative Effects Analysis - Long-Term Effect	Determination of Significance
				completed for the majority area of the new Industrial Park, excluding the residential properties around the perimeter. As of December 2023, Stage 3 and Stage 4 assessments were ongoing. It is assumed that Ministry of Citizenship and Multiculturalism clearances have since been received and the area has been cleared of archaeological concern.						

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Cultural Heritage Resources	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Unknown** Not Applicable.	**Unknown** Not Applicable.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**No** Not Applicable.	**No** One project has the potential for indirect impacts on cultural heritage resources. Cumulative effects are not anticipated as project-specific mitigation measures can be implemented to address the effect.	**No** Cumulative effects are not anticipated as project-specific mitigation measures can be implemented to address the effect.
Land Use and Communities: Business Operations	**Yes** Potential effects to area businesses and area commuters.	**No** Not Applicable.	**Yes** Temporary road closures or detours are anticipated to be required for construction and may have	**Yes** New road infrastructure (including new municipal roads and approved street	**Yes** Potential effects to area businesses and area commuters.	**No** Not applicable.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Yes** Multiple projects have identified potential for disruption to local business operations as	**No** Not Applicable.	**Not Considered Significant** Not considered significant because potential impacts to

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			nuisance impacts on local residents and businesses.	widening) and traffic control (i.e., roundabouts) will be implemented for the project to support growth and maintain traffic flow. This may have long-term beneficial impacts on surrounding business operations.					a result of Project-specific activities. If multiple projects proceed simultaneously, the compounding effect on local businesses may result in a negative socio-economic effect that will be temporary in nature and duration.		business operations will be temporary and can be mitigated on a project-specific basis.
Land Use and Communities: Existing and Future Land Use Designations and Potential Future Development	**No** Not Applicable.	**Yes** The project will result in the lands being permanently changed to a major arterial	**No** The Industrial Park lands were rezoned and the Official Plan amended so that the project is	**Yes** The Industrial Park area has been rezoned as Employment Lands to accommodate the future	**Yes** The project requires temporary access/use of adjacent lands for construction.	**Yes** While transmission lines can be largely compatible with development, their location	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Yes** Multiple projects have identified the need to temporarily use or occupy designated, or potential,	**Yes** Several projects have identified the need to acquire designated, or potential, future	**Not Considered Significant** While several projects have identified potential impacts to designated, or

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		road and roundabout.	compatible with existing and future land use designations and potential future developments.	growth and economic development in the City of St. Thomas. Future development in the Industrial Park will need to meet the permitted uses of Employment Lands as outlined in the City of St. Thomas Zoning By-law 50-88.		within areas zoned to allow future commercial/industrial development, or otherwise targeted/identified for future development potential will introduce certain restrictions to future uses within the lands occupied by the TS and transmission line ROW.			future development lands. If multiple projects proceed simultaneously, the compounding effect on designated, or potential, future development lands may result in a negative socio-economic effect that will be temporary in nature and duration.	development lands. This acquisition or building of infrastructure in close proximity will also result in encroachment impacts and Right-of-way restrictions on future development.	potential, future development lands, the impact is known ahead of the development taking place. There are numerous examples across the province of land development occurring around existing transmission corridors.
Land Use and Communities: Local Roads and Traffic	**Yes** Construction will result in limited disruption to the	**Yes** Positive impacts to local roads and traffic associated	**Yes** Temporary road closures or detours are anticipated to be required for	**Yes** New road infrastructure (including new municipal roads and	**Yes** Reasonable to assume the potential increase in traffic,	**No** Not Applicable.	**Yes** Reasonable to assume the potential increase in traffic,	**Unknown** The potential for effect is unknown until the project environmental	**Yes** Several projects have identified temporary impacts from	**No** Not Applicable.	**Not Considered Significant** Not considered significant because

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	transportation environment in the area as this is a new road constructed on previously unoccupied land. Anticipated that there may be short to mid-term durations of limited closures for specific construction operations.	with the new arterial road.	construction and expansion of the road network and municipal services to the Industrial Park.	approved street widening) and traffic control (i.e., roundabouts) will be implemented for the project to support growth and maintain traffic flow. This may have long-term beneficial impacts on surrounding business operations.	including heavy equipment on local and regional roads.		including heavy equipment on local and regional roads.	assessment is complete.	the construction of local road networks. This includes potential road closures, increased traffic, infrastructure crossings etc. If multiple projects proceed simultaneously impacts could be compounded having a negative effect on the larger road network.		potential impacts on local roadways would be temporary in nature. Road closures or disruptions to traffic require approvals from local municipalities or MTO prior to construction. Local municipalities and MTO have processes in place to coordinate multi-project impacts and mitigate network disruptions.
Land Use and Communities: Mud and	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Yes** Potential for tracking of mud and	**Yes** Potential for tracking mud and migration	**Yes** Reasonable to assume the potential for	**Yes** Reasonable to assume the potential for	**Yes** Several projects have identified	**No** Not Applicable.	**Not Considered Significant**

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Construction Debris					migration of construction debris to areas outside of the construction zone.	of construction debris to areas outside of the construction zone as a result of periodic maintenance activities.	tracking of mud and migration of construction debris to areas outside of the construction zone.	tracking of mud and migration of construction debris to areas outside of the construction zone.	temporary effects from construction activities. Effects can be mitigated through Project-specific mitigation measures.		Not considered significant because potential impacts are temporary in nature and can be mitigated through project-specific measures.
Land Use and Communities: Electric and Magnetic Fields (EMF)	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Yes** Potential for increased EMF once the transmission line is energized, however, EMF values are projected to be significantly below the general exposure guidelines.	**No** Not Applicable.	**Yes** Reasonable to assume construction of the new transmission line will result in potential increased EMF once the upgrades are complete and the transmission lines are energized.	**No** Not Applicable.	**Yes** Multiple projects have the potential to increase EMF once transmission lines are energized.	**Not Considered Significant** Organizations such as Health Canada, World Health Organization (WHO), and ICNIRP indicate members of the public in the vicinity of transmission lines do not need to take precautionary

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											measures to protect from fields produced by electricity at extremely low frequencies because exposures, which including transmission infrastructure. EMF values are expected to remain significantly below the ICNIRP exposure guidelines.
Land Use and Communities: Noise & Vibration	**Yes** Residential and business properties may experience noise associated with construction	**Yes** An investigation of noise mitigation was conducted to review the technical feasibility of a 5-meter-high	**Yes** The Planning Justification Report for the Draft Plan of Subdivision for the project relied on the results of the Major Arterial	**Yes** As noted, the Noise Impact Assessment for the Major Arterial Road Connection was relied on in the Planning	**Yes** Noise from construction-related activities could potentially cause temporary nuisance or disturbance	**Yes** Potential disturbances related to noise as a result of periodic maintenance activities.	**Yes** Reasonable to assume potential disturbance as a result of construction noise.	**Yes** Reasonable to assume potential disturbances related to noise as a result of periodic	**Yes** Several projects have identified noise effects associated with construction. Should several	**Yes** Several projects have indicated a potential for increased noise during operations and maintenance	**Not Considered Significant** Noise and vibration during construction and maintenance are temporary in nature.

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	activity. Mitigation measures were developed based on the project's Noise Impact Assessment.	noise wall along the proposed ROW. The noise wall did not provide a minimum 5dB reduction in sound level. Therefore, it was concluded that noise mitigation was not considered feasible and not recommended for the project.	Road Connection Noise Impact Assessment and did not conduct a separate Noise Impact Assessment. It can be inferred that construction noise will be similar for road and building construction activities related to the Industrial Park.	Justification Report for the project and an overall increase in noise is anticipated over the life of the project, given the planned growth in traffic and industrial activities. The Industrial Park is planned to be fully functional by 2043 and noise may incrementally increase over the years through the course of project development.	effects for local residents.			maintenance activities.	projects proceed at the same time these effects could be compounded.	phases. Once built, these projects combined could have an increased negative effect resulting from increased background noise and vibration.	Specific operations are required to comply with site-specific Environmental Compliance Approvals, Licenses, authorizations, and/or noise regulations.

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Natural Environment Resources - Physical Environment: Spills	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Yes** Potential inadvertent release of deleterious substances including oil, gasoline, or other liquids during construction.	**Yes** Potential inadvertent release of deleterious substances including oil, gasoline, or other liquids during maintenance activities.	**Yes** Reasonable to assume the potential inadvertent release of deleterious substances including oil, gasoline, or other liquids.	**Yes** Reasonable to assume the potential inadvertent release of deleterious substances including oil, gasoline, or other liquids.	**Yes** Multiple projects have identified the inadvertent release of deleterious substances as a potential during construction activities. project-specific mitigation and spill response can be implemented to mitigate concerns.	**Yes** Several projects have identified the inadvertent release of deleterious substances as a potential during operation phases. project-specific mitigation and spill response can be implemented to mitigate concerns.	**Not Considered Significant** While several projects have identified the risk of inadvertent release of deleterious substances the risk is at a project-specific level, project-specific mitigation plans and spill response plans can be developed to manage project-specific risks.
Natural Environment Resources - Physical Environment:	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Yes** Solid and/or liquid waste would be generated	**Yes** Solid and/or liquid waste would be generated	**Yes** Reasonable to assume solid and/or liquid	**Yes** Reasonable to assume solid and/or liquid waste will be	**Yes** Several projects have the potential to generate	**Yes** Several projects have the potential to generate	**Not Considered Significant** Several projects have

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Waste Generation					during construction.	during maintenance activities.	waste will be generated.	generated during maintenance activities.	waste materials during construction which may have effects on local communities if not handled properly. Project-specific mitigation measures can be implemented to mitigate concerns.	waste materials during maintenance activities which may have effects on local communities if not handled properly. Project-specific mitigation measures can be implemented to mitigate concerns.	the potential to generate waste materials during construction and maintenance which may have effects on local communities if not handled properly. Project-specific mitigation measures can be implemented to mitigate concerns.
Natural Environment Resources - Physical Environment: Excess Materials Management	**Yes** Excess materials may be generated including reclaimed asphalt, aggregate, concrete,	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Yes** Excess materials, including topsoil and subsoil, may be produced during construction.	**No** Not Applicable.	**Yes** Reasonable to assume that excess materials including topsoil and subsoil, may be produced	**Unknown** The potential for effect is unknown until the project environmental assessment is complete	**Yes** Several projects have the potential to generate excess materials during construction	**No** Not Applicable.	**Not Considered Significant** Several projects have the potential to generate excess materials

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	manufactured wood waste, and scrap metal.						during construction.		which may have effects on local communities if not handled properly. Project-specific mitigation measures can be implemented to mitigate concerns.		during construction activities which may have effects on local communities if not handled properly. Project-specific mitigation measures can be implemented to mitigate concerns.
Natural Environment Resources - Atmospheric Environment: Climate Change	**Yes** Emissions from construction equipment are anticipated. Project-specific mitigation measures were developed to	**No** Not Applicable.	**Yes** An Air Quality Impact Assessment was not completed for the project specifically. The Planning Justification Report relied on the Municipal Class EA for	**Yes** The Industrial Park will continue to be developed through the next two decades and it is expected that 50% of the lands will be functional by 2033, with full	**Yes** Emissions from vehicles and equipment during construction phases are anticipated. Insulating mediums of Hydro One	**Yes** Emissions from vehicles and equipment during maintenance phases are anticipated. Insulating mediums of Hydro One	**Yes** Reasonable to assume emissions will be generated from vehicles and equipment.	**Yes** Reasonable to assume emissions will be generated from vehicles and equipment.	**Yes** Several projects have identified increased potential for greenhouse gas emission releases associated with construction equipment not normally in	**Yes** Several projects have identified increased potential for greenhouse gas emission releases associated with operation activities. These releases have	**Not considered significant** While it is acknowledged that the development of these projects will create emissions during construction and maintenance

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	mitigate effects.		the Major Arterial Roadway to be established for the Industrial Park. According to the report, future build of the project will contribute 0.013% of Ontario's total GHG emissions.	functionality anticipated by 2043. Operational mitigation will largely rely on the development of clean energy and transportation technology.	equipment contain Sulphur Hexafluoride, a commercially available non-toxic GHG.	equipment contain Sulphur Hexafluoride, a commercially available non-toxic GHG.			operation in the construction area. These releases have the potential to contribute to climate change through greenhouse gas emission releases. When combined, these projects together may produce larger emissions than individually on their own.	the potential to contribute to climate change through greenhouse gas emission releases. When combined, these projects together may produce larger emissions than individually on their own.	contributing to greenhouse gas releases, the emission sources (individual vehicles) are not considered significant in the context of the small overlapping project areas.
Natural Environment Resources - Atmospheric Environment: Air Quality	**Yes** Residential and business properties may experience noise, dust,	**No** Not Applicable.	**Yes** An Air Quality Impact Assessment was not	**Yes** The Industrial Park will continue to be developed through the next two	**Yes** Potential for fugitive dust and impacts on air quality from vehicle emissions.	**Yes** Potential for fugitive dust and impacts on air quality from vehicle emissions as	**Yes** Reasonable to assume the potential for fugitive dust and impacts on air quality	**Yes** Reasonable to assume the potential for fugitive dust and impacts on air quality	**Yes** Several projects have identified increased potential for negative air	**Yes** Several projects have identified increased potential for negative air	**Not Considered Significant** Not considered significant because potential

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	and equipment exhaust associated with construction activities. However, the sources of air emissions are to be removed once construction is complete.		completed for the project specifically. The Planning Justification Report relied on the Municipal Class EA for the Major Arterial Roadway to be established for the Industrial Park, which states that construction might generate some temporary air	decades and it is expected that 50% of the lands will be functional by 2033, with full functionality anticipated by 2043. Operational mitigation will largely rely on the development of clean energy and transportation technology.		a result of periodic maintenance activities.	from vehicle emissions.	from vehicle emissions.	quality effects through construction releases of dust and airborne particulates. These releases will be temporary in nature and project-specific mitigation can be implemented to mitigate Project-specific effects.	quality effects through maintenance activity releases of dust and airborne particulates. These releases will be temporary in nature and Project-specific mitigation can be implemented to mitigate Project-specific effects.	impacts are temporary and can be mitigated through Project-specific measures.

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			quality impact; however, the full completion will only contribute negligible air contaminants, and the air quality impact is predicted to meet relevant regulations and standards.								
Natural Environment Resources – Atmospheric Environment: Noise and Vibration	**Yes** Residential and business properties may experience noise, dust, and equipment exhaust	**Yes** An investigation of noise mitigation was conducted to review the technical feasibility of a 5-meter-high	**Yes** The Planning Justification Report for the Draft Plan of Subdivision for the project relied on the results of the Major Arterial	**Yes** As noted, the Noise Impact Assessment for the Major Arterial Road Connection was relied on in the Planning	**Yes** Noise from construction-related activities could potentially cause temporary nuisance or disturbance	**Yes** There will be some operational noise from equipment at the new station.	**Yes** Reasonable to assume potential disturbance as a result of noise, including the potential use of implosive	**Yes** Reasonable to assume potential disturbance as a result of noise, including the potential use of implosive	**Yes** Several projects have identified noise and vibration effects associated with construction.	**Yes** Several projects have indicated a potential for increased noise and vibration during operations	**Not Considered Significant** Noise and vibration during construction are temporary in nature. Specific operations are

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	associated with construction activity. However, the sources of air emissions are to be removed once construction is complete.	noise wall along the proposed ROW. The noise wall did not provide a minimum 5dB reduction in sound level. Therefore, it was concluded that noise mitigation was not considered feasible and not recommended for the project.	Road Connection Noise Impact Assessment and did not conduct a separate Noise Impact Assessment. It can be inferred that construction noise will be similar for road and building construction activities related to the Industrial Park.	Justification Report for the project and an overall increase in noise is anticipated over the life of the project, given the planned growth in traffic and industrial activities. The Industrial Park is planned to be fully functional by 2043 and noise may incrementally increase over the years through the course of project development.	effects for local residents.		splicing and their associated increased vibration levels.	splicing and their associated increased vibration levels.	Should several projects proceed at the same time these effects could be compounded.	and maintenance phases. Once built, these projects combined could have an increased negative effect resulting from increased background noise and vibration.	required to comply with site-specific Environmental Compliance Approvals, Licenses, authorizations, and/or noise regulations.

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Natural Environment Resources - Surface Water Resources: Soil Rutting & Vegetation Removals	**Yes** Site preparation (e.g., vegetation clearing, site grading), and construction will result in the loss of vegetation of the major arterial road and roundabout footprint as well as changes in surface water flow. The project includes the development of external drainage areas as well as a stormwater	**Yes** Impacts are to be mitigated through the development of drainage ditches and one new stormwater management pond as part of the project.	**No** Not Applicable	**No** Not Applicable.	**Yes** The project includes areas that will require the temporary removal of vegetation. Vegetation removals have the potential for increases in both overland flow and water temperature, as well as mobilization and transport of organic debris and sediment to nearby watercourses and municipal drains.	**Yes** The project includes areas that will require the permanent removal of vegetation. Vegetation removals have the potential for increases in both overland flow and water temperature, as well as mobilization and transport of organic debris and sediment to nearby watercourses and municipal drains.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Yes** Several projects have identified soil rutting and vegetation removal effects associated with construction.	**Yes** Several projects have indicated a potential for soil rutting and vegetation removals during the operations and maintenance phases.	**Not Considered Significant** Not considered significant because potential impacts are temporary in nature and can be mitigated through project-specific measures.

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	management pond.										
Natural Environment Resources - Surface Water Resources: Dewatering	**No** Not Applicable	**No** Not Applicable.	**No** Not Applicable	**No** Not Applicable.	**Yes** Potential effects related to dewatering of construction areas.	**No** Not Applicable.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Yes** One project has identified potential negative effects from dewatering activities during construction. These effects are temporary in nature and project-specific mitigation can be utilized to mitigate project-specific concerns.	**No** Not Applicable.	**Not Considered Significant** Not considered significant because potential impacts are temporary in nature and can be mitigated through project-specific measures.
Natural Environment Resources - Surface Water Resources:	**Yes** Potential effects on fish and fish habitat	**No** Not Applicable.	**No** Not Applicable	**No** Not Applicable.	**Yes** Potential for impacts to municipal drains as a	**Yes** Potential for impacts to municipal drains during	**Unknown** The potential for effect is unknown until the project	**Unknown** The potential for effect is unknown until the project	**Yes** Several projects have identified increased	**Yes** One project has identified the potential for erosion	**Not Considered Significant** Not considered significant

Environmental Concern	Major Arterial Road Connection - Temporary Effect	Major Arterial Road Connection - Long-Term Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Temporary Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Long-Term Effect	Centennial TS and Line Project - Temporary Effect	Centennial TS and Line Project - Long-Term Effect	M31W/M33W Upgrades – Temporary Effect	M31W/M33W Upgrades – Long-Term Effect	Cumulative Effects Analysis - Temporary Effect	Cumulative Effects Analysis - Long-Term Effect	Determination of Significance
Erosion and Sedimentation	resulting from construction activities are possible. The Project has/will prepare an Erosion and Sediment Control Plan.				result of construction. Erosion and Sedimentation measures are to be implemented if construction activities are to occur near surface water resources.	maintenance activities.	environmental assessment is complete.	environmental assessment is complete.	potential for erosion and sedimentation during construction activities. Project-specific mitigation measures can be implemented to manage erosion and sedimentation issues.	and sedimentation during construction activities. Project-specific mitigation measures can be implemented to manage erosion and sedimentation effects.	because potential impacts are temporary in nature and can be mitigated through project-specific measures.
Natural Environment Resources - Surface Water Resources: Construction work within areas regulated by Conservation Authorities	**Yes** The project study area is within the CCCA watershed, and a portion of the study area is located within the KCCA regulated area. The	**Yes** The project study area intersects with regulated areas of CCCA and KCCA.	**Yes** The Planning Justification Report acknowledges that the project area is governed by provisions of the Conservation Authorities Act; however,	**Yes** It is assumed that clearing and land preparation activities for the Industrial Park have largely removed natural features that would be	**Yes** A small portion of the transmission line falls within KCCA's updated regulatory area boundary. Hydro One has worked with KCCA	**Yes** Potential for infrastructure to be located within Conservation Authority regulated lands.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Yes** Several projects have the potential for infrastructure to be located within Conservation Authority regulated lands. Project-specific	**Yes** Several projects have the potential for infrastructure to be located within Conservation Authority regulated lands. Project-specific	**Not Considered Significant** Not considered significant because project-specific mitigation measures can be implemented to mitigate concerns.

Environmental Concern	Major Arterial Road Connection - Temporary Effect	Major Arterial Road Connection - Long-Term Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Temporary Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Long-Term Effect	Centennial TS and Line Project - Temporary Effect	Centennial TS and Line Project - Long-Term Effect	M31W/M33W Upgrades – Temporary Effect	M31W/M33W Upgrades – Long-Term Effect	Cumulative Effects Analysis - Temporary Effect	Cumulative Effects Analysis - Long-Term Effect	Determination of Significance
	portion of the study area within the KCCA regulated area contains no identified hazard lands that would be subject to regulations under the Conservation Authority Act.		does not indicate what permits were acquired for construction. Drainages and fish habitat were altered by land clearing activities, and it is assumed those activities would have been permitted by the local Conservation Authorities (Kettle Creek and Catfish Creek) within their respective regulated area jurisdictions with certain conditions.	governed by the Conservation Authorities Act; however, further permitting for ongoing development and operations of the Industrial Park and related infrastructure (e.g., roads, utilities) may still be required, particularly around the realigned drainages and storm water management infrastructure.	prior to construction commencement to confirm specific mitigation requirements in the area.				mitigation measures can be implemented to mitigate concerns.	mitigation measures can be implemented to mitigate concerns.	

Environmental Concern	Major Arterial Road Connection - Temporary Effect	Major Arterial Road Connection - Long-Term Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Temporary Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Long-Term Effect	Centennial TS and Line Project - Temporary Effect	Centennial TS and Line Project - Long-Term Effect	M31W/M33W Upgrades – Temporary Effect	M31W/M33W Upgrades – Long-Term Effect	Cumulative Effects Analysis - Temporary Effect	Cumulative Effects Analysis - Long-Term Effect	Determination of Significance
Natural Environment Resources - Source Water Protection: Source Water Protection (SWP)	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Yes** One project has identified potential for effects to source water protection during construction activities. Project-specific mitigation measures can be implemented to manage potential temporary effects.	**No** Not Applicable.	**Not Considered Significant** Not considered significant because potential impacts are temporary in nature and can be mitigated through project-specific measures.
Natural Environment Resources - Groundwater Resources: Groundwater Quality and Quantity	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Yes** Disturbance of contaminated soil has the potential to contribute to groundwater contamination.	**Yes** Disturbance of contaminated soil during maintenance activities has the potential to contribute to	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Yes** Multiple projects have identified potential effects on groundwater quality during	**Yes** One project has identified potential effects on groundwater quality during maintenance	**Not Considered Significant** Not considered significant because potential impacts are

Environmental Concern	Major Arterial Road Connection - Temporary Effect	Major Arterial Road Connection - Long-Term Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Temporary Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Long-Term Effect	Centennial TS and Line Project - Temporary Effect	Centennial TS and Line Project - Long-Term Effect	M31W/M33W Upgrades – Temporary Effect	M31W/M33W Upgrades – Long-Term Effect	Cumulative Effects Analysis - Temporary Effect	Cumulative Effects Analysis - Long-Term Effect	Determination of Significance
					Disturbance and compaction to soil have the potential to inhibit infiltration.	groundwater contamination. Disturbance and compaction to soil have the potential to inhibit infiltration.			construction activities. Project-specific mitigation measures can be implemented to manage potential temporary effects.	activities. Project-specific mitigation measures can be implemented to manage potential temporary effects.	temporary and can be mitigated through project-specific measures.
Natural Environment Resources - Designated or Special Natural Areas: Important Bird Area (IBA)	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.
Natural Environment Resources - Designated or Special Natural Areas: Significant Woodlands	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Yes** One project has identified potential for effects on significant woodlands during	**Yes** One project has identified potential for effects on significant woodlands during	**Not Considered Significant** Not considered significant because project-specific mitigation

Environmental Concern	Major Arterial Road Connection - Temporary Effect	Major Arterial Road Connection - Long-Term Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Temporary Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Long-Term Effect	Centennial TS and Line Project - Temporary Effect	Centennial TS and Line Project - Long-Term Effect	M31W/M33W Upgrades – Temporary Effect	M31W/M33W Upgrades – Long-Term Effect	Cumulative Effects Analysis - Temporary Effect	Cumulative Effects Analysis - Long-Term Effect	Determination of Significance
									construction activities. Project-specific mitigation measures can be implemented to manage potential temporary effects.	construction activities. Project-specific mitigation measures can be implemented to manage potential temporary effects.	measures can be implemented to mitigate concerns. No significant woodlands overlap between projects.
Natural Environment Resources - Designated or Special Natural Areas: Significant Valleylands	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.
Natural Environment Resources - Designated or Special Natural Areas: Significant Wetlands	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.

Environmental Concern	Major Arterial Road Connection - Temporary Effect	Major Arterial Road Connection - Long-Term Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Temporary Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Long-Term Effect	Centennial TS and Line Project - Temporary Effect	Centennial TS and Line Project - Long-Term Effect	M31W/M33W Upgrades – Temporary Effect	M31W/M33W Upgrades – Long-Term Effect	Cumulative Effects Analysis - Temporary Effect	Cumulative Effects Analysis - Long-Term Effect	Determination of Significance
Natural Environment Resources - Natural Heritage Features: Vegetation	**Yes** Removal and/or damage to vegetation.	**Yes** Removal and/or damage to vegetation.	**Yes** The Industrial Park lands have been cleared of vegetation except where woodlands are being retained in the north and south. Under the future proposed conditions, the developing area is assumed to have an overall impervious surface coverage (asphalt, rooftops, concrete, etc.) of 85%. Restoration of grassed areas	**No** The Industrial Park lands have been cleared and prepped for development. Effects of construction are permanent and no additional effects on vegetation are expected during operations.	**Yes** The project requires the temporary removal of vegetation for construction and temporary workspace.	**Yes** The project requires the permanent removal of vegetation for the TS footprint.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Yes** Several projects have identified potential for effects on vegetation during construction activities. Project-specific mitigation measures can be implemented to manage potential temporary effects.	**Yes** Several projects have identified the potential for long-term effects on vegetation. Project-specific mitigation measures can be implemented to manage potential long-term effects.	**Not Considered Significant** Vegetation removal is required for several projects, however, within the area of overlap, there are minimal vegetation removals anticipated. Project-specific mitigation measures can be implemented to restore vegetation where possible. Compared to the larger landscape the anticipated project footprint areas are not

Environmental Concern	Major Arterial Road Connection - Temporary Effect	Major Arterial Road Connection - Long-Term Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Temporary Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Long-Term Effect	Centennial TS and Line Project - Temporary Effect	Centennial TS and Line Project - Long-Term Effect	M31W/M33W Upgrades – Temporary Effect	M31W/M33W Upgrades – Long-Term Effect	Cumulative Effects Analysis - Temporary Effect	Cumulative Effects Analysis - Long-Term Effect	Determination of Significance
			and tree plantings may occur along parking lots and road shoulders once construction is completed.								expected to result in a significant level of vegetation removal.
Natural Environment Resources - Natural Heritage Features: Fish and Fish Habitat	**No** Not Applicable.	**No** Not Applicable.	**Yes** Suitable year-round fish habitat was confirmed present in one woodlot on the Industrial Park lands; however, it was within man-made ponded areas. It was concluded that direct fish habitat was not present. The existing drainage	**No** The Industrial Park lands have been cleared and prepped for development. Effects of construction are permanent and no additional effects on fish and fish habitat are expected during operations.	**No** Not Applicable.	**No** Not Applicable.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Yes** One project has identified potential for effects on fish and fish habitat during construction activities. Project-specific mitigation measures can be implemented to manage potential temporary effects.	**Yes** One project has identified potential for permanent changes or effects to fish and fish habitat at specific water crossing locations and as a result of ancillary project activities.	**Not Considered Significant** Project-specific mitigation measures carried out through permitting, approvals, and license requirements can mitigate project-specific concerns at the project level.

Environmental Concern	Major Arterial Road Connection - Temporary Effect	Major Arterial Road Connection - Long-Term Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Temporary Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Long-Term Effect	Centennial TS and Line Project - Temporary Effect	Centennial TS and Line Project - Long-Term Effect	M31W/M33W Upgrades – Temporary Effect	M31W/M33W Upgrades – Long-Term Effect	Cumulative Effects Analysis - Temporary Effect	Cumulative Effects Analysis - Long-Term Effect	Determination of Significance
			courses will be permanently altered by construction for the development of storm water management infrastructure.								
Natural Environment Resources - Natural Heritage Features: Woodlands	**No** Not Applicable.	**No** Not Applicable.	**Yes** With the exception of the woodlot in Block 15, approvals have been obtained from DFO, ECCC, MNRF, and MECP to remove woodlots and alter drainage courses within the new Industrial Park lands. Much of the area has	**No** The Industrial Park lands have been cleared and prepped for development. Effects of construction are permanent and no additional effects on woodlands are expected during operations.	**Yes** A woodlot (Woodlot 1B) is proposed for removal by the City of St. Thomas in relation to the project.	**Yes** A woodlot (Woodlot 1B) is proposed for removal by the City of St. Thomas in relation to the project.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**No** Several projects have identified potential effects on woodlands during construction activities. Project-specific mitigation measures can be implemented to manage potential temporary effects.	**No** Several projects have identified potential effects on woodlands during maintenance activities. Project-specific mitigation measures can be implemented to manage potential temporary effects.	**No** Woodland removal is required for several projects, however, within the areas of overlap, there are minor woodland removals anticipated. Project-specific mitigation measures can be implemented to restore vegetation

Environmental Concern	Major Arterial Road Connection - Temporary Effect	Major Arterial Road Connection - Long-Term Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Temporary Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Long-Term Effect	Centennial TS and Line Project - Temporary Effect	Centennial TS and Line Project - Long-Term Effect	M31W/M33W Upgrades – Temporary Effect	M31W/M33W Upgrades – Long-Term Effect	Cumulative Effects Analysis - Temporary Effect	Cumulative Effects Analysis - Long-Term Effect	Determination of Significance
			already been cleared. Of the net developable area within the Industrial Park lands, 41.9 hectares will be used for woodland retention and re-naturalization. The woodland being retained south of the PowerCo site is 9.7 hectares in size and will be designated and zoned to ensure long-term protection. The woodland and naturalization blocks (32.2								where possible. Compared to the larger landscape the anticipated project footprint areas are not expected to result in a significant level of woodland removal.

Environmental Concern	Major Arterial Road Connection - Temporary Effect	Major Arterial Road Connection - Long-Term Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Temporary Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Long-Term Effect	Centennial TS and Line Project - Temporary Effect	Centennial TS and Line Project - Long-Term Effect	M31W/M33W Upgrades – Temporary Effect	M31W/M33W Upgrades – Long-Term Effect	Cumulative Effects Analysis - Temporary Effect	Cumulative Effects Analysis - Long-Term Effect	Determination of Significance
			hectares) located in the northern portion of the Industrial Park lands will provide a buffer between the future industrial uses and the rural lands to the north along Ron McNeil Line.								
Natural Environment Resources - Natural Heritage Features: Wetlands	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Yes** The storm water management system for the project is proposed to consist of four storm water management ponds. The ponds will be configured as hybrid	**No** Not Applicable.	**No** Not Applicable.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.

Environmental Concern	Major Arterial Road Connection - Temporary Effect	Major Arterial Road Connection - Long-Term Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Temporary Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Long-Term Effect	Centennial TS and Line Project - Temporary Effect	Centennial TS and Line Project - Long-Term Effect	M31W/M33W Upgrades – Temporary Effect	M31W/M33W Upgrades – Long-Term Effect	Cumulative Effects Analysis - Temporary Effect	Cumulative Effects Analysis - Long-Term Effect	Determination of Significance
				wetlands/wet ponds with permanent pool storage to settle particulate matter. The addition of the wetlands and their potential naturalization over the long-term operations of the Industrial Park may be beneficial to native flora and fauna.							
Natural Environment Resources - Natural Heritage Features: Species at Risk (SAR)	**Yes** The project was granted a Social and Economic Benefit Permit (‘D’ – permit)	**No** Not Applicable.	**Yes** A provincially listed SAR (i.e., Butternut tree) was confirmed present in the Industrial Park lands. A permit was obtained	**No** Not Applicable.	**Yes** Potential for temporary effects on SAR bats due to the removal and/or alteration of the woodlots.	**Yes** Potential long-term effects on SAR bats due to the removal and/or alteration of the woodlots.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Yes** Several projects have identified potential effects on species at risk during construction activities.	**Yes** Several projects have identified potential effects on species at risk during construction activities.	**Not Considered Significant** Not considered significant because potential impacts are temporary in nature and can

Environmental Concern	Major Arterial Road Connection - Temporary Effect	Major Arterial Road Connection - Long-Term Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Temporary Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Long-Term Effect	Centennial TS and Line Project - Temporary Effect	Centennial TS and Line Project - Long-Term Effect	M31W/M33W Upgrades – Temporary Effect	M31W/M33W Upgrades – Long-Term Effect	Cumulative Effects Analysis - Temporary Effect	Cumulative Effects Analysis - Long-Term Effect	Determination of Significance
			under subsection 17(1) in accordance with the criteria in Clause 17(2)(d) of the *Endangered Species Act, 2007* from MECP (Permit #SW-D-001-23).						Project-specific mitigation measures can be implemented to manage potential temporary effects.	Project-specific mitigation measures can be implemented to manage potential temporary effects.	be mitigated through project-specific mitigation measures, including those carried out through potential permitting and/or through conditional exemptions under the Endangered Species Act, 2007.
Natural Environment Resources - Natural Heritage Features: Wildlife Habitat	**Yes** Loss and/or degradation of wildlife during construction**.**	**No** Not Applicable.	**Yes** Woodlands and drainages have been permanently altered by clearing and land preparation activities. The natural heritage and	**No** The Industrial Park lands have been cleared and prepped for development. Effects of construction are permanent and no additional	**Yes** Potential disturbance or loss of wildlife habitat, including habitat fragmentation during construction.	**Yes** Potential disturbance or loss of wildlife habitat, including habitat fragmentation during maintenance activities.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Yes** Several projects have identified potential effects on wildlife and wildlife habitat during construction activities. Project-	**Yes** Several projects have identified potential effects on wildlife and wildlife habitat during maintenance activities. Project-	**Not Considered Significant** Not considered significant because potential impacts are temporary in nature and can be mitigated through

Environmental Concern	Major Arterial Road Connection - Temporary Effect	Major Arterial Road Connection - Long-Term Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Temporary Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Long-Term Effect	Centennial TS and Line Project - Temporary Effect	Centennial TS and Line Project - Long-Term Effect	M31W/M33W Upgrades – Temporary Effect	M31W/M33W Upgrades – Long-Term Effect	Cumulative Effects Analysis - Temporary Effect	Cumulative Effects Analysis - Long-Term Effect	Determination of Significance
			ecological review found that no Red-headed Woodpeckers or Pileated Woodpeckers were observed within the new Industrial Park lands, but some nest cavities were observed. The probability of wildlife being found in the new Industrial Park lands and not leaving on their own accord once site work begins is low. Through consultation with ECCC, a permit was received to	effects on wildlife habitat are expected during operations.					specific mitigation measures can be implemented to manage potential temporary effects.	specific mitigation measures can be implemented to manage potential temporary effects.	project-specific measures and applicable permits.

Environmental Concern	Major Arterial Road Connection - Temporary Effect	Major Arterial Road Connection - Long-Term Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Temporary Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Long-Term Effect	Centennial TS and Line Project - Temporary Effect	Centennial TS and Line Project - Long-Term Effect	M31W/M33W Upgrades – Temporary Effect	M31W/M33W Upgrades – Long-Term Effect	Cumulative Effects Analysis - Temporary Effect	Cumulative Effects Analysis - Long-Term Effect	Determination of Significance
			allow the relocation of five Pileated Woodpecker nest cavities to the woodland that is being preserved. Various conditions associated with the issuance of the D Permit are being met by the City, including monitoring and determining appropriate compensation for impacts to natural heritage features.								

Environmental Concern	Major Arterial Road Connection - Temporary Effect	Major Arterial Road Connection - Long-Term Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Temporary Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Long-Term Effect	Centennial TS and Line Project - Temporary Effect	Centennial TS and Line Project - Long-Term Effect	M31W/M33W Upgrades – Temporary Effect	M31W/M33W Upgrades – Long-Term Effect	Cumulative Effects Analysis - Temporary Effect	Cumulative Effects Analysis - Long-Term Effect	Determination of Significance
Natural Environment Resources - Natural Heritage Features: Invasive Species	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Yes** One project has identified the potential for effects from invasive species during construction activities. Project-specific mitigation measures can be implemented to manage potential temporary effects.	**Yes** One project has identified the potential for effects from invasive species during construction activities. Project-specific mitigation measures can be implemented to manage potential long-term effects.	**Not Considered Significant** Not considered significant because potential impacts are temporary in nature and can be mitigated through project-specific measures.
Indigenous community valued components and interests	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.

Environmental Concern	Major Arterial Road Connection - Temporary Effect	Major Arterial Road Connection - Long-Term Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Temporary Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Long-Term Effect	Centennial TS and Line Project - Temporary Effect	Centennial TS and Line Project - Long-Term Effect	M31W/M33W Upgrades – Temporary Effect	M31W/M33W Upgrades – Long-Term Effect	Cumulative Effects Analysis - Temporary Effect	Cumulative Effects Analysis - Long-Term Effect	Determination of Significance
Recreational Resources	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Yes** One project has identified potential for effects on recreational resources during construction activities. Project-specific mitigation measures can be implemented to manage potential temporary effects.	**No** Not Applicable.	**Not Considered Significant** Not considered significant because potential impacts are temporary in nature and can be mitigated through project-specific measures.
Visual and Aesthetic Resources: Visibility of the Project by Sensitive Receptors	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Yes** Reasonable to assume there will be potential visual impacts on sensitive receptors with	**Yes** Reasonable to assume there will be permanent visual impacts on sensitive receptors with	**Yes** One project has been identified as reasonable to assume the potential for negative	**Yes** One project has been identified as reasonable to assume the potential for negative	**Not Considered Significant** One project has been identified as having the potential for

Environmental Concern	Major Arterial Road Connection - Temporary Effect	Major Arterial Road Connection - Long-Term Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Temporary Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Long-Term Effect	Centennial TS and Line Project - Temporary Effect	Centennial TS and Line Project - Long-Term Effect	M31W/M33W Upgrades – Temporary Effect	M31W/M33W Upgrades – Long-Term Effect	Cumulative Effects Analysis - Temporary Effect	Cumulative Effects Analysis - Long-Term Effect	Determination of Significance
							views of the project during construction.	views of the project during its operation.	visual effects associated with construction activities.	visual effects associated with the permanent construction of project infrastructure. Multiple projects being constructed in the same area could compound this effect.	visual changes. Not considered significant because the area of overlap between projects is small and occurs in areas with multiple existing transmission lines and infrastructure.
Technical Considerations: Wind Turbines	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**Unknown** The potential for effect is unknown until the project environmental assessment is complete.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.
Technical Considerations: Infrastructure Crossings	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.	**Unknown** The potential for effect is unknown until the project environmental	**Unknown** The potential for effect is unknown until the project environmental	**No** Not Applicable.	**No** Not Applicable.	**No** Not Applicable.

Environmental Concern	Major Arterial Road Connection - Temporary Effect	Major Arterial Road Connection - Long-Term Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Temporary Effect	St. Thomas Industrial Park Class EA and Plan of Subdivision (Yarmouth Yards Industrial Park) – Long-Term Effect	Centennial TS and Line Project - Temporary Effect	Centennial TS and Line Project - Long-Term Effect	M31W/M33W Upgrades – Temporary Effect	M31W/M33W Upgrades – Long-Term Effect	Cumulative Effects Analysis - Temporary Effect	Cumulative Effects Analysis - Long-Term Effect	Determination of Significance
							assessment is complete.	assessment is complete.			

7.13.4. Summary of Cumulative Effects

The potential cumulative effects for the Project were assessed by considering potential effects from other undertakings that interact and overlap with the Project LSA (500 m from the Preferred Route for the Project). Potential effects were determined based on publicly available information from completed Environmental Assessments where possible, or based on anticipated potential project effects from other Hydro One projects being planned nearby.

The CEA determined that there are no areas of environmental concern that will result in a significant cumulative effect. The mitigation measures outlined for the Project, summarized in **Table 7-1**, provide adequate Project-specific mitigation that remains effective after considering cumulative effects from the other projects. In the event some or all of the projects identified proceed concurrently, temporary construction-related effects can be further coordinated for mitigation with project proponents.

8.0 Effects Monitoring

The purpose of effects monitoring is to confirm the extent of the proposed Project's environmental effects by comparing the actual effects with the predicted effects, to verify the effectiveness of mitigation measures, and to determine whether additional measures are warranted. Monitoring also confirms that the commitments, conditions of approval, where applicable, and compliance with other environmental legislation are met. An Environmental Specialist will be assigned to the Project for the duration of construction to monitor construction activities and provide guidance on needed field changes.

As previously noted in **Section 7.0**, a Project-specific Environmental Management Plan will be prepared following the completion of the Class EA process and before the start of construction. The Environmental Management Plan will:

- Summarize legislative requirements;
- Summarize environmental commitments set out in the final ESR, and terms and conditions of approval, if any;
- Ensure the documentation of pre-construction site conditions, where necessary;
- Provide specific directions to construction personnel on the implementation of environmental mitigation measures, response plans, and other information (e.g., identification of SAR);
- Ensure supporting protection plans have been implemented during construction;
- Describe the environmental monitoring process and frequency to be undertaken during construction;
- Outline steps to be taken when documenting monitoring and identify procedures for follow-up actions, as required; and,
- Provide specific directions on the post-construction restoration of work areas and access locations.

At the end of construction, an as-constructed plan will be prepared to guide ongoing operation and maintenance activities. The plan will document "as constructed" conditions as well as ongoing monitoring requirements, if required.

9.0 Conclusion

Hydro One is seeking approval under the *Environmental Assessment Act* to construct a new 230 kV double-circuit transmission line to support the new PowerCo Canada Inc. electric vehicle battery cell manufacturing facility in the City of St. Thomas.

Hydro One has been directed to provide a high-voltage connection to this the new facility from Ontario's electricity grid. To meet the electricity requirements for the new PowerCo Canada Inc. electric vehicle battery cell manufacturing facility, Hydro One is proposing to construct a new 230 kV double-circuit transmission line between the planned Hydro One Centennial TS in the City of St. Thomas and Hydro One's existing 230 kV transmission lines (circuits M31W/M33W) to the east of Hydro One's Buchanan TS in the City of London. The undertaking will be approximately 18 km in length.

Upon receiving the connection request to energize the new facility in 2023, Hydro One conducted a preliminary assessment to identify viable Route Alternatives for the new 230 kV double-circuit transmission line. As a result of this exercise, three viable transmission line Route Alternatives with variations were identified.

Since the Notice of Commencement in January 2024, municipal, provincial and federal government officials, staff and agencies, Indigenous communities, potentially affected and interested persons, and interest groups were consulted. A total of two rounds of Community Open Houses (COH) were held (COH #1 – February 21 and February 22, 2024, and COH #2 – November 13 and November 14, 2024). To further encourage community input, Hydro One opened a community office in St. Thomas from May to August 2024, offering another platform to engage with the community. Additionally, an interactive online mapping platform was hosted on the Project web page since the commencement of the Class EA process, with regular updates to reflect the progress of the Project and Class EA. This mapping platform provided an opportunity to collect location-based stakeholder questions and comments on the Project map.

A Technical Advisory Committee (TAC) was established to help inform the comparative evaluation process used to select the Preferred Route for the new 230 kV double-circuit transmission line. The purpose of the TAC was to provide a platform for Hydro One to

present information, hold discussions and draw upon the experience and knowledge of individuals and organizations. The TAC consisted of representatives from Indigenous communities, government agencies, municipalities, and interest groups. Two rounds of virtual TAC workshops were held (TAC #1 – May 30, 2024, and TAC #2 – November 4, 2024).

Feedback received from the various public engagement platforms and through the TAC was used to complete a Multi-Criteria Decision-Making Analysis in support of the Class EA. The results of this comparative analysis determined that Route Alternative 3 was selected as the Preferred Route.

Potential short- and long-term environmental effects were identified for the proposed Project and corresponding mitigation measures were developed to address these effects. Based on information collected, project design and implementation of the proposed mitigation measures, no significant net adverse environmental effects are expected.

This draft ESR is being made available for public review and comment for 30 days, from May 28, 2025, until June 30, 2025. Hydro One will make best efforts to respond and resolve issues raised by concerned parties during the comment period. Comments received during this period, and Hydro One's responses, will be documented in this final ESR.

Upon filing of the final ESR with the MECP, the proposed Project will be implemented in full compliance with the requirements of the Class EA process as outlined in the final ESR, incorporating input obtained throughout the planning process. Hydro One will obtain the necessary environmental approvals and permits required for the proposed project prior to construction.

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