D6 Transmission Line Relocation Project

Final Environmental Study Report

August 2026

Prepared by:

Hydro One Networks Inc.

Environmental Services

483 Bay Street, North Tower, 14th Floor

Toronto, ON M5G 2P5

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Executive Summary

Hydro One Networks Inc. (Hydro One) has prepared this final Environmental Study Report (ESR) for the proposed construction of a new single-circuit 115 kilovolt (kV) transmission line (the Project) to relocate an existing transmission line which bisects active areas of Canadian Forces Base (CFB) Petawawa. Hydro One is relocating the transmission corridor at the request of the Department of National Defence (DND). The existing transmission line has also reached the end of its life and requires refurbishment. The Project will be approximately 25 kilometres (km) in length between the Chalk River Junction (JCT) in the Township of Laurentian Hills and the Petawawa JCT in the Town of Petawawa.

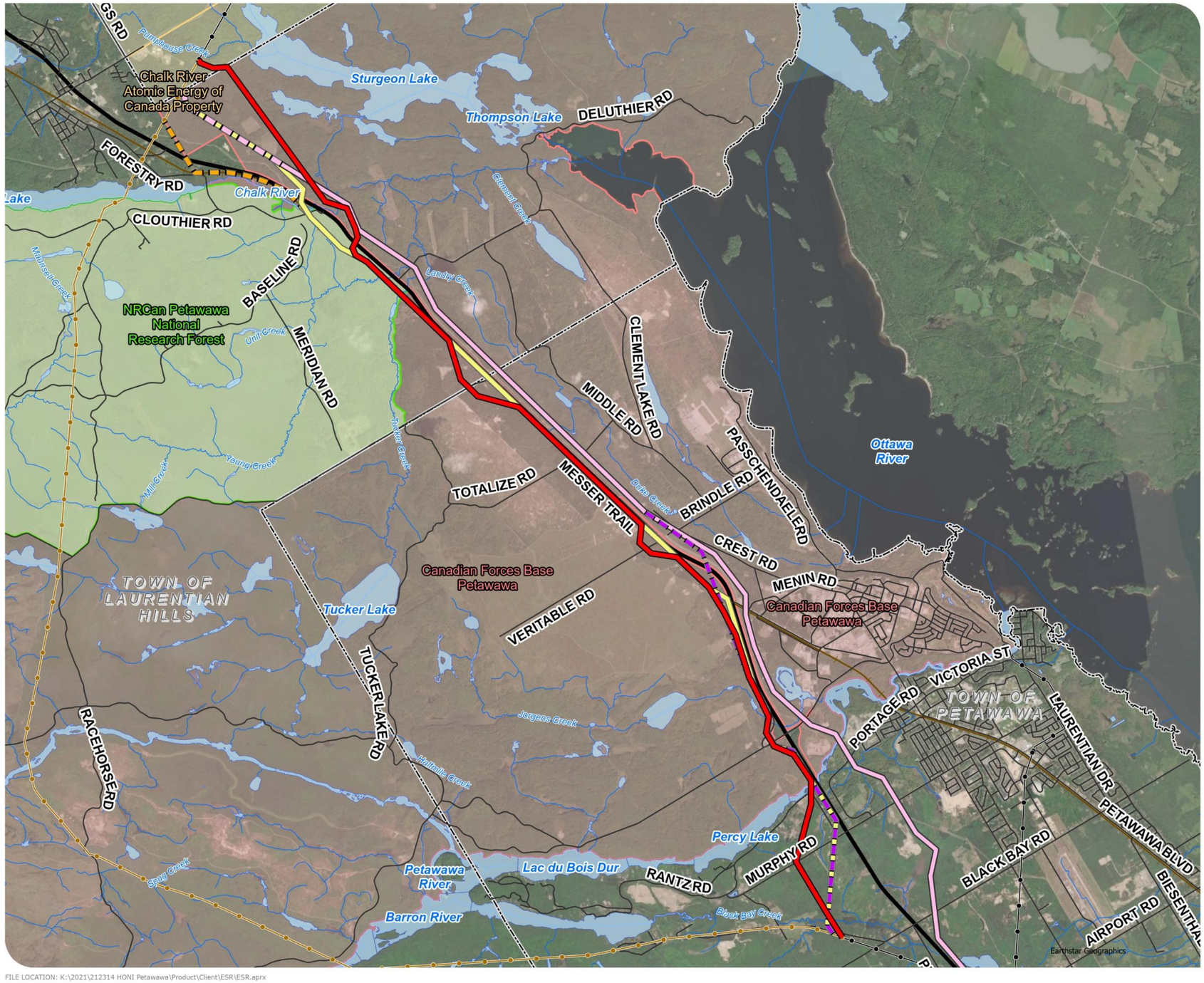
The proposed Project has been subject to the Class Environmental Assessment (Class EA) for Transmission Facilities (Hydro One, 2024), an approved planning and decision-making process under the *Environmental Assessment Act* (*EA Act*) designed for proponents to characterize the existing environment, assess potential environmental effects and identify mitigation, identify and evaluate alternatives, conduct consultation, and document study findings. This planning process applies to transmission infrastructure projects that are carried out routinely and have predictable environmental effects that can be readily managed. This final ESR has been prepared in accordance with the Class EA requirements.

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 route alternatives. The route alternatives for the Project include:

- **Route Alternative A** – This route alternative is shown in yellow on **Figure E-1** and begins approximately 2 km southeast of the Highway 17 and Plant Road interchange in the Village of Chalk River connecting to the existing D6 transmission line within the Atomic Energy of Canada Ltd. (AECL) property and proceeds south, through CFB Petawawa and parallel to the west side of Highway 17 for approximately 18 km. Route Alternative A crosses the Petawawa River and continues south for approximately 700 metres (m) before diverting southwest for approximately 2.5 km where it then connects to the existing D6 transmission line.

    - **Route Alternative A – Alternative Start Point** – shown in orange dashed line on **Figure E-1**, generally follows the same path as Route Alternative A, however it begins approximately 700 m southwest of the start point of Route Alternative A and parallels the Ottawa Valley Railway before it joins the same route as Route Alternative A near the intersection of Clouthier Road and Highway 17.
- **Refined Route Alternative A** – shown in red on **Figure E-1**, generally follows the same path as Route Alternative A, however, it begins approximately 550 m northeast of the start point of Route Alternative A and heads southwest and crosses Highway 17 approximately 775 m south of the Clouthier Road and Highway 17 intersection to join the Route Alternative A. Refined Route Alternative A has some eastward deviations at the intersection of Orange Road and Highway 17, as well as Veritable Road and Highway 17 with an alternate crossing of the Petawawa River approximately 100 m to the west and diverts southwest to Murphy Road and travels south for 2.6 km where it then connects to the existing D6 transmission line south of Black Bay Road.
- **Route Alternative B – East of Highway** – shown in pink on **Figure E-1**, begins approximately 600 m southwest of the Route Alternative A start point connecting to the existing D6 transmission line on the border of the AECL and CFB Petawawa properties and proceeds south, through CFB Petawawa and parallel to the east side of Highway 17 and the abandoned rail corridor formerly used by CP Rail for approximately 17 km. Route Alternative B then diverts southeast from Highway 17 running parallel to the abandoned rail corridor, crosses the Petawawa River, and continues south for approximately 3.6 km before diverting southwest for approximately 2.6 km where it then connects to the existing D6 transmission line.
    - **Route Alternative B – Highway Crossing Deviation** – shown in purple dashed line on **Figure E-1**, generally follows the same path as Route Alternative B, however, instead of diverting southeast from Highway 17 running parallel to the abandoned rail corridor, the route crosses Highway 17 and follows the same path as Route Alternative A to connect to the existing D6 transmission line to the southwest.

Figure E-1: Route Alternatives



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ROUTE ALTERNATIVES

FIGURE E-1

Route Alternatives

- Route A
- Route A Alternate Start
- Route B East of Highway
- Variation B Highway Crossing Deviation
- Refined Route Alternative A
- Project Study Area (120 m)
- Local Study Area (500 m)
- Regional Study Area

Base Data

- Transmission Line Junction
- Existing Transmission Line to Be Decommissioned
- Existing Transmission Line
- Highway
- Road
- Municipal Boundary
- Waterbody
- Watercourse
- Abandoned Railway Track
- NRCan Petawawa National Research Forest
- Canadian Forces Base Petawawa
- Chalk River Atomic Energy of Canada Property

SCALE 1:65,000

0 1 2 Kilometers

MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR

MAP CREATED BY: -PR
MAP CHECKED BY: -LW
MAP PROJECTION: NAD 1983 CSRS UTM Zone 18N

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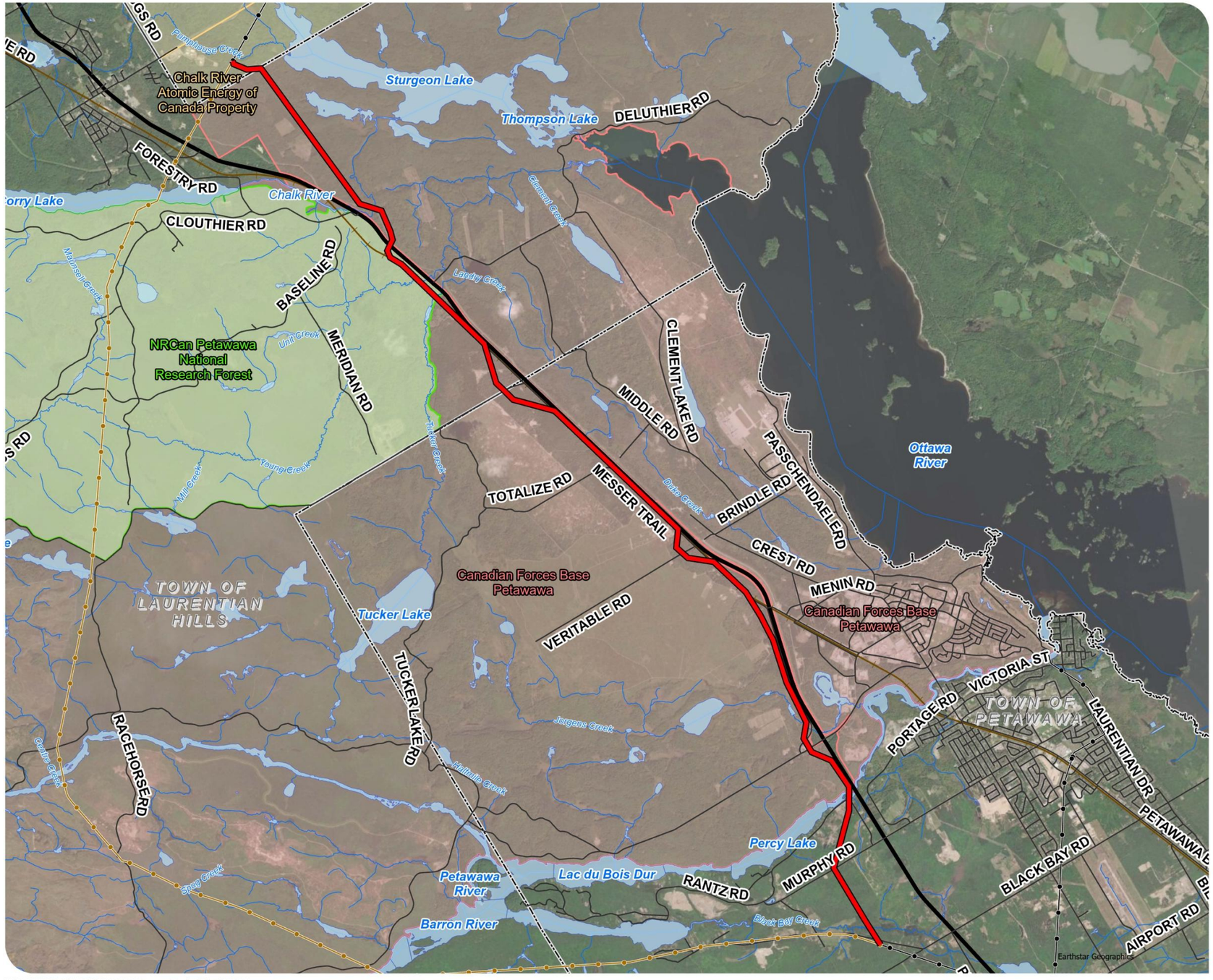
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DATE: 2026-02-03

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To select a preferred route alternative, a comparative evaluation approach was undertaken. The analysis for each criterion included assigning preference rankings (least, moderately, or most preferred) to each alternative based on their estimated effects after standard mitigation. These rankings were then aggregated and analyzed looking at the advantages and disadvantages of each route to identify the preferred alternative.

The first step consisted of collecting information on existing conditions for each evaluation 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 to determine estimated impacts of each route alternative. This comparative evaluation, along with consultation with DND, Indigenous communities, and directly impacted stakeholders, resulted in the selection of the Preferred Route, identified as Refined Route Alternative A (**Figure E-2**).

Figure E-2: Preferred Route Alternative



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PREFERRED ROUTE ALTERNATIVE

FIGURE E-2

- Refined Route Alternative A

Base Data

- Transmission Line Junction
- Existing Transmission Line to Be Decommissioned
- Existing Transmission Line
- Highway
- Road
- Municipal Boundary
- Waterbody
- Watercourse
- Abandoned Railway Track
- NRCan Petawawa National Research Forest
- Canadian Forces Base Petawawa
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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 Community Open Houses (COH), meetings and discussions with various stakeholders, and correspondence. A high-level overview of the consultation timeline is outlined in **Section 4.0**. A consolidated summary of comments and concerns raised throughout the process is provided in **Section 4.10**.

The Notice of Completion of draft ESR was distributed to Indigenous communities consulted, municipal, provincial and federal government officials and agencies, affected landowners, potentially affected and interested persons, and interest groups listed in **Section 4.0** (see contact list in **Appendix A-1**) between January 28, 2026 and February 13, 2026. The Notice was published in the Deep River North Renfrew Times on February 25 and March 4, 2026 and the Eganville Leader on February 25, 2026 (see notification letter and newspaper ad in **Appendix A-2**).

Following the release of the Notice of Completion of the draft ESR, Hydro One provided a 30-day comment period, from February 13, 2026 to March 15, 2026, to allow sufficient time for review and comment on the draft ESR. Written comments or questions regarding the draft ESR were submitted to:

Jeff Hankin, 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 was available electronically on the Hydro One D6 Transmission Line Relocation Project webpage: https://www.hydroone.com/about/corporate-information/major-projects/d6relocation.

Hard copies of the draft ESR were available in print at the following locations:

Chalk River Library
15 Main Street
Chalk River, ONK0J 1J0
613-589-2966

Petawawa Public Library
16 Civic Centre Road
Petawawa, ON
K8H 3H5
613-687-2227

Comments and concerns received during the draft ESR review period have been responded to and documented in the final ESR as required by the Class EA process. Hydro One has made best efforts to respond and address questions and/or issues raised by concerned parties during the public comment period. The ESR has been finalized for the proposed Project in accordance with the Class EA and has been filed with the MECP. The Project is considered approved and may proceed as outlined in the ESR.

Under the *EA Act*, a request may be made to the Ministry of the Environment, Conservation and Parks (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). Such requests can only be made on the grounds that the requested order may prevent, mitigate, or remedy adverse impacts on constitutionally protected Indigenous 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 Indigenous and Treaty rights, and provide supporting information. This process is referred to as a Section 16 Order request and must be sent in writing or email to the MECP, copying Hydro One.

No Section 16 Order requests were received by the MECP or Hydro One relating to the Project, as such, the Project will proceed as outlined in this ESR.

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Acronyms and Abbreviations

Acronym or Abbreviation	Definition
°C	Degrees Celsius
AA	Archaeological Assessment
AIA	Archaeological Impact Assessment
AOA	Archaeological Overview Assessment
AECL	Atomic Energy of Canada Ltd.
ANSI	Area of Natural and Scientific Interest
AOO	Algonquins of Ontario
AOPFN	Algonquins of Pikwakanagan First Nation
AQHI	Air Quality Health Index
BHR	Built Heritage Resource
CC	Co-efficient of Conservatism
CEA	Cumulative Effects Assessment
CER	Canada Energy Regulator
CFA	Capacity Funding Agreements
CFB	Canadian Forces Base
CHER	Cultural Heritage Evaluation Report
CHL	Cultural Heritage Landscape
CHRECPIA	Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment
Class EA	Class Environmental Assessment
CLI	Canada Land Inventory
cm	Centimetre(s)
CNL	Canadian Nuclear Labs
CN Rail	Canadian National Railway
CO	Carbon monoxide
COH	Community Open House
CP	Canadian Pacific
CWS	Canadian Wildlife Service
DFO	Fisheries and Oceans Canada
Dillon Consulting	Dillon Consulting Limited
DND	Department of National Defence

Acronym or Abbreviation	Definition
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
EMP	Environmental Management Plan
ESA	*Endangered Species Act, 2007*
ESC	Erosion and Sediment Control
ESR	Environmental Study Report
FMZ	Fisheries Management Zone
GHG	Greenhouse gas
Golder	Golder Associates Ltd
ha	Hectare(s)
Hydro One	Hydro One Networks Inc.
IAAC	Impact Assessment Agency of Canada
ICNIRP	International Commission on Non-Ionizing Radiation Protection
JCT	Junction
km	Kilometre(s)
km/h	Kilometres per hour
kV	Kilovolt
KZA	Kitigan Zibi Anishinabeg
LiDAR	Light Detection and Ranging
LIO	Land Information Ontario
LSA	Local Study Area
m	Metre(s)
mm	Millimetre(s)
masl	Metres above sea level
Matrix Heritage	Matrix Heritage Inc.
MBCA	*Migratory Birds Convention Act, 1994*
MCM	Ministry of Citizenship and Multiculturalism

Acronym or Abbreviation	Definition
MECP	Ministry of the Environment, Conservation and Parks
MEM	Ministry of Energy and Mines
MMAH	Ministry of Municipal Affairs and Housing
MNO	Metis Nation of Ontario Region 5
MNR	Ministry of Natural Resources
MPP	Member of Provincial Parliament
MTO	Ministry of Transportation
N/A	Not Applicable
NERC	North American Electric Reliability Corporation
NHIC	Natural Heritage Information Centre
NO_2	Nitrogen dioxide
NRCan	Natural Resources Canada
O_3	Ozone
OEB	Ontario Energy Board
OMAFA	Ministry of Agriculture, Food and Agribusiness
OP	Official Plan
OPG	Ontario Power Generation
$PM_{2.5}$	Particulate matter
PPS	Provincial Planning Statement
PRF	Petawawa Research Forest
PSA	Project Study Area
PSO	Protected Species in Ontario List
PSW	Provincially Significant Wetland
ROW	Right-of-way
RSA	Regional Study Area
SAC	Spills Action Centre
SAR	Species at Risk
SARA	*Species at Risk Act, 2002*
SARO	Species at Risk in Ontario
SCA	*Species Conservation Act, 2025*
SCC	Species of Conservation Concern
SO_2	Sulphur Dioxide
SWH	Significant Wildlife Habitat

Acronym or Abbreviation	Definition
TCPL	TransCanada Pipelines Limited
UTM	Universal Transverse Mercator
WWIS	Water Well Information System

1.0 Introduction

Hydro One Networks Inc. (Hydro One) is Ontario's largest electricity transmission and distribution service provider; energizing life in Ontario for over 110 years. The D6 Transmission Line Relocation Project (the Project) began in 2021 at the request of the Federal Department of National Defence (DND) to relocate an existing transmission line corridor that bisects active areas of Canadian Forces Base (CFB) Petawawa. The existing transmission line has also reached the end of its life and requires refurbishment, including wood pole structure and conductor replacements.

In July 2021, Hydro One commenced a Class Environmental Assessment (Class EA) to construct the Project, which consists of the construction and operation of a new single circuit 115-kilovolt (kV) transmission line to replace the existing transmission line being retired on DND property.

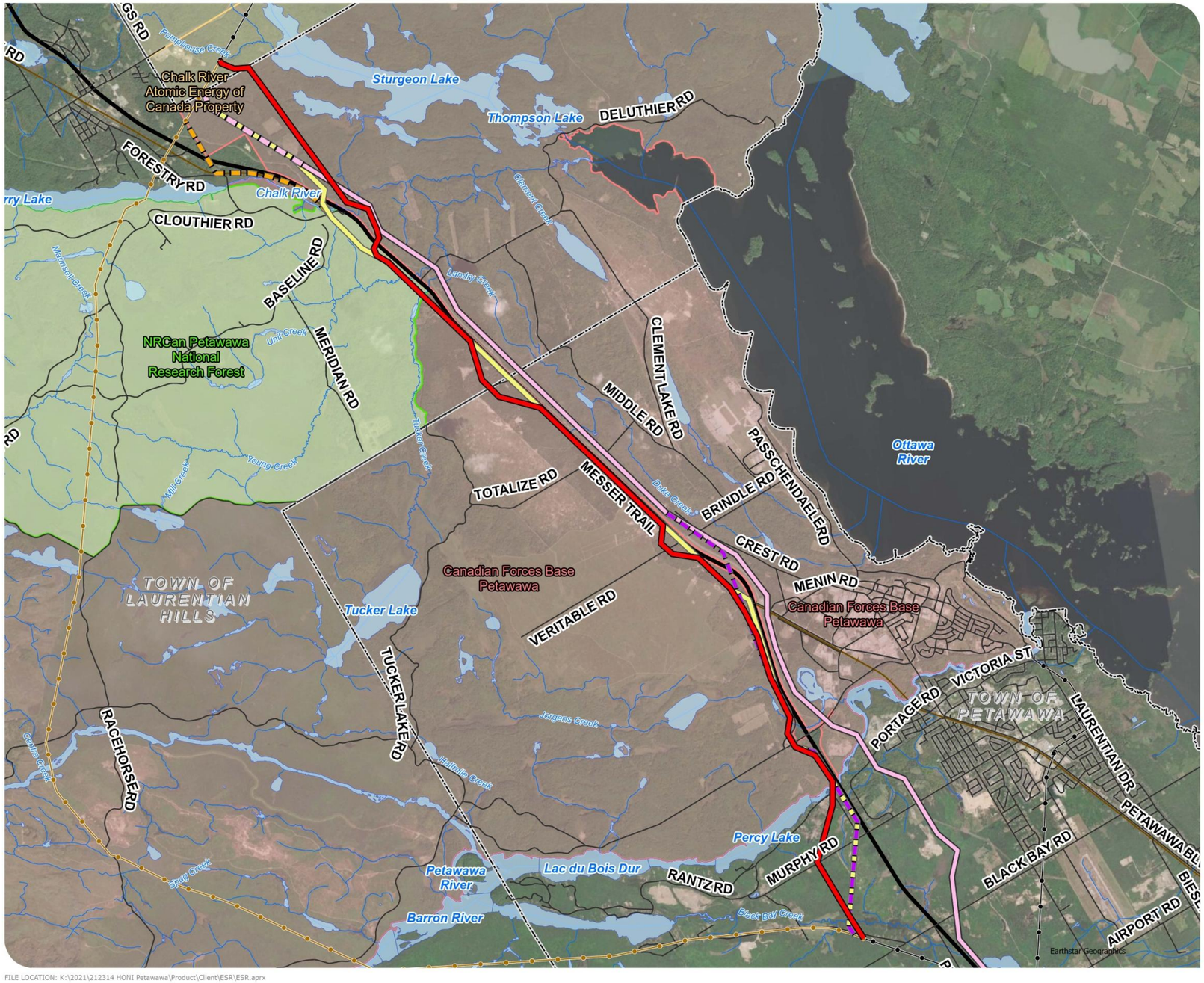
The Project is subject to the Class EA for Transmission Facilities (Hydro One, 2024), an approved planning and decision-making process under the *Environmental Assessment Act* (*EA Act*) designed for proponents to characterize the existing environment, assess potential environmental effects and identify mitigation, identify and evaluate alternatives, conduct consultation, and document study findings. This planning process applies to transmission infrastructure projects that are carried out routinely and have predictable environmental effects that can be readily managed.

This final Environmental Study Report (ESR) has been prepared in accordance with the Class EA for Transmission Facilities. This final ESR documents the Class EA process that was undertaken for the Project, including:

- Existing conditions in the Project Study Area (PSA; 120 metres (m) on either side of the Preferred Route centre line) and Local Study Area (LSA; 500 m on either side of the Preferred Route centre line).
- Notifications to, and consultation undertaken with: Indigenous communities, government agencies, municipal staff and elected officials, interest groups, and members of the public about the Project.
- The route identification and rationale to select the Preferred Route.
- Potential environmental effects associated with the Project.

- Recommended avoidance, mitigation, and restoration measures to address potential environmental effects.

Figure 1-1: Project Location



HYDRO ONE NETWORKS INC.

D6 TRANSMISSION LINE RELOCATION PROJECT

PROJECT LOCATION

FIGURE 1-1

Route Alternatives

- Route A
- Route A Alternate Start
- Route B East of Highway
- Variation B Highway Crossing Deviation
- Refined Route Alternative A

Base Data

- Transmission Line Junction
- Abandoned Railway Track
- NRCan Petawawa National Research Forest
- Canadian Forces Base Petawawa
- Chalk River Atomic Energy of Canada Property
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1.1. Need for the Undertaking

The relocation of the D6 transmission line was requested by the DND because the existing transmission line corridor bisects active areas of CFB Petawawa. The existing transmission line has also reached the end of its life and requires refurbishment, including wood pole structure and conductor replacements. Given that active military operations preclude refurbishment of the transmission line in a timely manner, Hydro One is proposing to relocate the transmission line.

1.2. Description of the Undertaking

The undertaking will involve the installation of a new single-circuit 115 kV wood, composite, and/or steel pole transmission line corridor, including associated infrastructure (e.g., towers, access roads). The undertaking consists of the relocation of approximately 25 kilometres (km) of the D6 transmission line between Chalk River Junction (JCT) in the Township of Laurentian Hills and the Petawawa JCT in the Town of Petawawa.

Upon successful completion of the Class EA process and receipt of subsequent required approvals, construction would begin. Construction is planned to begin in late summer/early fall 2026 and the Project is anticipated to be in service by Spring 2028.

1.3. Alternatives to the Undertaking

The Class EA process requires identification and evaluation of alternatives to the undertaking. “Alternatives to” the undertaking are functionally different approaches to addressing the need for the undertaking. Alternatives to the undertaking must be reasonable from a technical, economic, and environmental perspective and must fall within the mandate of the proponent.

1.3.1. Alternative #1: Do Nothing

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

Due to conflicts with the current location of the D6 transmission line within active areas of CFB Petawawa, the “Do Nothing Alternative” would not address the request by the DND to relocate the transmission line. Further, the existing transmission line has

reached end of life and the “Do Nothing Alternative” would not address the need to refurbish the transmission line. Therefore, the “Do Nothing Alternative” is not considered to be a feasible option.

1.3.2. Alternative #2: Refurbishment of the Existing Transmission Line

The Hydro One Project Team reviewed the possibility of refurbishing the existing D6 transmission line. However, active military operations within CFB Petawawa preclude refurbishment of the transmission line in a timely manner and refurbishment of the existing transmission line would not address the request by the DND to relocate the transmission line.

1.3.3. Alternative #3: Relocation of the Transmission Line

The relocation of the transmission line would allow crews to safely perform refurbishment work on equipment nearing the end of its service life and minimize impacts to military activities at CFB Petawawa. It would also address the request by the DND to relocate the transmission line.

1.4. Approval Process and Regulatory Requirements

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

1.4.1. Class Environmental Assessment Process

The Class EA for Transmission Facilities (Hydro One, 2024) is an approved planning and decision-making process under the *EA Act*. The Class EA for Transmission Facilities sets out the types of projects to which the Class EA applies (section 1.2):

1. Establishing a new or temporary transmission line that has a nominal operating voltage of greater than or equal to 115 kV and is greater than 2 km in length.
2. Refurbishing an existing transmission line that has a nominal operating voltage of greater than or equal to 115 kV and is greater than 2 km in length.
3. Establishing a new transmission station that has a nominal operating voltage of greater than or equal to 115 kV.

4. Expanding an existing transmission station, where the expansion involves the acquisition of land and the transmission station has a nominal operating voltage of greater than or equal to 115 kV.

Section 1.3 of the Class EA for Transmission Facilities 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.
4. Projects Subject to the Full Class EA.

Any project to which the Class EA applies is eligible for the Class EA Screening Process except the following projects, which instead must be assessed under the Full Class EA process (Section 1.3.3):

1. Establishing a transmission line that has a nominal operating voltage of greater than 115 kV and less than 500 kV and is greater than or equal to 50 km.
2. Establishing a transmission line that has a nominal operating voltage of greater than or equal to 500 kV and is greater than 2 km.
3. Refurbishing an existing transmission line that has a nominal operating voltage of greater than or equal to 500 kV and is greater than or equal to 75 km.
4. Establishing a new or expanding an existing transmission station that has a nominal operating voltage of greater than 500 kV.

Projects subject to the Full Class EA include (section 1.3.4):

1. Projects that are ineligible for the Class EA Screening Process, as set out in Section 1.3.3.
2. Projects that are not exempted from the *EA Act* under Section 1.3.1 (emergency situation) or further to the Archaeological Screening Process or the Class EA Screening Process.
3. Projects where the proponent chooses to complete the Full Class EA voluntarily.

This Project meets the criteria for establishing a new or temporary transmission line that has a nominal operating voltage of greater than or equal to 115 kV and is greater than 2 km in length. The Project also meets the criteria for eligibility for exemption subject to the Class EA Screening Process. However, due to public and agency interest in the Project, Hydro One has voluntarily chosen to complete the Full Class EA.

This final ESR has been prepared in accordance with the Class EA for Transmission Facilities (Hydro One, 2024). The Class EA process is illustrated in **Figure 1-2**. Components of the process include:

- Establish need (**Section 1.1**).
- Identify and evaluate "alternatives to" the undertaking (**Section 1.1**).
- Define the study area (**Section 3.1**).
- Issue the Notice of Commencement (**Section 4.2.1**).
- Conduct an environmental inventory (**Section 5.0**).
- Identify and evaluate alternative routes (**Section 6.0**).
- Select the Preferred Route (**Section 6.4.1** and prepare the draft ESR.
- Issue the Notice of Completion and the draft ESR for public review and comment (**Section 4.11**).
- 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
- Conduct consultation and engagement throughout the process (**Section 4.0**).

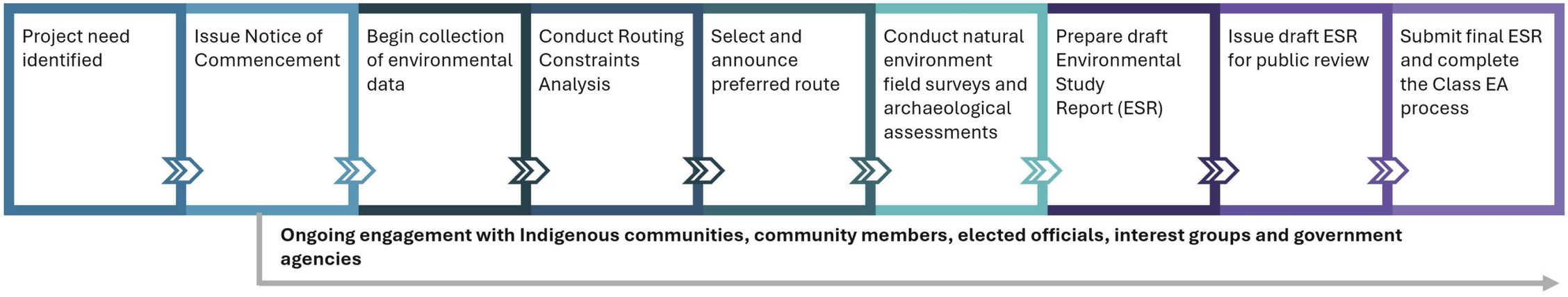
The draft ESR was available for public review and comment for a period of 30 calendar days, from February 13, 2026 until March 15, 2026. Hydro One has made best efforts to respond and resolve issues raised by concerned parties during the draft ESR review period. Issues and their respective responses are documented and summarized in **Section 4.11**.

As outlined in Section 3.4.4 of the Class EA for Transmission Facilities, 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

Indigenous or Treaty rights. The MECP will not consider requests on other grounds. No requests to the MECP or Hydro One were received relating to the Project.

A copy of the final ESR has been placed on the Hydro One Project website, as well as provided to the Environmental Assessment Branch (EAB) and the appropriate Regional EA Coordinator at MECP for filing. The final ESR and the Class EA statement of Completion have been filed with the MECP, and the proposed Project is considered accepted and may proceed as outlined in the final ESR.

Figure 1-2: Class Environmental Assessment Process



1.4.2. Other Permits, Licenses, Approvals, and Regulatory Requirements

In addition to meeting *EA Act* requirements, there are several permits, licenses and approvals that may 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 final ESR, Hydro One will continue to contact the appropriate regulatory agencies to ensure that the Project will meet the regulatory requirements prior to construction. The 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,* Hydro One will continue to work with the County of Renfrew, Town of Laurentian Hills, Town of Deep River, and Town of Petawawa during and after the Class EA process, and through the Project design and execution phases, to resolve issues or concerns regarding potential effects of the Project.

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

Permit, License, Approval, or Regulatory Requirement	Primary Agency	Description
Approvals and/or Permits under the *Species at Risk Act, 2002* (*SARA*) and *Migratory Birds Convention Act, 1994* (*MBCA*)	Environment and Climate Change Canada (ECCC) / Canadian Wildlife Service (CWS)	*SARA* contains general prohibitions that make it an offence to kill, harm, harass, capture, or take federally listed Species at Risk (SAR). *SARA* also applies to all lands in Canada for Schedule 1 bird species cited in the *MBCA* and applies to all lands/waters in Canada for Schedule 1 aquatic species. If Project activities are anticipated to affect federally listed SAR and/or their habitat, ECCC should be consulted, as a permit under Section 73 of *SARA* may be required.

Permit, License, Approval, or Regulatory Requirement	Primary Agency	Description
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.
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.
Canadian Navigable Waters Act Permit	Transport Canada	Required for projects that require crossings over navigable waters.
Section 92 Leave to Construct	Ontario Energy Board (OEB)	Required for the construction of the new transmission line.
Environmental Activity and Sector Registry (EASR)	MECP	May be required for construction dewatering.
Registration under the *Species Conservation Act*, *2025* (*SCA*)	MECP	May be required for planned works that might affect SAR and/or their habitat which are protected under the *SCA*.
Ontario Heritage Act – Entry of archaeological assessments into the Ontario Public Register of Archaeological Reports	Ministry of Citizenship and Multiculturalism (MCM)	Archaeological assessment (AA) is required prior to undertaking any ground disturbance which could impact areas of archaeological potential or lands containing archaeological resources. Archaeological concerns have not been fully addressed until reports have been entered into the Ontario Public Register of Archaeological Reports ("the Register") where those reports recommend that: 1. The archaeological assessment of the Project area is complete; and 2. All archaeological sites identified by the assessment are either of no further cultural

Permit, License, Approval, or Regulatory Requirement	Primary Agency	Description
		heritage value or interest (as per Section 48(3) of the *Ontario Heritage Act*) or that mitigation of impacts has been accomplished through excavation or an avoidance and protection strategy.
Ontario Heritage Act – Completion of a Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment (CHRECPIA).	MCM	Hydro One, as a prescribed public body, is required to comply with the *Standards and Guidelines for Conservation of Provincial Heritage Properties* (issued under Section 25.2 of the *Ontario Heritage Act*), including its approved Identification and Evaluation Process and completion of technical cultural heritage studies.
Land Use Permit	Ministry of Transportation (MTO)	Required for project assets to be located within MTO Permit Control Areas.
Crown Land Work Permit	Ministry of Natural Resources (MNR)	May be required for removal of existing structures on Crown land or if installing a crossing structure on the bed of a navigable waterway.
Noise By-law Exemption	Town of Deep River (By-law 37-93) and/or Town of Petawawa (By-law 368/06)	An exemption may be required if the operation of construction equipment occurs outside of the Noise By-law curfew.
Road Entrance Permits	County of Renfrew (By-law 32-98), and/or Town of Petawawa (By-law 1590-23)	Required to construct potential new entrances for access to a construction site from existing municipal roads.
Temporary Occupancy Permits	County of Renfrew (Policy PW-10)	May be required for the temporary use of public lands or right-of-way (ROW) areas during construction.

Permit, License, Approval, or Regulatory Requirement	Primary Agency	Description
Municipal Consent & Municipal Access Agreement	County of Renfrew (Policy PW-10)	Required for a utility to occupy a specific location(s) within the municipalities ROW.
Clearance Letter	Utility companies	Required to cross utilities (e.g., natural gas or oil pipelines, fibre optics).

If other permits are identified, Hydro One will work with the appropriate regulatory agencies to ensure compliance.

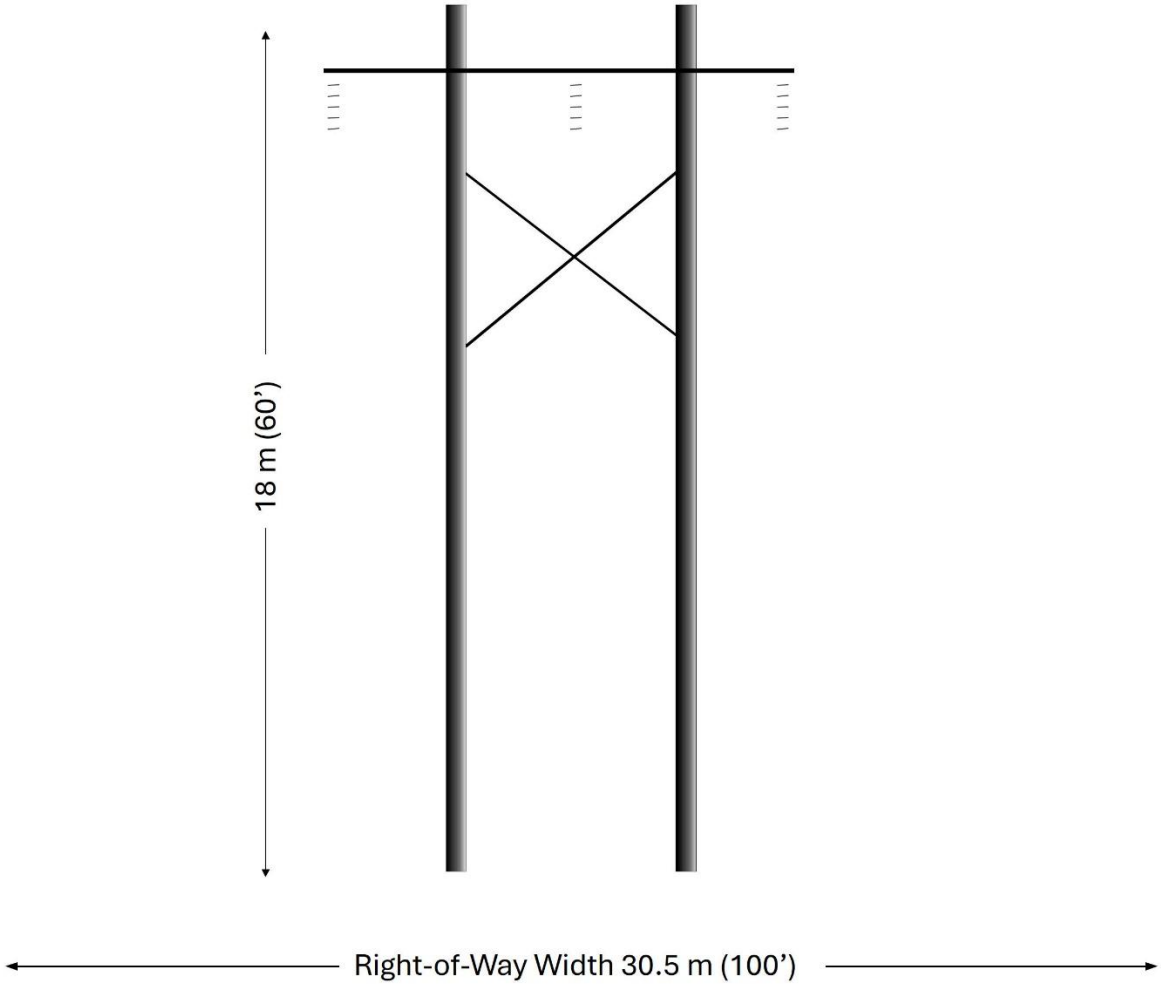
2.0 Project Description

As noted under **Section 1.2**, the undertaking will involve the installation of a new single-circuit 115 kV wood or composite pole transmission line corridor, including associated infrastructure (e.g., structures, access roads). The undertaking consists of the relocation of approximately 25 km of the D6 transmission line between Chalk River JCT in the Township of Laurentian Hills and the Petawawa JCT in the Town of Petawawa. Upon successful completion of the Class EA process and receipt of subsequent required approvals, construction is planned to begin in 2026.

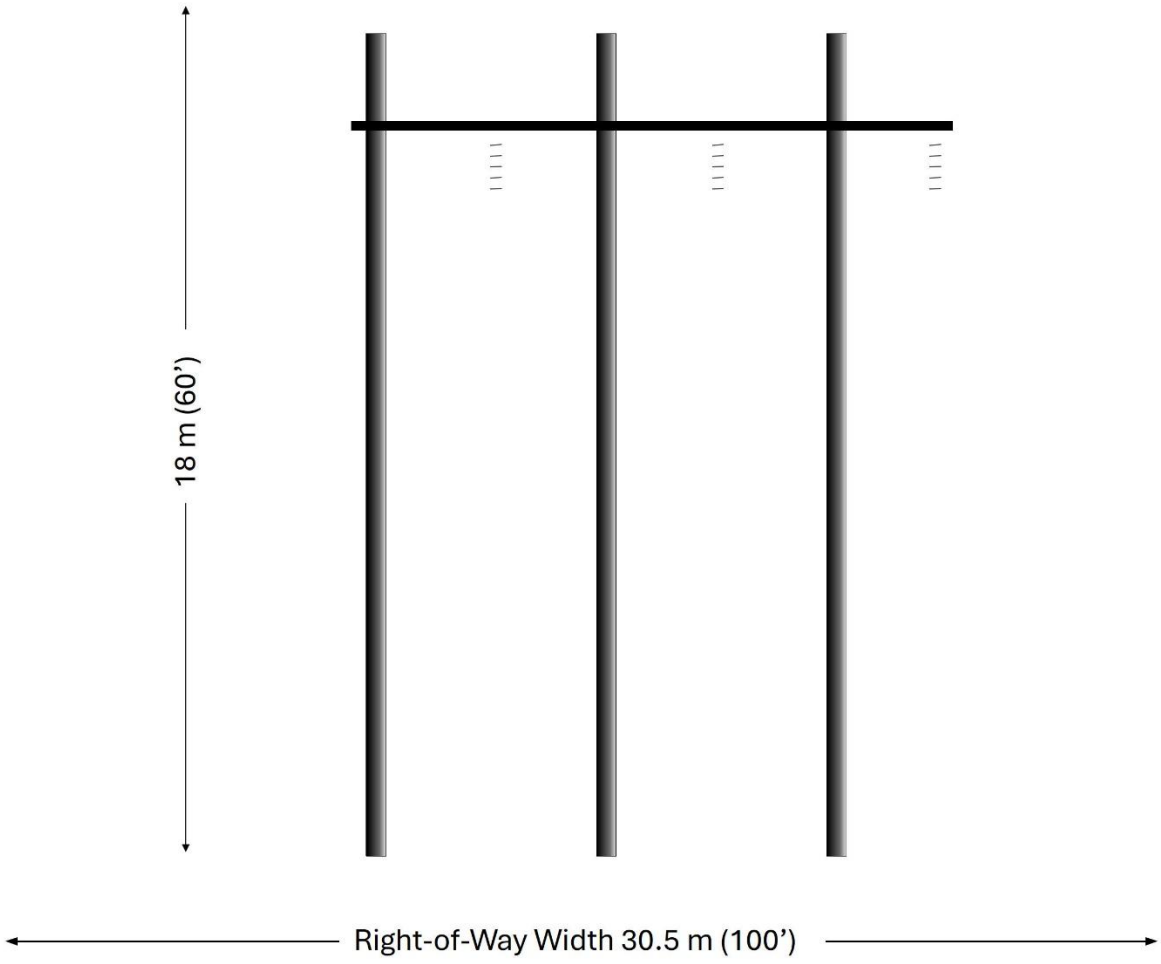
Figure 2-1 provides an example of the types of transmission structures proposed for the Project. The structure shown in the figure is considered a preliminary illustrative example as it is subject to the continuation of engineering and design work.

Figure 2-1: Example of Transmission Structure Proposed for the Project

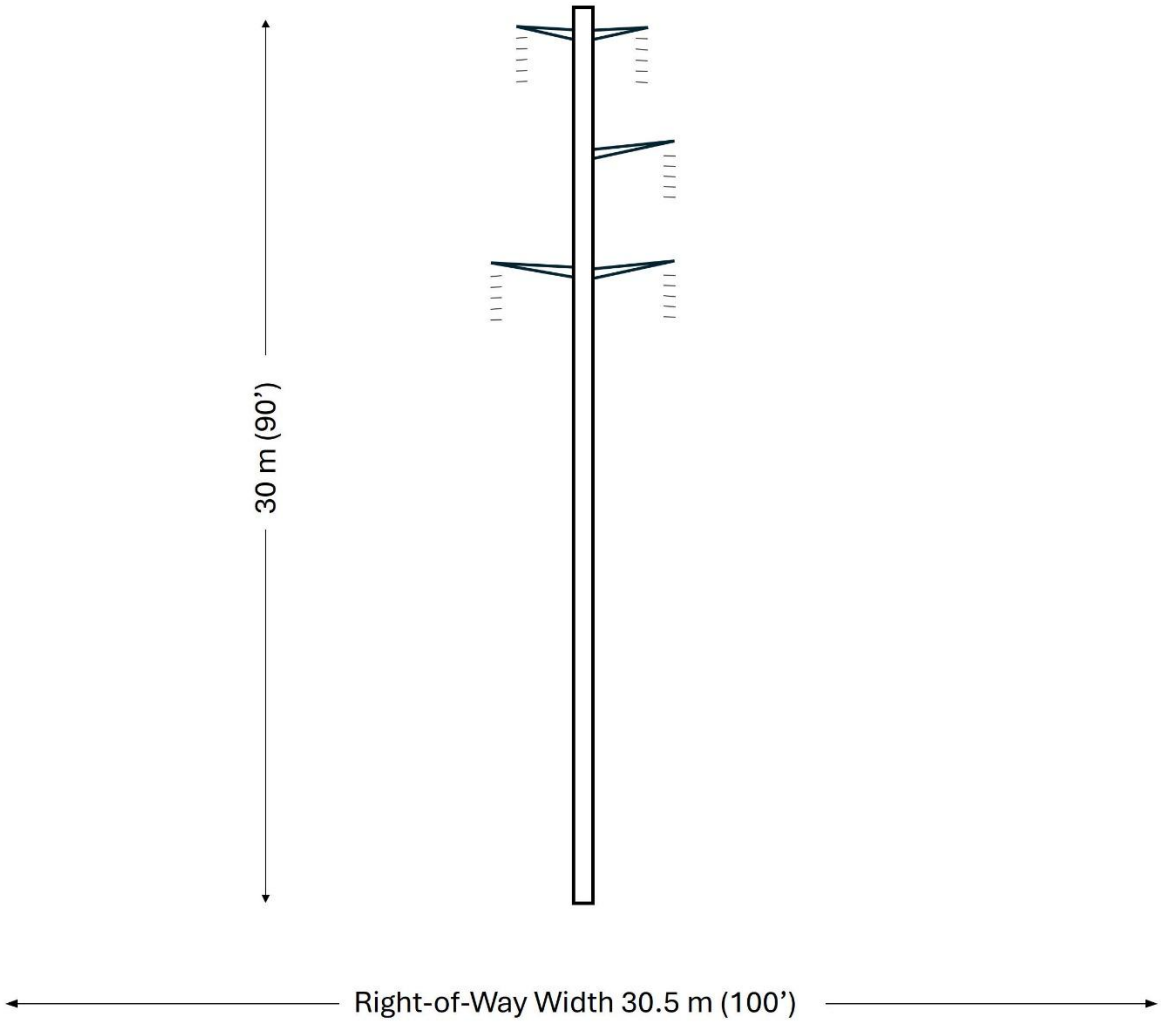




H-Frame (Wood, Composite or Steel)



Three Pole (Wood,
Composite or Steel)



Steel Monopole

2.1. Design Phase

Following completion of the Class EA process, detailed engineering and design for the Project will be undertaken. The final design plans will be based on necessary surveys, including geotechnical survey, and consultation with Indigenous communities and stakeholders including the DND, MTO, Natural Resources Canada (NRCan) Petawawa Research Forest (PRF), County of Renfrew, Town of Laurentian Hills, Town of Deep River, Town of Petawawa, and private property owners. During the design phase, additional studies and surveys (e.g., Stage 2 AA, geotechnical investigations) 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. The facilities being planned for this Project will be engineered to adequately withstand effects of climate change.

2.2. Construction Phase

Construction activities will be guided by Hydro One standards and guidelines, as well as Project-specific documents, which all construction personnel including contractors and sub-contractors will be required to adhere to. In addition, a Project-specific Environmental Management Plan (EMP) will be prepared, outlining specific requirements to be followed for the 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 EMP.

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.

Temporary facilities for the purpose of the Project may include access roads, equipment staging areas, temporary stockpile areas, 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 detailed design/construction planning.

Construction of the new single-circuit 115 kV wood or composite pole transmission line corridor will involve the following activities:

- Incompatible vegetation will be removed within the corridor prior to construction. Mechanical clearing methods (e.g., using feller-bunchers, skidders, grinders, and other forestry equipment) will be used. Larger trees will be removed using feller-bunchers. Trees will be delimbed, and logs skidded to appropriate locations for removal from site. Limbs and smaller logs will be chipped and mulch spread on the transmission corridor. Where there are few of no large trees, forestry grinders may be used. In sensitive areas, hand cutting may be required, and logs may be left in place, cut into lengths and laid flat on the ground to decompose and provide nutrients to the soil.
- Installation of gravel access routes and work/crane pads where required.
- Installation of foundations for steel turning structures near Highway 17. The proposed Project may use either helical piles or augured concrete foundations for the tower footings. The project team will determine the foundation type during the detailed design and construction planning phase.
- Assembly of erection of steel turning structures.
- Auguring holes, setting wood or composite poles, and backfilling for single pole and 'H frame' structures.
- Installation of new hardware and stringing new transmission conductors and lightning protection wire, referred to as “shieldwire.”

- Installation of counterpoise (if required).
- Clean up and site restoration.

2.3. Maintenance, Operation and Retirement Phases

The proposed Project is planned to be in service by Spring 2028. The new single-circuit 115 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.

During operation, mechanical and non-mechanical methods (e.g., mechanical forestry equipment, hand cutting or herbicide application) may be used for vegetation maintenance depending on the condition of the transmission corridor and the amount of re-growth. Mechanical vegetation maintenance will generally use forestry grinders to remove any saplings that may grow on the transmission corridor in between vegetation maintenance intervals. Herbicide application will consist of stem-applied backpack sprayers.

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.

2.4. Project Schedule

The anticipated schedule for the Project activities is provided below in **Table 2-1**. This schedule shows key steps remaining in the Class EA process and the subsequent anticipated timing of the start of construction.

Table 2-1: Project Schedule

Activity	Period
Draft ESR released for 30-day public review and comment period	February 13 to March 15, 2026
Comment integration and response	March 16 to March 27, 2026
Filing of final ESR and Class EA Statement of Completion with the MECP	August 2026
Construction Start	Fall 2026
Planned in-service date	Spring 2028

3.0 Assessment Methods

The description of the existing environmental and socio-economic setting (i.e., the current state of the environment) within the Project's assessment boundaries establishes the baseline conditions from which potential Project-related effects are assessed.

The assessment evaluated the potential environmental and socio-economic effects of the Project by applying the following iterative process:

- Identify Project components and associated activities that are necessary to complete the Project;
- Identify the environmental and socio-economic elements with a Project interaction;
- Determine the spatial and temporal boundaries for the assessment;
- Describe the environmental and socio-economic setting for the Project;
- Identify the potential environmental and socio-economic effects;
- Develop appropriate technically and economically feasible mitigation;
- Identify anticipated net effects and cumulative effects; and
- Determine the significance of net effects and cumulative effects.

The Project effects assessment is provided in **Section 7.0**.

3.1. Assessment Boundaries

This EA predicts the potential effects of the Project on the environmental and socio-economic elements within defined spatial and temporal boundaries. These boundaries will reflect:

- The biophysical and socio-economic baseline setting within the spatial boundaries of the Project;
- The proposed physical works and physical activities;
- The area potentially affected by proposed physical works and physical activities;
- The area in which an element occurs or functions, and within which a Project effect may be detected;
- The time required for an effect to become evident; and

- The time required for an element to recover from an effect and return to a pre-effect condition.

3.1.1. Spatial Boundaries

Spatial boundaries were determined by the distribution, movement patterns, or potential zones of interaction between each element and the Project.

At the outset of the Class EA, three study areas (LSA, PSA, and Regional Study Area [RSA]) were identified to consider potential natural and socio-economic environmental features and potential effects associated with the Preferred Route (**Figure 3-1**). The study areas are described in the following sections.

3.1.1.1. Project Study Area

The 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 route alternatives from the Chalk River JCT in the Township of Laurentian Hills to the Petawawa JCT in the Town of Petawawa. 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.

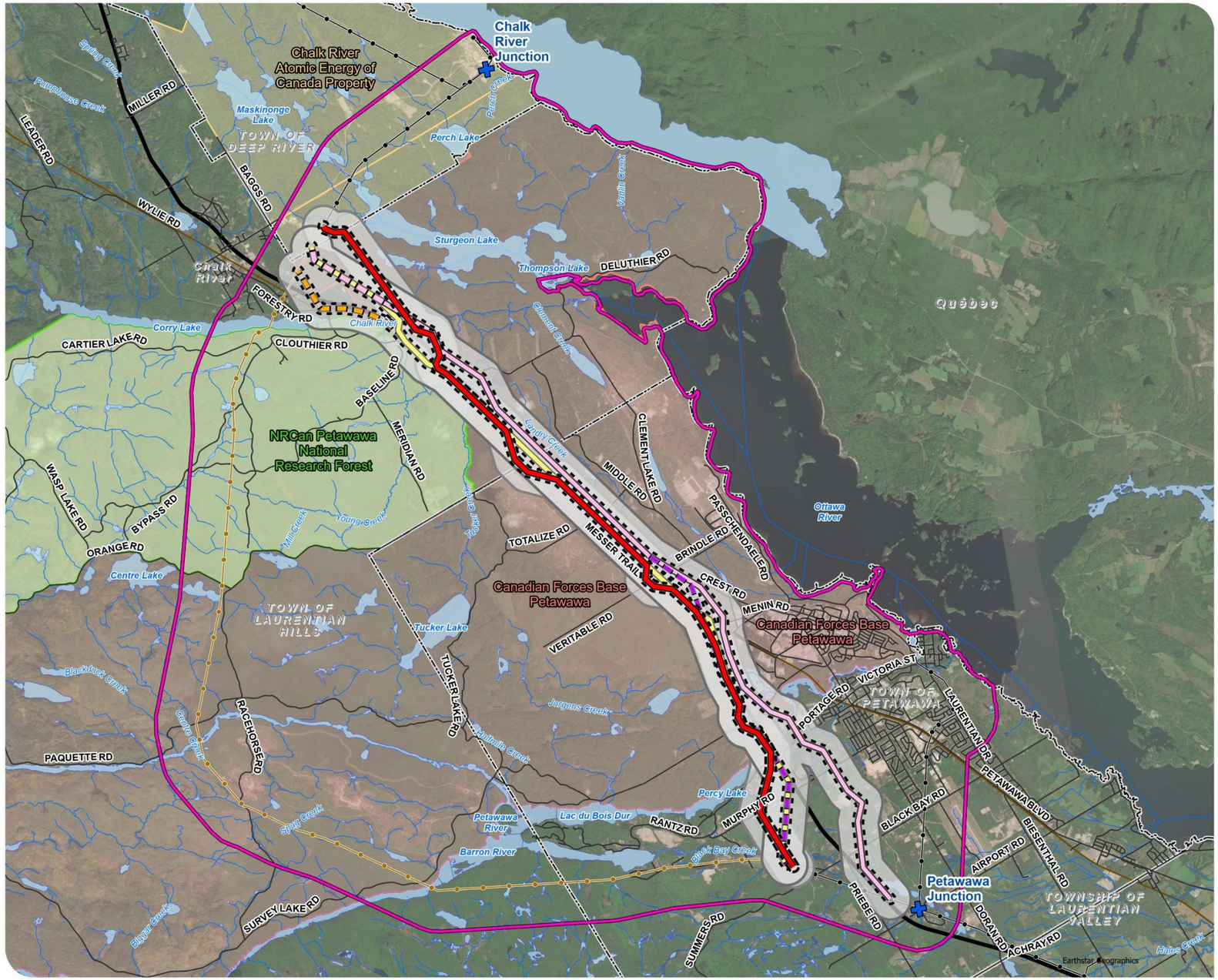
3.1.1.2. Local Study Area

The 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 Chalk River JCT in the Township of Laurentian Hills to the Petawawa JCT in the Town of Petawawa. 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.

3.1.1.3. Regional Study Area

The RSA was delineated to include the area generally encompassing the existing D6 transmission line corridor and extending east to the Ottawa River shoreline. The purpose of the RSA was to expand upon the LSA to capture the broader area where potential indirect Project effects on the socio-economic environment may occur.

Figure 3-1: Project Study Areas



HYDRO ONE NETWORKS INC.

D6 TRANSMISSION LINE RELOCATION PROJECT

PROJECT STUDY AREAS

FIGURE 3-1

Route Alternatives

- Route A
- Route A Alternate Start
- Route B East of Highway
- Variation B Highway Crossing Deviation
- Refined Route Alternative A
- Project Study Area (120 m)
- Local Study Area (500 m)
- Regional Study Area

Base Data

- Transmission Line Junction
- Existing Transmission Line to Be Decommissioned
- Existing Transmission Line
- Highway
- Road
- Municipal Boundary
- Waterbody
- Watercourse
- Abandoned Railway Track
- NRCan Petawawa National Research Forest
- Canadian Forces Base Petawawa
- Chalk River Atomic Energy of Canada Property

SCALE 1:90,000

0 1 2 4 Kilometers

MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR

MAP CREATED BY: -PR
MAP CHECKED BY: -LW
MAP PROJECTION: NAD 1983 CSRS UTM Zone 18N

DILLON CONSULTING

PROJECT: 21-2314
STATUS: DRAFT
DATE: 2026-02-03

FILE LOCATION: K:\2021\212314 HONI Petawawa\Product\Client\ESR\ESR.aprx

3.1.2. Temporal Boundaries

Temporal boundaries define the time period in which Project-specific effects are considered in the assessment. The following temporal boundaries were used for the effects assessment:

- **Construction:** scheduled to occur over approximately 14 months beginning in late summer/early fall 2026.
- **Operations:** begins on the in-service date (spring 2028) through the entire operational life of the Project (approximately 50 years).

3.2. Methods of Predicting Potential Effects

The identification of potential environmental and socio-economic effects generally focuses on the broad environmental (i.e., biophysical) and socio-economic elements. For each element, potential effects are identified as subsets of each element, representing interactions with the biophysical and socio-economic environment that may be affected by the Project. An analysis of potential effects is the means from which net effects are then predicted and assessed in the EA.

The potential effects associated with Project activities were identified through experience gained during previous Projects with similar conditions, existing literature, and internet searches, as well as the professional judgement of the assessment team.

Potential effects were only identified and assessed for the selected Preferred Route.

3.3. Mitigation Measures

Mitigation measures, as defined under the federal *Impact Assessment Act*, means “measures to eliminate, reduce, control or offset the adverse effects of a Project […] and includes restitution for any damage caused by those effects through replacement, restoration, compensation or any other means”.

A number of general and site-specific mitigation measures have been proposed based on current industry-accepted standards, as well as the professional judgement of the assessment team, to reduce the severity of potential environmental and socio-economic effects during Project activities.

3.4. Identification and Characterization of Net Effects

Net effects are the environmental and socio-economic effects remaining following the implementation of mitigation measures. In many situations, the recommended mitigation measures will completely mitigate a potential effect; however, in other situations, the mitigation measures will lessen the effects but not entirely eliminate them. In these situations, a net effect is identified and evaluated for significance, including the likelihood that a significant effect may occur.

The criteria used in the analysis of net effects are presented in **Table 3-1.**

Table 3-1: Criteria for the Characterization of Net Effects and Evaluation of Significance

Assessment Criteria	Definition
Spatial Boundary – Location of the Net Effect	
PSA	Lands within 120 m of the Preferred Route centerline from the Chalk River JCT in the Township of Laurentian Hills to the Petawawa JCT in the Town of Petawawa. Area that encompasses the future asset location, associated ROW, and abutting/directly adjacent lands. Established to allow for appropriate scoping and planning of technical studies and field investigations to document baseline conditions.
LSA	Lands within 500 m of the Preferred Route centerline from the Chalk River JCT in the Township of Laurentian Hills to the Petawawa JCT in the Town of Petawawa. Expands upon the PSA to include an area of potential indirect Project effects on the natural and socio-economic environments and to capture potential cumulative effects.
RSA	The area generally encompassing the existing D6 transmission line corridor and extending east to the Ottawa River shoreline. Expands upon the LSA to include potential indirect Project effects on the socio-economic environment.

Assessment Criteria	Definition	
Temporal Context of the Net Effect		
Duration	Immediate	The net effect is limited to two days or less.
	Short-term	The net effect is limited to the period of time where physical construction activities are actively occurring, including cleanup and reclamation, or any one year during the life of the Project.
	Medium-term	The net effect extends into the operations phase of the Project for up to 10 years.
	Long-term	The net effect extends into the operations phase of the Project for more than 10 years but does not extend beyond the operational life of the Project.
	Extended term	The net effect extends beyond the operational life of the Project.
Frequency	Rare	The net effect occurs uncommonly or unpredictably (e.g., as a result of an accident or malfunction) over the assessment period.
	Isolated	The net effect is confined to a specified phase of the assessment period.
	Occasional	The net effect occurs intermittently and sporadically over the assessment period.
	Periodic	The net effect occurs intermittently, but repeatedly, over the assessment period.
	Continuous	The net effect occurs without interruption throughout the assessment period.
Reversibility	Reversible	The net effect is reversible to pre-Project or equivalent conditions.
	Irreversible	The net effect is permanent.

Assessment Criteria	Definition
Magnitude of the Net Effect – Biophysical Elements	
Negligible	Net effects are not detectable or are within the range of natural variability or inconsequential to the function, health, performance, or sustainability of the element.
Low	Net effects are detectable; however, they are well within environmental or regulatory standards, or both.
Medium	Net effects are detectable and may approach, but are still within, the environmental or regulatory standards, or both.
High	Net effects are beyond environmental or regulatory standards, or both.
Magnitude of the Net Effect – Socio-Economic Elements	
Negligible	No detectable change from existing (baseline) conditions.
Low	Change is detectable, but change is limited and the majority of those affected will likely be able to adapt easily to changes and maintain pre-effect livelihoods, culture, quality of life, land use patterns, and health levels.
Medium	Change is detectable and results in moderate modification to existing conditions and the majority of those affected will likely be able to adapt easily to changes and maintain pre-effect livelihoods, culture, quality of life, land use patterns, and health levels.
High	Change is detectable and is large enough to result in a severe modification to existing conditions and those affected will not be able to adapt to changes or maintain their pre-effect livelihoods, culture, quality of life, land use patterns, and health levels.

For many of the elements under evaluation, there are no specific environmental or socio-economic standards, guidelines, thresholds, targets, or objectives. Therefore, the determination of magnitude of the net effects often entailed consideration of previous assessments of magnitude made by regulatory authorities. In addition, determination of magnitude relied on the experience of the assessment team, informed by outcomes of previous projects with similar conditions and potential issues.

3.5. Significance Determination

A determination of significance was completed for identified net effects. An evaluation of significance is not required for those potential effects where no net effect is identified. All assessment criteria were considered by the assessment team when determining the significance of each net effect.

For environmental elements, a net effect is considered significant if the effect is predicted to be either of the following:

- Irreversible and high magnitude; or
- Reversible, but long-term or extended term in duration and high magnitude.

For socio-economic elements, a net effect is considered significant if the effect is predicted to be either of the following:

- Reversible, but high magnitude and extending beyond the RSA; or
- Irreversible and high magnitude.

4.0 Consultation

Consultation and engagement are integral to the EA process, providing Indigenous communities and stakeholders with meaningful opportunities to participate and contribute 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.
- Communicate Project information to support a two-way dialogue with Indigenous communities, local elected officials, federal, provincial, and municipal government agencies, local residents, property owners, interested persons, businesses, and interest groups.
- Ongoing opportunities for interested parties to learn about and provide meaningful input on the proposed Project.
- Full and fair consideration 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.
- **Project Contact List**: The Project contact list was used to provide Project updates to interested parties via email, or via Canada Post for those who requested accommodation.
- **Project Website and Interactive Project Map:** A Project website (https://hydroone.com/d6relocation) was used to share Project information as well as share an interactive Project map showing the proposed routes and study area.
- **Notices:** Notification letters were prepared to provide updates on the Project. Notices were sent via email and Canada Post admail to available postal routes and PO boxes intersecting the RSA.

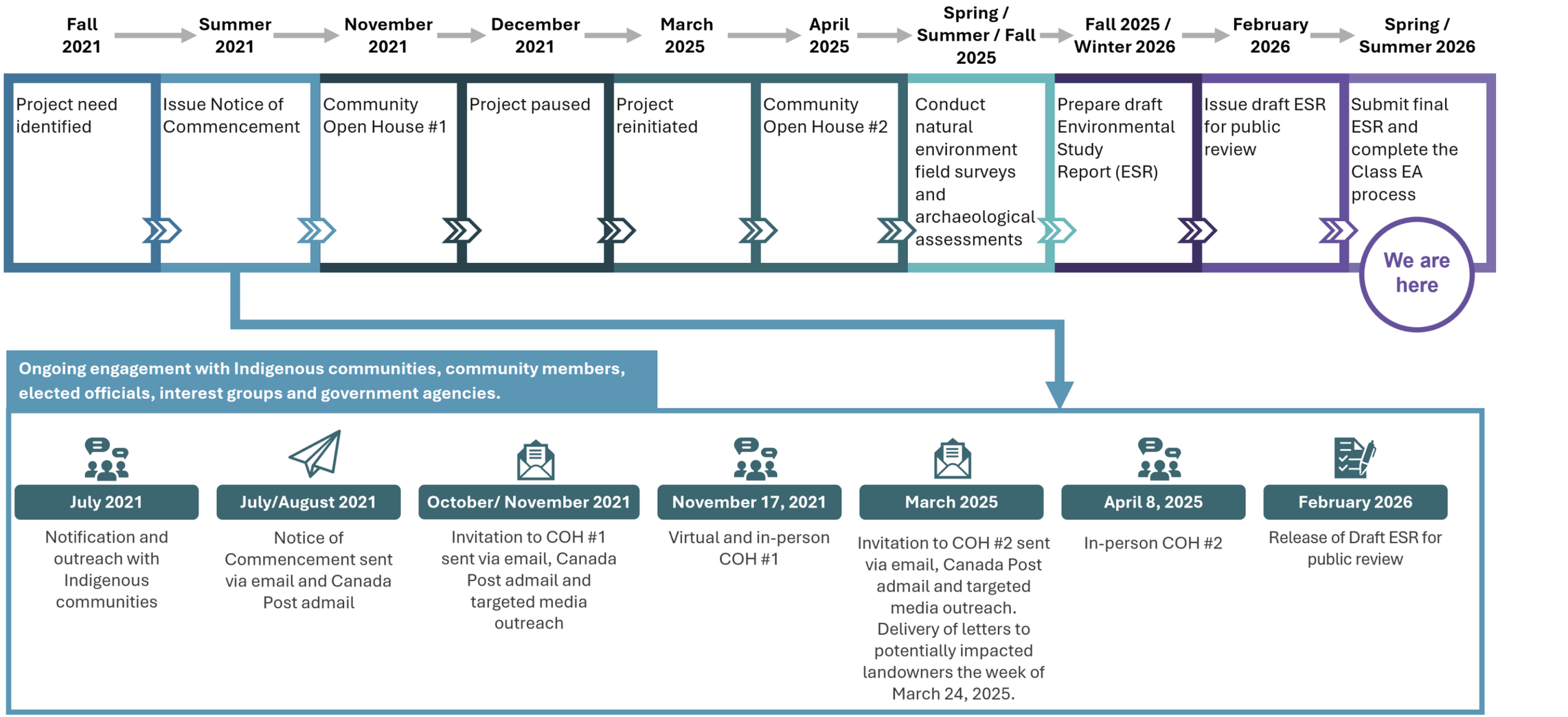
- **Letters:** Letters were sent via registered mail to potentially and directly affected landowners to provide updates on the Project and encourage any questions and feedback to be discussed with the appropriate Project representatives.
- **Media:** Newspaper, radio, and social media advertisements were published to provide updates on the Project and reminders of upcoming public engagement events.
- **Community Open Houses**: In-person and virtual community open houses (COH) were held to share Project information and receive feedback from interested parties. Indigenous communities were invited to the public COH and were offered to host one within the community.
- **Meetings:** Meetings and discussions were held with municipal, provincial, and federal elected officials, agencies and municipal staff, Indigenous communities, and residents.
- **Email:** A dedicated Community Relations email address and phone number were set up for receiving questions and feedback.

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 is provided in **Appendix A-1**.
- Copies of consultation and engagement materials such as notices, COH display panels, presentation slides, and correspondence are included in **Appendix A-2**.
- Key correspondence with stakeholders is included in **Appendix A-3.**
- A copy of the Project Record of Consultation is provided in **Appendix A-4**.

A high-level overview of the consultation and engagement timeline is outlined in **Figure 4-1** and further explained in the sections below.

Figure 4-1: Consultation Timeline



At the outset of the Project, Hydro One identified a preliminary list of Indigenous communities and stakeholders who might be affected by, or interested in, the Project. The preliminary list of rightsholders and stakeholders were based on the extent of the RSA and included:

- Indigenous communities and organizations (refer to **Section 4.4**).
- Members of the public with the potential to be affected by the Project or with an interest in the Project.
- Residents or property owners located within the RSA.
- Local municipalities, counties, towns, villages or townships located within the RSA.
- Elected representatives or government ministries, departments or agencies with an interest in the Project.
- Other stakeholders (e.g., local businesses, utilities, community groups, agriculture and agri-food advocacy organizations, non-government organizations, etc.) with a potential interest in the Project.

The Project contact list was updated throughout the Project as new stakeholders were identified and asked to be included or removed.

The Project contact list at the time of this report is included in **Appendix A-1**.

4.1. Project Website and Interactive Project Map

As a component of the consultation and engagement program, Hydro One created a Project-specific website (https://hydroone.com/d6relocation) to share Project information including an overview of the Project and Class EA process, Project schedule, copies of notices and open house materials, and information on how to provide comments or ask questions. The website also included an interactive Project map showing the proposed routes and RSA.

4.2. Notices

4.2.1. Notice of Commencement

The Notice of Commencement introduced the Project including an overview of the need for the Project, the EA planning process, a general overview of planned engagement

opportunities, as well as a map of the proposed route alternatives and study area. The Notice was distributed as follows:

- On July 2, 2021, Hydro One sent the Notice of Commencement to Indigenous communities and organizations via email.
- On July 15, 2021, Hydro One sent the Notice of Commencement to elected officials, the DND, and municipal staff from the Project contact list via email.
- On July 22, 2021, the Notice of Commencement was distributed to approximately 7,292 residences and businesses within the RSA via Canada Post admail.
- On August 26, 2021, Hydro One sent the Notice of Commencement to federal and provincial agencies, and interest groups from the Project contact list via email.
- On July 22, 2021, the Notice of Commencement ran in a local newspaper "Pembroke Petawawa The News".
- From July 19 to July 25, 2021, radio ads were played 4 times a day on 104.9 FM Pembroke Today.

Refer to **Appendix A-2** for a copy of the Notice of Commencement.

4.2.2. Notice of Community Open House #1

The Notice of COH #1 invited interested rights-holders and stakeholders to attend an in-person COH at the Petawawa Legion on November 17, 2021 from 6:00 pm to 8:00 pm. The notice was distributed as follows:

- On October 12, 2021, Hydro One sent the Notice of COH #1 to elected officials via email.
- The week of November 1, 2021, the Notice of COH #1 was mailed to property owners within the RSA.
- On November 4, 2021, the Notice of COH #1 was published in the Pembroke Observer.
- On November 5, 2021, Hydro One sent the Notice of COH #1 to Indigenous communities via email.
- On November 8, 2021, Hydro One sent the Notice of COH #1 to federal and provincial agencies, municipal staff, interest groups, and members of the public who requested to be added to the Project contact list.

- From November 10 to 17, 2021, radio ads were played 4 times a day on 104.9 FM Pembroke Today.

Refer to **Appendix A-2** for a copy of the Notice of COH #1.

4.2.3. Notice of Community Open House #2

The Notice of COH #2 invited interested rights-holders and stakeholders to attend an in-person COH at the Petawawa Legion on April 8, 2025 from 3:00 pm to 7:00 pm. The notice was distributed as follows:

- On March 14, 2025, Hydro One sent the Notice of COH #2 to Indigenous communities and organizations via email.
- On March 17, 2025, Hydro One sent the Notice of COH #2 to elected officials via email.
- On March 24, 2025, Hydro one sent the Notice of COH #2 to federal and provincial agencies, municipal staff, and interest groups from the Project contact list.
- During the week of March 17, 2025, the Notice of COH #2 was distributed to approximately 7,720 residences and businesses within the RSA via Canada Post admail.
- On March 26 and April 2, 2025, newspaper ads were posted in the Eganville Leader and the Deep River North Renfrew Times.
- From March 24 to April 7, 2025, radio ads were broadcast on Pembroke/Petawawa CIMY and CHVR.

In addition to the above, Hydro One sent packages to potentially affected landowners along the Preferred Route. The packages were mailed via registered mail on March 24, 2025 and contained a letter sharing details on the Project as it relates to their property, the Notice of COH #2, and a property map. Refer to **Appendix A-3** for a copy of the landowner packages.

4.2.4. Notice of Completion

The Notice of Completion was distributed to interested rights-holders and stakeholders to inform them that the draft ESR would be available for public review from February 13, 2026 to March 15, 2026. The Notice of Completion contained an overview of the Project, an overview of the Class EA process, a map of the preferred route, and

information on how to review and provide comments on the draft ESR. The notice was distributed as follows:

- On January 28, 2026, Hydro One emailed the Notice of Completion to elected officials and affected property owners via email.
- The Notice of Completion was emailed to the Project Contact list during the week of February 2, 2026.
- Dillon Consulting coordinated the distribution of the Notice of Completion through Canada Post admail to residences within the RSA during the week of February 2, 2026.
- On February 12, 2026, Hydro One sent the Notice of Completion to municipal staff and local interest groups via email.
- On February 13, 2026, Hydro One sent the Notice of Completion to Indigenous communities and organizations via email.
- The Notice of Completion was posted in the Deep River North Renfrew Times on February 25 and March 4, 2026, and the Eganville Leader on February 2, 2026.

Refer to **Appendix A-2** for a copy of the Notice of Completion

4.3. Consultation Summary

4.3.1. Community Open House #1

Hydro One hosted the first COH (COH #1) to provide stakeholders with the opportunity to learn more about the Project, the route alternatives, the Class EA process, and how to get involved. Hydro One offered the options of in-person and virtual COH formats to stakeholders. The same information was shared at both the virtual and in-person events.

The virtual event was accessible through StoryMaps beginning November 17, 2021. The StoryMaps presented COH #1 materials in a virtual and interactive format. Stakeholders could access the virtual event through the Project website (https://storymaps.arcgis.com/stories/0b27a3b315644e289eccc82ab7fb52a6).

The first in-person COH was held on November 17, 2021, at the Petawawa Legion (Petawawa, ON) from 6:00 pm to 8:00 pm. COH #1 was a drop-in format and allowed stakeholders to have one-on-one discussions with representatives from Hydro One's Community Relations and Indigenous Partnership and Business Development teams,

and Dillon Consulting. The in-person event presented the COH #1 materials as information panels (**Appendix A-2**).

The key information shared at COH #1 included:

- Project overview
- Project area
- Project timeline
- Class EA process
- Evaluating the route alternatives to select a preferred route
- Indigenous engagement
- Project benefits
- How to get involved

A total of 13 stakeholders were in attendance at the in-person COH, including elected officials from the Town of Petawawa. Hydro One responded to 13 questions. Key themes of feedback from COH #1 included the following:

- Project mapping
- Property impacts
- Impacts to existing infrastructure/utilities
- Removal of line being decommissioned
- Trail impacts
- Project notification/consultation
- Route A and Route B specific questions.

4.3.2. Community Open House #2

The second COH (COH #2) was held to inform stakeholders that Hydro One had reinitiated work for the proposed relocation of the D6 Transmission Line in the County of Renfrew. Hydro One and Dillon Consulting hosted COH #2 to provide stakeholders with an update on proposed routing for the relocation of the D6 Transmission Line, an overview of the Project's history and past route alternatives, an update on the EA process and route evaluation, and to gather feedback.

COH #2 was held in-person at the Petawawa Legion (Petawawa, ON) on April 8, 2025 from 3:00 pm to 7:00 pm. COH #2 was a drop-in format with display panels (**Appendix A-2**) placed around the room. The format allowed stakeholders to have one-

on-one discussions with representatives from Hydro One's Community Relations and Indigenous Partnership and Business Development teams and Dillon Consulting.

The key information shared at COH #2 included:

- The purpose of the COH
- Project overview
- Project history
- Route alternatives assessed
- Proposed routing
- Class EA process
- Route evaluation and constraints analysis
- Designing the transmission line
- Project timeline
- How to get involved

A total of 47 stakeholders attended the COH, including elected officials from the Town of Petawawa and staff from the Town of Petawawa and Town of Laurentian Hills. One comment form was filled in at COH #2 and questions/comments from 14 individuals were responded to at the event.

Comments and questions received during COH #2 focused on the following themes:

- Property impacts
- Transmission line design
- Health impacts
- Environmental impacts
- Impacts to areas used for recreation by members of the public
- Project notification

4.4. 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. While 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 Mines (MEM) (formerly the Ministry of Energy and Electrification) on November 6, 2024, 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.

At the time of preparing this ESR section, Hydro One remains in receipt of no formal confirmation from the Crown regarding the delegation of the procedural aspects of consultation activities for the Project.

In July 2021, Indigenous communities were notified of the initiation of the Class EA for the Project through a formal Notice of Commencement.

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 regular updates throughout the Class EA process and will continue throughout the lifecycle of the Project.
- Invitations and reminders of upcoming COHs and offering of 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 Partnership and Business Development Project representatives.

- The invitation to participate and review reports of AAs 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.
- 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 A-4**).

4.4.1. Capacity Funding Agreements

At the outset of the Class EA process, Hydro One offered capacity through Capacity Funding Agreements (CFAs) to communities who requested capacity in order to be consulted and participate in the proposed Project. 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 the community to be meaningfully consulted on the Project, including adequate capacity and resourcing 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 and share revisions with Hydro One.

4.4.2. Indigenous Participation in Field Surveys

Hydro One is committed to support and build capacity for the involved Indigenous communities that are interested in participating in the Project. Hydro One agreed to provide capacity funding to AOO and AOPFN to retain monitors for environment field studies. Indigenous communities will continue to be invited to participate in the fieldwork and review the planned future archaeological assessments and associated reports.

4.4.3. Indigenous Consultation

This section describes consultation with Indigenous communities and representing groups that occurred in addition to the consultation methods noted above.

4.4.3.1. Algonquins of Ontario

Hydro One emailed the notices for the above-mentioned engagement opportunities to the AOO.

On July 2, 2021, Hydro One emailed the AOO with the Notice of Commencement for the Project. In that correspondence, Hydro One also offered an early meeting to brief the AOO on the Project which included the description, location, timelines, regulatory requirements, and to address any initial questions or concerns.

August 16, 2021, Hydro One called and emailed the AOO to follow up on the previously shared Notice of Commencement to discuss interest in participating in field studies in the fall of 2021.

September 7, 2021, Hydro One emailed the AOO to remind them of the upcoming field studies and to request if they had interest in participating.

Over the months of August and September 2021, Dillon Consulting corresponded with AOO regarding participation in fieldwork for the Project. On September 21, 2021, AOO indicated they did not have monitors available to participate in Project fieldwork and provided the contact information for an AOO representative that could participate as an observer. On September 22, 2021, Hydro One offered capacity funding to support AOO's participation in the Project. On November 5, 2021, Hydro One emailed the AOO and provided the invitation for COH #1 and offered to hold a COH specific for AOO. Hydro One offered to meet with the AOO to discuss the fall botanical fieldwork and the route selection process. In November 2021, Hydro One and AOO coordinated a meeting to discuss the Project.

On February 2, 2022, Hydro One emailed the AOO and provided a CFA for the AOO's participation on the Project. Hydro One invited AOO's feedback on the proposed routes. Hydro One met with the AOO in February 2022 to discuss the Project and route selection process.

On February 4, 2022, Hydro One emailed the AOO a CFA and a Project map. Hydro One also extended an offer to hold a meeting with the Project team.

On February 14, 2022, Hydro One emailed the AOO to inquire about their interest in a Project meeting to discuss capacity funding, provide Project updates, and gather input on the route selection. On February 18, 2022, the AOO responded to Hydro One requesting a meeting to discuss the Project. On February 24, 2022, Hydro One met with the AOO; while the discussion focused largely on forestry contracts, the meeting also addressed Project-related questions and updates.

Hydro One emailed the AOO on March 2, 2022 and provided maps to support AOO's feedback into the route selection process. Hydro One indicated they were aiming to select the Preferred Route by the end of March or early April 2022 and provided tentative dates for spring and summer field surveys to be completed in 2022.

The AOO emailed Hydro One on March 15, 2022 and requested the Project information and materials be re-sent to support an internal AOO working group meeting scheduled for March 22, 2025. On March 15, 2022, Hydro One re-sent the materials that the AOO had requested.

On March 15, 2022, Hydro One emailed the AOO requesting that they send the reviewed and signed CFA when it is ready. On March 17, 2022, the AOO emailed comments and edits to the draft CFA and requested Hydro One to review.

On March 22, 2022, Hydro One called the AOO to confirm that they would be providing feedback received into the route selection by mid-April 2022.

On April 6, 2022, Hydro One emailed the AOO a copy of the revised CFA and requested it be signed back to be finalize.

On April 14, 2022, Hydro One emailed the AOO to remind them of upcoming field monitoring opportunities and included an updated field work schedule.

Over March and April 2022, Hydro One and the AOO corresponded regarding the CFA for the Project, AOO's feedback on the routes, and AOO conducting a Traditional Ecological Knowledge Study on the Preferred Route after the route selection process had been finalized.

On March 10, 2025, Hydro One emailed the AOO and provided the invitation for COH #2 and informed AOO that the Project was being reinitiated and provided details on the Preferred Route for the Project.

On March 10, 2025, the AOO emailed Hydro One to request that details of the COH be shared with them so that it could be distributed to interested members.

On March 14, 2025, Hydro One emailed the AOO to provide an invitation to the COH scheduled for April 8, 2025. Hydro One noted that the Project had been reinitiated since 2022, and Hydro One provided details of the Preferred Route.

Between May and July 2025, Dillon Consulting corresponded with the AOO regarding the details of the environmental field surveys to coordinate AOO's participation. On July 25, 2025, Hydro One emailed the AOO and indicated the completion of the environmental field surveys and provided an opportunity for the AOO to ask questions.

Between February 18, 2026, and March 25, 2026, Hydro One and AOO exchanged emails to coordinate capacity funding for the review of the draft ESR. On March 10, 2026, AOO provided their comments on the draft ESR for Hydro One's review and consideration.

Between May 4, 2026 and July 24, 2026, Matrix Heritage and AOO corresponded to coordinate the participation of AOO monitors during the Stage 2 AA and AOA.

On June 4, 2026 Hydro One emailed AOO and provided their responses to AOO's comments on the draft ESR.

4.4.3.2. Algonquins of Pikwakanagan

Hydro One emailed the notices for the above-mentioned engagement opportunities to AOPFN.

On July 2, 2021, Hydro One emailed the AOPFN the Notice of Commencement for the Project offering to host a Project introduction meeting.

On August 16, 2021, Hydro One called AOPFN to discuss the Project, AOPFN's interest in participating in the September 2021 field studies, and discussed capacity funding to support AOPFN's engagement. AOPFN noted they had completed a Traditional Ecological Knowledge Study in the area and would share it with Hydro One.

September 1, 2021, Hydro One emailed AOPFN to propose a meeting date to discuss the Project and to share details about the upcoming field work schedule.

September 14, 2025, Hydro One advised AOPFN they were delaying the fieldwork to later that month to give AOPFN more time to provide the required documents.

On November 5, 2021, Hydro One emailed an invitation to the COH #1 to AOPFN and offered to hold an in-community open house.

On November 16, 2021, Hydro One emailed AOPFN a reminder of the COH #1.

On February 4, 2022, Hydro One emailed AOPFN a CFA to support participation in the Project. Hydro One provided a Project map and route selection matrix, outlined the current Project stage, and invited AOPFN's comments and feedback.

On February 14, 2022, Hydro One emailed AOPFN to follow up on AOPFN's interest in a meeting to discuss the Project and capacity funding.

On February 17, 2022, Hydro One emailed AOPFN and noted they had sent a calendar invitation and tentative agenda for the meeting planned for March 3, 2022. On February 17, 2022, AOPFN emailed Hydro One confirming receipt of the meeting invitation.

On March 2, 2022, Hydro One emailed AOPFN to remind them of their upcoming meeting on March 3, 2022, and provided the CFA and route selection matrix.

On March 3, 2022, Hydro One, Dillon Consulting, AOPFN, and AOPFN's consultant, the Firelight Group, met to review the Project overview, route selection, the CFA, and spring field studies and schedule.

On March 15, 2022, Hydro One left a voicemail with AOPFN to follow up on the meeting indicating the call was to discuss orthographic Project mapping of route alternatives, and discuss any remaining questions, concerns or additional feedback. Hydro One sent a follow up email to provide maps requesting AOPFN to return the phone call.

On April 6, 2022, Hydro One called left a voicemail with AOPFN to connect on the March 3, 2022 meeting.

On April 7, 2022, Hydro One emailed AOPFN and provided information on the upcoming fieldwork and monitoring opportunities.

On April 12, 2022, AOPFN emailed Hydro One and confirmed their availability to meet and provided a revised version of the CFA.

On April 13, 2022, Hydro One emailed AOPFN acknowledging receipt of the revised CFA, noting they would provide suggested meeting dates soon.

On April 26, 2022, Hydro One emailed AOPFN and requested the tracked changes version of the CFA. AOPFN emailed Hydro One on April 28, 2022, noting that the provided CFA is based on AOPFN's consultation process.

On May 13, 2022, Hydro One emailed AOPFN and indicated their flexibility to accommodate AOPFN's schedule. Hydro One also provided a brief Project update regarding fieldwork.

AOPFN and Hydro One exchanged emails on May 24, 2022 regarding their availability and coordinated a meeting.

On May 31, 2022, Hydro One held a virtual meeting with AOPFN to provide an update that the Project was being paused.

On January 4, 2023, Hydro One emailed AOPFN regarding an invoice. Hydro One also noted that the Project was paused and that an update and CFA would be shared if the Project proceeded. Hydro One emailed AOPFN on January 23, 2023 to provide a Project update, noting that the Project may be reinitiating soon. Hydro One offered to meet to re-engage on the Project with updates.

On February 1, 2023, AOPFN emailed Hydro One and thanked them for the Project update. AOPFN inquired about feedback on the CFA that had been sent previously.

On February 6, 2023, Hydro One emailed AOPFN noting that were still waiting on a decision from the OEB to recommence the Project. Given the uncertainty, Hydro One advised they could not approve the CFA at that time, however, confirmed that capacity funding would be provided to support early Project engagement. Hydro One provided a map and an issues-and-concerns table and requested AOPFN's feedback on the route.

On February 21, 2023, Hydro One emailed AOPFN requesting their availability to meet on the week of March 6, 2023.

On March 1, 2023, Hydro One emailed AOPFN confirming a meeting on March 14, 2023.On March 14, 2023, Hydro One held a virtual meeting with AOPFN to provide Project updates and discussed hosting a COH in the First Nation to provide an overview of the alternative routes. On March 14, 2023, following the meeting, Hydro One emailed AOPFN and provided the latest Project mapping, an issues and concerns table, and the Hydro One reimbursement guidelines. Hydro One noted they would keep AOPFN updated on the Project and associated timelines. AOPFN requested Hydro One to complete cultural awareness training in person in the community.

On March 14, 2023, AOPFN emailed Hydro One and thanked them for sending the documents, noting that AOPFN would follow up in April 2023. AOPFN provided the contact information for their representative conducting the cultural awareness training.

On May 4, 2023, AOPFN emailed Hydro One to provide a variety of available dates for the cultural awareness training. On May 15, 2023, Hydro One emailed AOPFN to confirm interest in scheduling the cultural awareness training for June 6, 2023.On June 6, 2023, multiple members of Hydro One's Project team attended cultural awareness training conducted by AOPFN.

On June 7, 2023, AOPFN emailed Hydro One to introduce a new AOPFN Project lead, requesting future communications be directed to the new lead. AOPFN requested Hydro One provide the new lead with a Project update and inform them of planned actions over the next several months.

On June 15, 2023, Hydro One and AOPFN exchanged emails to coordinate the invoice for the cultural awareness training.

On September 14, 2023, Hydro One emailed AOPFN noting that Hydro One would like to coordinate an in-community open house for the Project.

On November 1, 2023, AOPFN emailed Hydro One requesting a meeting to discuss logistics for the COH to be held in community.

On December 6, 2023, Hydro One emailed AOPFN to provide an update that the Project went through another brief delay and suggested a meeting in the new year to discuss logistics and availability for an in-community open house.

On December 7, 2023, Hydro One emailed AOPFN and indicated that a Preferred Route had been identified for the Project. Hydro One provided preliminary mapping and stated that more details would become available in the new year.

Hydro One emailed AOPFN on January 18, 2024, and followed up on the notification of Preferred Route. Hydro One offered to coordinate an in-community open house or a meeting to introduce the Preferred Route and discuss the Project.

On October 16, 2024, AOPFN and Hydro One exchanged emails to clarify what was on the agenda for the meeting.

On March 10, 2025, Hydro One emailed AOPFN and provided an invitation to COH #2. Hydro One offered to coordinate an in-community open house and introduced the Dillon Consulting contact to help coordinate monitoring opportunities for the Project.

On March 10, 2025, AOPFN emailed Hydro One acknowledging the Project update and requesting additional information on the Project scope, timelines, and all relevant documents. AOPFN also indicated they were open to hosting a COH but noted further discussion would be needed before confirming.

On March 14, 2025, Hydro One emailed AOPFN to re-send the invitation to COH #2. Hydro One committed to sharing Project details and documents as they become available and noted that a CFA would be provided if AOPFN wished to proceed with one.

On April 9, 2025, Hydro One met with AOPFN in person to discuss multiple ongoing projects, including providing updates regarding the Project. Updates included key timelines, CFA process, and field monitoring.

On May 8, 2025, Dillon Consulting emailed AOPFN and provided the results from the April 30, 2025 fieldwork along with the associated mapping.

On May 14, 2025, Dillon Consulting emailed AOPFN to provide notice of a change in the scheduled date of the Amphibian Breeding Survey.

On May 20, 2025, Dillon Consulting emailed AOPFN to inquire if there was interest in participating in the upcoming field monitoring opportunities.

On May 20, 2025, AOPFN emailed Dillon Consulting and Hydro One to indicate that due to restructuring, AOPFN would not be participating in monitoring for the Project. AOPFN requested that notices and Project updates continue to be sent to them.

One May 21, 2025, Dillon Consulting emailed AOPFN confirming that they would continue to provide survey notes and updates.

On May 28, 2025, Hydro One emailed AOPFN and suggested a meeting to discuss the Project. Between May 28, 2025, and June 5, 2025, Hydro One and AOPFN exchanged emails and coordinated a virtual meeting for June 9, 2025.

On June 2, 2025, Dillon Consulting emailed AOPFN to provide the results from the May 20, 2025 fieldwork, including the associated mapping.

On June 11, 2025, Hydro One emailed AOPFN and provided meeting notes, a letter and purchase order outlining capacity funding to support Project engagement. On June 11, 2025, AOPFN emailed Hydro One to confirm receipt of the meeting notes and noted they would amend the purchase order as soon as possible.

On June 16, 2025, Dillon Consulting provided AOPFN with survey notes from June 3 & 4, with additional notes from June 13 to follow.

On July 17, 2025, Dillon Consulting emailed AOPFN and provided the field notes and associated mapping for completed fieldwork.

On July 22, 2025, AOPFN emailed Dillon Consulting and requested emails related to fieldwork for the Project be separated into a new email chain. On July 22, 2025, Dillon noted that all fieldwork for the Project has now been completed, and the results have been sent to AOPFN. On July 22, 2025, AOPFN requested a full field schedule for the Project. On July 22, 2025, Dillon Consulting emailed AOPFN and provided the full fieldwork schedule for the Project, AOPFN emailed Dillon Consulting confirming receipt of the fieldwork schedule.

Hydro One emailed AOPFN on July 25, 2025, and provided a Project update. Hydro One noted that fieldwork for the Project is complete and invited outstanding questions about the fieldwork. Hydro One outlined upcoming Project milestones and offered to schedule a meeting to discuss anything in more detail.

On October 3, 2025, Hydro One had a virtual meeting with AOPFN to discuss ongoing collaboration, including connection activities, issues management, and updates on the Project. Updates included important dates, milestones, and the signing of the CFA.

On October 23, 2025, AOPFN sent a text message to Hydro One requesting a meeting to discuss the CFA.

On October 23, 2025, Hydro One called AOPFN in response to their text message and had a discussion about the outstanding concerns and comments on the CFA.

Between February 23, 2026 and March 10, 2026, Hydro One and AOPFN exchanged emails to discuss a new contact for the Project and AOPFN’s review of the draft ESR, including the need for an extension of the review period.

Between March 25, 2026 and March 30, 2026, Hydro One and AOPFN exchanged emails to coordinate a virtual meeting to discuss ongoing projects and the CFA.

Between March 30, 2026 and shared revisions to the CFA. On April 15, 2026, Hydro One met with AOPF to discuss the Project and CFA. Hydro One offered to extend the draft ESR review and host an AOPFN advisory committee meeting for Project and draft ESR input.

Between April 21, 2026 and May 5, 2026, Hydro One and AOPFN discussed CFA revisions and the logistics of the AOPFN Advisory Committee. On May 5, 2026, Hydro One provided the presentation for the committee meeting to AOPFN for their input and feedback. On May 7, 2026, Hydro One presented to the AOPFN Advisory Committee and provided details on the Project description, timeline, the selected preferred route, and responded to questions related to the Project.

On May 7, 2026, Matrix Heritage emailed AOPFN detailing the required training for AA monitor participation on DND lands. Between May 7, 2026 and June 9, 2026, Matrix Heritage and AOPFN corresponded regarding the coordination of AA monitors to join the fieldwork for the Project.

On May 21, 2026, Hydro One met with AOPFN to discuss next steps for Project engagement. During the meeting AOPFN requested an AAC meeting, which Hydro One agreed to attend, and the review of the draft ESR was extended until the AAC meeting and by the end of May.

On May 28, 2026, AOPFN emailed Hydro One noting the AOPFN Advisory Committee had reached a unanimous decision regarding Project items. AOPFN noted their requirements to move forward with the Project. AOPFN stated that the committee determined a site visit was necessary, followed by an additional AAC meeting before AOPFN could provide Hydro One with comments on the draft ESR. AOPFN advised Hydro One that they were unable to provide comments to Hydro One by the end of May 2026 as additional time was required for the site visit and committee review. AOPFN requested that a Hydro One representative be present for the site visit and to contact AOPFN to coordinate the meeting. The same day, Hydro One called AOPFN to confirm the details of the email and coordinate the site visit.

On May 29, 2026, Hydro One emailed AOPFN and provided the Advisory Committee meeting notes from May 7, 2026. Hydro One outlined the next steps in coordinating an onsite visit with AOPFN.

On June 1, 2026, AOPFN emailed Hydro One and provided the revised contract for the Project, and a letter requesting the site visit. AOPFN noted that the execution of the contract is required before any work may proceed. AOPFN provided a list of question requiring clarification from Hydro One.

AOPFN emailed Hydro One on June 2, 2026 and requested the previously provided meeting notes in word document format. AOPFN also requested the record of consultation to ensure transparency and understanding of the consultation activities to date. On June 8, 2026, Hydro One called AOPFN and discussed responses to emails from the previous week, including availability for a site visit. AOPFN requested a formal time to touch base. The same day, Hydro One emailed AOPFN and provided their availability for a Project touchpoint meeting.

On June 10, 2026, Hydro One emailed AOPFN and proposed scheduling a Project update meeting. Hydro One provided an update on the requested ROC and CFA for the Project and requested AOPFN's availability for the site visit. Hydro One provided responses to AOPFN's questions.

On June 12, 2026, AOPFN emailed Hydro One and provided a new Process Agreement, outlining a new capacity framework for AOPFN and Hydro One. The same day, Hydro One emailed AOPFN and proposed a meeting time and date, and invited AOPFN to apply for the Hydro One Indigenous Partnership Grant Program. On June 15, 2026, Hydro One emailed AOPFN to request clarification regarding the Process Agreement. Hydro One expressed commitment to executing the Project CFA. Hydro One and AOPFN discussed the details of the CFA and Process Agreement between June 12 and June 16, 2026.

On June 16, 2026, Hydro One and AOPFN joined a virtual meeting to discuss the logistics of the planned site visit on June 25, 2026 and commitment to providing capacity. Hydro One requested review and comment on the draft ESR two weeks after the site visit, noting further delay in filing the Class EA could impact costs and Project schedule. AOPFN advised they would submit comments on the draft ESR by July 9, 2026. Between June 16, and June 23, 2026, Hydro One and AOPFN corresponded regarding site visit details.

On June 25, 2026, Hydro One and AOPFN attended a site visit for the Project. AOPFN and Hydro One visited accessible portions of the Project route, and discusses existing conditions on the route, Project plans, construction methods, and mitigation measures.

Hydro One emailed AOPFN on June 26, 2026 and provided a copy of the Ecological Land Classification mapping, and the draft access plan for the Project. On June 29, 2026, Hydro One emailed AOPFN and provided the draft field notes from the site visit and invited AOPFN to review, edit, and comment.

On July 9, 2026, AOPFN emailed Hydro One and provided comment of the draft ESR. The same day Hydro One emailed AOPFN and thanked them for providing comments on the ESR, noting their appreciation for the thoughtful review. Hydro One advised they would review the comments and respond.

Between June 9, 2026, and July 30, 2026, Matrix Heritage and AOPFN corresponded regarding the Stage 2 AA and AOA deployment details.

On August 14, 2026, Hydro One emailed AOPFN and provided responses to AOPFN's comments on the draft ESR. Hydro One thanked AOPFN, the Advisory Committee, and the Neyagada Wabandangaki Guardians for reviewing Project materials and participating in the site visit and Project discussions. Hydro One provided a comment response table and letter addressing comments received, as well as an herbicide factsheet, and significant wildlife mapping.

On August 14, 2026, Hydro One called AOPFN and informed them that CNL will send a notice regarding a small portion of work per the S.82 federal decision. Hydro One and AOPFN also discussed potential procurement opportunities.

4.4.3.3. Kitigan Zibi Anishinabeg

Hydro One emailed the notices for the above-mentioned engagement opportunities to KZA.

On July 2, 2021, Hydro One emailed KZA the Project Notice of Commencement and offered to have a Project introduction meeting.

On August 16, 2021, Hydro One called and left a voicemail with KZA to follow up on the Notice of Commencement and gauge interest in participating in upcoming fieldwork. On August 16, 2021, Hydro One emailed KZA and requested a phone call to discuss the Project. Hydro One provided a Project map, the Notice of Commencement, and offered to coordinate a meeting to discuss the Project. On August 16, 2021, Hydro One emailed

KZA to note a correction to contact information in their previous email sent that same day.

On September 7, 2021, Hydro One called KZA regarding the Notice of Commencement for the Project and discussed the field study schedule and contact information. Following the phone call, Hydro One emailed KZA and re-sent the Notice of Commencement and Project mapping. Hydro One noted upcoming fieldwork and requested confirmation of KZA's interest in participating.

On September 7, 2021, KZA emailed Hydro One and provided the appropriate contacts for the Project. KZA requested Hydro One's availability for a meeting to discuss the Project.

On September 9, 2021, Hydro One emailed KZA and provided the contact information for Dillon Consulting, to coordinate KZA involvement in fieldwork. Hydro One noted they would provide their availability for a meeting soon.

On September 9, 2021, KZA called Dillon Consulting regarding the Project. The same day, September 9, Dillon Consulting emailed KZA and provided their contact information.

On September 10, 2021, Dillon Consulting emailed KZA and provided the subcontractor protocol, and COVID-19 protocol for review and approval.

On September 21, 2021, Dillon Consulting emailed KZA confirming that the environmental insurance requirement in the subcontractor agreement could be waived.

On September 22, 2021, KZA emailed Dillon Consulting noting that no one was available to attend fieldwork the following week. KZA requested the inventory protocols and the results be shared with them when they are available.

On November 5, 2021, Hydro One emailed KZA to invite them to COH #1. Hydro One noted they are available to hold an in-community information session if KZA is interested. Hydro One also stated that they are available for a meeting to discuss the fieldwork results from the fall.

On March 21, 2022, Hydro One emailed KZA and provided an update on the Project. Hydro One advised that KZA would be notified of future engagement opportunities as they are scheduled.

On April 7, 2022, Hydro One and Dillon Consulting presented a Project overview to KZA, including discussions of environmental studies and route selection process.

Dillon Consulting emailed KZA on April 7, 2022 and provided the revised subcontractor agreement, noting where revisions were made. The COVID-19 protocol was also re-sent, noting that monitors would have to sign off on these protocols.

On April 14, 2022, Hydro One emailed KZA and provided a tentative fieldwork schedule. Hydro One noted that Dillon Consulting would coordinate fieldwork and monitoring.

On April 26, 2022, Hydro One emailed KZA to provide meeting notes from the April 7, 2022, meeting. Hydro One provided contact information for a Hydro One representative to discuss forestry contract opportunities. Hydro One provided a reminder for KZA to coordinate with Dillon Consulting for fieldwork involvement.

On April 28, 2026, Hydro One emailed KZA and provided information regarding the Stage 2 AA and Archaeological Impact Assessment for the Project. Hydro One provided the fieldwork details and requested confirmation whether the community was interested in participating in the assessment, as well as the best methods to communication with KZA going forward. KZA responded to Hydro One on April 29, 2026, and provided a letter response to Hydro One as well as contact information for consultation with KZA.

No further communications with KZA have occurred to date.

4.4.3.4. Métis Nation of Ontario

Hydro One emailed the Notice of Commencement to MNO on July 2, 2021.

No other communications with MNO have occurred to date.

4.4.4. Opportunities for Future Engagement with Indigenous Communities

Hydro One will continue to engage with identified Indigenous communities throughout the life of the Project. Hydro One is committed to engaging with Indigenous communities through detailed design, construction, and post-construction phases of the Project and will include communities in discussions regarding potential biodiversity initiatives. As part of the next phase of the Project, Hydro One will share the Project-specific Environmental Management and Protection Plan (EMPP) with the identified communities for review and input, including information on detailed design considerations and proposed mitigation measures.

Hydro One will continue to explore opportunities to engage Indigenous communities for participation in monitoring during construction, where feasible, and consistent with Project access and safety considerations.

4.5. 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:

- Atomic Energy of Canada Limited (AECL)/Canadian Nuclear Labs (CNL)
- Canadian National Railway (CN Rail)
- Canadian Wood Fibre Centre/Petawawa Research Forest (PRF)
- Department of National Defence (DND)
- Nav Canada

Correspondence with these stakeholders is summarized below and included in the Record of Consultation (**Appendix A-4**).

4.5.1. Atomic Energy of Canada/Canadian Nuclear Labs

Hydro One emailed the notices for the above-mentioned engagement opportunities to the AECL/CNL.

Between January and March 2022, Hydro One and CNL discussed the logistics for a potential site visit. Hydro One met with CNL on March 30, 2022 for a site visit to check conditions and discuss the Project.

On March 24, 2025, Hydro One emailed AECL and CNL and notified them that the Class EA for the Project was restarting. Hydro One indicated they had a proposed route that incorporated the changes to the CNL property that were discussed in 2022. Hydro One invited AECL and CNL to attend the Project COH on April 8, 2025 in Petawawa.

During March and April 2025, Hydro One and CNL discussed the classification of the Project under Section 82 of the *Impact Assessment Act*, the proposed physical activities to occur on CNL lands, and the proposed Project schedule.

On February 4, 2026, Hydro One emailed AECL/CNL and noted that the draft ESR was primarily related to areas outside of federal jurisdiction. Hydro One also noted they would provide a Project description to be posted on the Canadian Impact Assessment

Registry and Environmental Effects Evaluation for the federal portion of the Project. Hydro One stated that these would be provided to both CNL and DND for review.

On June 3, 2026, AECL, CNL and Hydro One corresponded regarding potential access to AECL and CNL lands to complete an Archaeological Impact Assessment for the Project.

On June 30, 2026, Hydro One emailed AECL and CNL and provided their availability for a call regarding the Project's Archaeological Overview Assessment and access to AECL and CNL lands.

On July 9, 2026, Hydro One emailed AECL and provided the Notice of Intent, Environmental Effects Determination Report, and Record of Consultation with Indigenous communities for the Project. Hydro One indicated they would provide the latest Project mapping in a separate email due to file size. The same day, Hydro One emailed AECL and provided Project mapping.

On July 10, 2026, Hydro One met with AECL and CNL and discussed access considerations for the archaeological work planned to take place on their lands.

Between July 14 and July 20, 2026, Hydro One and AECL discussed the archaeological scope of work planned to take place on AECL and CNL lands.

4.5.2. Canadian National Railway

Hydro One emailed the notices for the above-mentioned engagement opportunities to CN Rail. No comments or concerns were raised by CN Rail.

4.5.3. Canadian Wood Fibre Centre/Petawawa Research Forest

Hydro One emailed the notices for the above-mentioned engagement opportunities to the Canadian Wood Fibre Centre/PRF. Hydro One met with the Forest Operations Manager on December 6, of 2021 to discuss the Project. PRF raised concerns regarding routes crossing forest research plots.

Between January and March 2022, Hydro One DND, PRF, and CNL discussed the logistics for a potential site visit. PRF attended a site visit on March 30, 2022, to check existing conditions and discuss the Project. Minor changes to the route alternatives and start points were discussed. Hydro One agreed to avoid forest research plots to the extent possible as well as a large gully east of the start point.

PRF emailed Hydro One and DND on May 16, 2022, indicating revised potential routes to avoid PNRF research plots. Hydro One subsequently made minor route revisions to avoid areas highlighted by PRF.

On February 4, 2026, Hydro One emailed the Canadian Wood Fibre Centre/PRF and noted that the draft ESR was primarily related to areas outside of federal jurisdiction. Hydro One also noted they would provide a Project description to be posted on the Canadian Impact Assessment Registry and Environmental Effects Evaluation for the federal portion of the Project.

4.5.4. Department of National Defence

Hydro One emailed the notices for the above-mentioned engagement opportunities to the DND.

Between December 3 and December 15, 2021, Hydro One and DND exchanged emails regarding the Project and to coordinate a meeting for December 15, 2021.

On December 15, 2021, Hydro One met virtually with DND to discuss the Project, including proposed routing and a potential site visit. On December 16, 2021, Hydro One emailed DND and assigned action items based on the meeting discussions. Between December 16, 2021, and December 17, 2021, DND and Hydro One exchanged emails to share shapefiles and mapping.

On January 5, 2022 and January 10, 2022, Hydro One emailed DND to confirm attendees and whether the planned site walk for January 19, 2022, was proceeding.

On April 6, 2022, DND emailed Hydro One to coordinate an in-person site walk and proposed schedule options.

On April 7, 2022, Hydro One emailed DND regarding a meeting to discuss MTO's concerns regarding the Project with DND and MTO and the next steps.

On April 11, 2022, Hydro One emailed DND and MTO and thanked them for attending a meeting with the Town of Petawawa the week prior. Hydro One requested a meeting once the Project mapping had been reviewed and requested DND's availability for a meeting the week of April 25, 2022. Between April 11, 2022, and April 29, 2022, Hydro One, MTO and DND exchanged emails to discuss the Project including mapping, construction logistics and access, and next steps to addressing MTO's comments on the proposed route.

Between May and August 2022, DND, MTO and Hydro One exchanged emails regarding MTO's comments on the Project and how they could be resolved.

Between November 10, 2023, and November 13, 2023, DND emailed Hydro One and provided mapping of a proposed interchange location and planned cell tower. On August 7, 2024, Hydro One met with DND and MTO to discuss the proposed route and outstanding concerns.

On September 26, 2024, MTO emailed DND and Hydro One and requested a meeting to discuss the amended proposed route and requested their availability. On October 7, 2024, Hydro One met with DND and MTO to discuss the Project and the proposed route.

In March 2025, Hydro One, DND, and MTO exchanged several emails regarding MTO's comments on the Project and proposed routing.

Between April 4, 2025, and April 7, 2025, Hydro One and DND coordinated a meeting for April 8, 2025, to discuss the Project and proposed routing. In May 2025, DND and Hydro One exchanged emails to coordinate access to DND property to complete fieldwork.

In August 2025, Hydro One emailed DND to provide a general Project update noting that the Project was moving forward. Hydro One indicated they had completed the route selection and field surveys for the Project, and they would provide them once compiled. Hydro One indicated they were planning on completing archaeological test pitting in the fall of 2025, and inquired about the extent of the studies, and whether following the provincial archaeological standards would be adequate or if DND's preference would be for Hydro One to prepare a federal Archaeological Overview Assessment (AOA)/ Archaeological Impact Assessment (AIA).

Between September 2025 and November 2025, Hydro One met with DND to discuss Project routing and removal of the existing transmission line. Virtual meetings were held on September 24, 2025, and November 7, 2025.

On February 4, 2026, Hydro One emailed DND and noted that the draft ESR was primarily related to areas outside of federal jurisdiction. Hydro One also noted they would provide a Project description to be posted on the Canadian Impact Assessment Registry and Environmental Effects Evaluation for the federal portion of the Project. Hydro One stated that these would be provided to both CNL and DND for review.

4.5.5. Nav Canada

Hydro One emailed Nav Canada the Notice of Commencement in August of 2021. No comments or concerns were raised by Nav Canada.

4.6. Provincial Government and 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:

- Ministry of Energy and Mines (MEM)
- Ministry of the Environment, Conservation and Parks (MECP)
- Ministry of Citizenship and Multiculturalism (MCM)
- Ministry of Natural Resources (MNR)
- Ministry of Transportation (MTO)
- Ontario Power Generation (OPG)

Correspondence with these stakeholders is summarized below and included in the Record of Consultation (**Appendix A-4**).

4.6.1. Ministry of Energy and Mines (MEM)

Hydro One emailed the notices for the above-mentioned engagement opportunities to the MEM.

In November 2024, Hydro One emailed the MEM (formerly the Ministry of Energy and Electrification) and provided a letter requesting determination as to whether the Project triggers the Crown's constitutional Duty to Consult with respect to Indigenous and Treaty rights, and whether the Crown delegates procedural aspects of the Duty to Consult to Hydro One, as well as the level of consultation required.

On August 27, 2025, October 21, 2025, and December 15, 2025, Hydro One emailed the MEM and followed up on the request made in November 2024 for a determination letter.

Hydro One and MEM corresponded in late December 2025 and early January 2026 regarding consultation guidance for the Project. MEM provided preliminary guidance on January 20, 2026.

On February 4, 2026, Hydro One emailed the MEM and stated that the Indigenous communities identified in past correspondence would be provided an opportunity to review and comment on the draft ESR.

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

Hydro One emailed the notices for the above-mentioned engagement opportunities to the MECP.

On August 31, 2021, the MECP provided a comment letter regarding the Project.

No other communications with MECP have occurred to date.

4.6.3. Ministry of Citizenship and Multiculturalism (MCM)

Hydro One emailed the notices for the above-mentioned engagement opportunities to the MCM (formerly the Ministry of Heritage, Sport, Tourism and Culture Industries).

On August 26, 2021, Hydro One sent the Notice of Commencement to MCM.

On November 8, 2021, Hydro One sent the Notice of COH #1 to MCM.

Between February 4, 2026 and February 12, 2026, Hydro One and MCM exchanged emails regarding the Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment and the Stage 1 Archaeological Assessment. On February 12, 2026, Hydro One provided the Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment to MCM via email.

On March 20, 2026, MCM provided their comments on the draft ESR and Cultural Heritage Report to Hydro One via email, and additional guidance related to Cultural Heritage Reports.

4.6.4. Ministry of Natural Resources (MNR)

Hydro One emailed the notices for the above-mentioned engagement opportunities to the MNR (formerly the Ministry of Natural Resources and Forestry).

On August 26, 2021, Hydro One sent the Notice of Commencement to MNR.

On November 8, 2021, Hydro One sent the Notice of COH #1 to MNR.

No other communications with MNR have occurred to date.

4.6.5. Ministry of Transportation (MTO)

Hydro One emailed the notices for the above-mentioned engagement opportunities to the MTO.

On April 6, 2022, Hydro One met virtually with the Town of Petawawa and MTO to provide an overview and update presentation for the Project, focussing on the proposed routing at Murphy Road and Highway 17, and its effects on the Town of Petawawa property. Hydro One and the MTO also discussed permitting requirements for the Project.

In June 2022, Hydro One and MTO coordinated a virtual meeting for June 28, 2022 to discuss the proposed route and property requirements.

In November 2023, Hydro One emailed MTO and notified them that the Project had received approval to proceed with the proposed relocation of the section of transmission line located on DND property. Hydro One indicated they were able to address the concerns that MTO had north of the Petawawa River. Hydro One requested an in-person meeting with MTO in late November 2023. Hydro One and MTO corresponded in November to coordinate a virtual meeting on November 30, 2023. Hydro One, DND, and MTO met to further refine the proposed route to ensure all party's requirements are met.

Hydro One emailed MTO on March 24, 2025, and informed them that the Class EA for the Project was officially restarting and provided a notice of invitation to the COH on April 8, 2025 to introduce the proposed route to the public.

In September and October 2025, Hydro One and the MTO discussed Project details including the types of structures proposed for the Project and the MTO required clear zone. On October 16, 2025, MTO emailed Hydro One and provided comments and questions on the specific type of pole structures proposed, and concerns regarding the clear zones adjacent to the MTO property. Hydro One responded the same day and indicated the types of structures to be used and provided direction of where clear zone distance measurements should be taken from the Hydro One structures. On October 17, 2025, MTO emailed Hydro One and indicated they were satisfied with Hydro One's responses and had no further comments on the proposed design. MTO informed Hydro One of a required easement and permit for the Project. No other concerns were raised by MTO.

On February 4, 2026, Hydro One emailed MTO and stated that they would apply for an encroachment permit closer to construction and would also submit a survey plan for a structure south of the Petawawa River. On February 11, 2026, MTO and Hydro One exchanged emails regarding a new MTO contact for the Project.

4.6.6. Ontario Power Generation (OPG)

Hydro One emailed the Notice of Commencement and invitation to COH #1 to OPG.

On November 8, 2021, OPG emailed Hydro One and confirmed they had reviewed the Project details and confirmed that the Project did not impact OPG.

4.7. Municipal Governments

Consultation with municipal governments included key department staff and elected officials at the County of Renfrew, Town of Laurentian Hills, Town of Petawawa, Town of Renfrew, and the Township of Laurentian Valley. Correspondence with municipal governments is included in the Record of Consultation (**Appendix A-4**).

4.7.1. County of Renfrew

Hydro One emailed the notices for the above-mentioned engagement opportunities to the County of Renfrew.

On July 15, 2021, Hydro One emailed the Notice of Commencement to the County of Renfrew.

In November 2021, the County of Renfrew and Hydro One coordinated a virtual meeting for December 3, 2021 regarding the Project and land use plans for the Algonquin Trail.

On December 3, 2021, Hydro One held a virtual meeting with the County of Renfrew to discuss the Project.

Hydro One emailed the Notice of COH #2 to the County of Renfrew on March 24, 2025.

Hydro One emailed the Notice of Completion to Warden Murphy of the County of Renfrew on January 28, 2026, and municipal staff on February 12, 2026.

4.7.2. Town of Laurentian Hills

Hydro One emailed the notices for the above-mentioned engagement opportunities to the Town of Laurentian Hills.

On October 28, 2021, Hydro One invited the Town of Laurentian Hills to attend a tour of a local distribution station. The Town of Laurentian Hills declined the invitation.

4.7.3. Town of Petawawa

Hydro One emailed the notices for the above-mentioned engagement opportunities to the Town of Petawawa.

On October 12, 2021, Hydro One invited the Town of Petawawa to take a tour of a local distribution station on the morning of November 17, 2021. The Town of Petawawa declined the invitation.

On November 17, 2021, the Town of Petawawa attended COH #1. On November 18, 2021, Hydro One emailed the Town of Petawawa to obtain more information about the concerns raised during COH #1. Hydro One requested a contact for the Town of Petawawa to discuss plans for the Algonquin Trail and municipal land use plans and suggested a future meeting with the Town of Petawawa to determine next steps in the route selection process.

On December 10, 2021, Hydro One and the Town of Petawawa exchanged several emails to determine the appropriate contact for lands and real estate for the Town of Petawawa.

On March 31, 2022, Hydro One emailed the Town of Petawawa and invited them to a meeting on April 6, 2022 to discuss a section of the proposed route and the Town of Petawawa's land use plans. On April 6, 2022, Hydro One held a virtual meeting with the Town of Petawawa and presented an overview and update for the Project, focussing on the proposed routing near Murphy Road and Highway 17 and potential effects on a former landfill site. On that same day, the Town of Petawawa emailed Hydro One and provided a development map of the subject property. Hydro One responded and emailed the Town of Petawawa and provided a map of the proposed route.

On March 13, 2025, Hydro One emailed the Town of Petawawa and informed them that the Class EA for the Project was officially restarting and provided a notice of invitation to COH #2 on April 8, 2025, to introduce the proposed route to the public.

Between March 13, 2025, and March 17, 2025, Hydro One and the Town of Petawawa coordinated a meeting to discuss the Project. Hydro One also provided an advanced copy of the notice of invitation being sent to residents for COH #2, taking place on

April 8, 2025. On March 18, 2025, Hydro One met virtually with the Town of Petawawa to discuss the Project.

On March 18, 2025, Hydro One emailed the Town of Petawawa and provided a copy of the meeting presentation from earlier that same day. Hydro One noted that they are seeking answers to the questions posed in the meeting and will respond as soon as possible.

On March 3, 2026, the Town of Petawawa emailed Hydro One and provided their comments on the draft ESR. The Town of Petawawa's comments were generally related to discrepancies between the ESR and the Town's Official Plan related to land use designations, the draft ESR's omission of Section 18.3.1.1 of the Town's Official Plan, and clarification regarding MTO's plans for the intersection of Highway 17 and Murphy Road.

On March 10, 2026, Hydro One responded to the Town of Petawawa's comments on the draft ESR via email. Hydro One's responses noted that the final ESR would be updated to reflect the Town's comments.

On March 13, 2026, The Town of Petawawa emailed Hydro One and Dillon and provided GIS data and mapping from the Town's Official Plan. On March 13, 2026, Hydro One emailed the Town of Petawawa and thanked them for the data and mapping and confirmed that the final ESR would be updated accordingly.

4.7.4. Town of Renfrew

Hydro One emailed the notices for the above-mentioned engagement opportunities to the Town of Renfrew.

On March 24, 2025, Hydro One emailed the Town of Renfrew and informed them that the Class EA for the Project was officially restarting and provided a notice of invitation to COH #2, taking place on April 8, 2025, to introduce the proposed route to the public.

4.7.5. Township of Laurentian Valley

Hydro One emailed the notices for the above-mentioned engagement opportunities to the Township of Laurentian Valley.

On March 24, 2025, Hydro One emailed the Township of Laurentian Valley and informed them that the Class EA for the Project was officially restarting and provided a Notice of

invitation to COH #2, taking place on April 8, 2025, to introduce the proposed route to the public.

4.8. 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 16 potentially affected and interested groups, businesses, school boards, and utilities were contacted. A complete list of the interest groups is provided in the contact list in **Appendix A-1**.

Correspondence with potentially affected and interested groups, businesses, school boards, and utilities are included in the Record of Consultation (**Appendix A-4**).

On November 29, 2021, Friends of Petawawa Research Forest emailed Hydro One and expressed concerns about the proposed Route Alternative A. On December 7, 2021, Hydro One emailed Friends of Petawawa Research Forest acknowledging receipt of their concerns, and noted that they will be considered as part of the Class EA.

On February 23, 2026, Hydro One emailed TC Energy and provided an overview of the Project and the preferred route, noting that the Project parallels an existing pipeline corridor for approximately 950 meters, and would cross the pipeline corridor in one location. Hydro One inquired if any additional permissions would be required for this crossing, stating that Hydro One would also apply for equipment crossings closer to construction.

Between March 9 and March 13, 2026, Hydro One and TC Energy exchanged emails to coordinate a meeting for March 17, 2026 to discuss the Project.

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

As outlined in **Section 4.2** and **Section 4.3**, 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, and the Project website.

In March 2025, before COH #2, Hydro One sent packages to potentially affected landowners along the Preferred Route. The packages were sent via registered mail on March 24, 2025, and contained a letter sharing details on the Project in relation to their property, the Notice of COH #2, and a property map. Refer to **Appendix A-3** for a copy of the landowner packages.

Throughout the Class EA process, communication with members of the public were generally related to property impacts. On August 4, 2021, a member of the public called Hydro One and expressed concerns relating to property impacts and the engagement process. Hydro One noted that public engagement is important to the Class EA process and stated that impacted property owners would be identified and engaged when the Preferred Route is identified.

On August 9, 2021, a member of the public emailed Hydro One and noted their opposition to the proposed route due to property impacts. The member of the public requested a phone call to discuss potential alternatives. On August 12, 2021, Hydro One called the member of the public and discussed potential route alternatives.

On November 14, 2021, a member of the public emailed Hydro One to reiterate their concerns regarding proposed Route Alternative A. The member of the public suggested an alternative route that utilizes land owned by the Town of Petawawa. On November 16, 2021, Hydro One responded via email noting that this feedback will be considered as part of the Class EA process. On November 16, 2021, the member of the public emailed Hydro One requesting that their formal objection to Route Alternative A be noted. On November 29, 2021, the member of the public emailed Hydro One and reiterated their opposition to proposed Route Alternative A. On December 1, 2021, Hydro One emailed the member of the public acknowledging receipt of their concerns and noted that they would be considered as part of the Class EA process.

On January 4, 2022, a member of the public called Hydro One and requested a Project update and the information from COH#1 be sent to them. On January 10, 2022, Hydro One called the member of the public and committed to mailing them the COH#1 materials.

On March 6, 2022, A member of the public emailed Hydro One and stated that the Project website did not have guidance on which route was selected. Hydro One emailed the member of the public on March 8, 2022 and stated that the Project website had been updated to reflect new Project timelines and that they were aiming to select a

Preferred Route by spring 2022. Hydro One noted that once the Preferred Route is selected, additional engagement opportunities will occur to allow for more Project feedback.

On April 4, 2022, Hydro One called a member of the public to answer their questions regarding the Project and the anticipated timeline for the selection of the Preferred Route. Hydro One noted they would send the member of the public hard copies of the information as per their accommodation request. On April 28, 2022, Hydro One mailed the member of the public the consultation materials.

On March 27, 2025, members of the public emailed Hydro One noting they were affected landowners and had received a package via registered mail. The landowners requested information on residential building setbacks for transmission lines and noted they were planning to build a home on the property being traversed by the line and that it appears very close to their desired building location. Hydro One emailed the landowners and acknowledged their inquiry, and introduced a dedicated land agent to help navigate the process with them. On March 28, 2025, the landowners emailed Hydro One and provided a marked-up map indicating their proposed refinements to Route Alternative A. The landowners indicated that their refinements to the route would hide the transmission line from the greatest number of homes in the area and would help reduce wildfire risks. Hydro One responded via email to the members of the public the same day, March 28, 2025, and indicated they would be assisting the landowners and requested their contact information. The landowners emailed Hydro One on March 28, 2025, and provided their contact information and availability. On April 7, 2025, the landowners emailed Hydro One and provided a personal history of their experience living in the area and adjacent to the Rantz Road gravel pit. The landowners emphasized the importance of the gravel pit to the community's recreation and mental and physical wellbeing, noting that the transmission line would detract from the enjoyment of the property. The landowners requested that if the Project must proceed, that Hydro One follow a route across the land that is less visible and does not pass through the landowner's proposed building location. The landowner provided photographs, images of paintings, and a map with their proposed refinement. Hydro One emailed the landowners and thanked them for providing the letter and photos and noted they would see them the following day at the land agent meeting. On April 11, 2025, Hydro One emailed the landowners and thanked them for showing their property and acknowledged their concerns. Hydro One indicated the Project team was reviewing

the public feedback and that a Hydro One representative would be in contact to outline next steps.

On March 27, 2025, a member of the public emailed Hydro One and indicated that the Route Alternative A appeared to impact their property. Hydro One emailed the member of the public on March 28, 2025, and confirmed they were added to the Project contact list and requested the member of the public's address. The member of the public emailed Hydro One on March 28, 2025, and provided their address, noting it was a historic farm granted to their family via Land Patent and is now used as a private recreational forest.

On April 1, 2025, a member of the public emailed Hydro One and expressed their concerns with Route Alternative A. The member of the public cited concerns related to Electris and Magnetic Fields (EMF), property values, aesthetic and visual effects, environmental disruption, and loss of enjoyment of their property. The member of the public requested a response from Hydro One outlining the route evaluation process and how landowner feedback was being addressed. Hydro One emailed the member of the public on April 11, 2025, and addressed their questions. Hydro One committed to review the member of the public's input and noted they would provide next steps for the Project.

On April 10, 2025, a member of the public emailed Hydro One and provided their concerns regarding the Project. The member of the public noted their opposition to the transmission line traversing their property and inquired about the route refinements that caused Route Alternative A to traverse the Rantz Road gravel pit. The member of the public provided a map with their proposed route refinements, noting they would address some of their concerns.

On April 13, 2025, a member of the public emailed Hydro One, the MTO, and Member of Provincial Parliament (MPP) Denault, and indicated that at the Project COH #2, they were informed that a previous iteration of Route Alternative A had been blocked by the MTO due to future plans and prescriptive setbacks. The member of the public had concerns that the MTO did not attend the COH #2 to answer questions from landowners. The member of the public requested further information regarding the proposed route refinements and why the MTO had opposed the initial Route Alternative A. On April 29, 2025, Hydro One emailed the member of the public to address their concerns about the Project and committed to ongoing collaboration. Hydro One outlined

the routing results from a constraints analysis in the EA, which considered factors like the MTO setbacks, and other significant constraints such as the Petawawa River crossing. Hydro One stated that a representative would be in contact with the member of the public and expressed appreciation for their cooperation and understanding.

On April 17, 2025, a member of the public emailed Hydro One and MPP Denault and expressed their concerns regarding the Project and the refinements to Route Alternative A. The member of the public provided their address and noted they abut the former gravel pit property on Rantz Road. The member of the public inquired about why the refinements to Route Alternative A were made, the size of the ROW for the Project, the amount of trees planned to be removed, and whether representatives from the MTO were invited to attend COH #2. The member of the public expressed their disagreement with Route Alternative A and indicated they thought it disproportionately disadvantaged their neighbour's property. The member of the public noted that the Project should, at the least, follow the back of their neighbour's property line.

On April 17, 2025, a member of the public emailed Hydro One, the MTO, and MPP Denault to express their concerns about the Project. The member of the public noted the absence of MTO presence at the COH #2 and questioned the MTO setback requirements.

On August 3, 2025, a member of the public emailed Hydro One noting they had previously emailed the Project team with their concerns regarding the Project. The member of the public indicated they had reached out to the MTO and requested Hydro One's assistance understanding the MTO's response. The member of the public provided the MTO's response to Hydro One. On August 11, 2025, Hydro One followed up with the member of the public and indicated their colleague was away from office and that there would be a delay in Hydro One's response. On August 26, 2025, Hydro One emailed the member of the public and thanked them for sharing the additional information. Hydro One provided context on the Class EA process and explained the development of the routes and following consultation phase involving agencies such as the MTO. Hydro One clarified that the MTO's input on future exchanges at Murphy Road and other constraints led to the modification of the original route. Hydro One acknowledged the challenges faced by landowners and thanked them for their patience.

On February 5, 2025, a member of the public emailed Hydro One and requested a plain language summary of the Project referencing the Notice of Completion. The member of

the public also stated that future notices should be written assuming that readers have no previous knowledge of the Project. On February 9, 2026, Hydro One emailed the member of the public and provided an overview of the Project and a link to the Project website and interactive route map. Hydro One described how the preferred route was selected and the categories used for the evaluation. Hydro One also indicated that the draft ESR would be available on the Project website for review and comment from February 13 to March 15, 2026 and provided a description of the process for responding to comments and feedback, and finalizing the ESR.

On February 11, 2026, Hydro One's Community Relations hotline received a voicemail from a member of the public asking about the preferred route, and whether their property would be impacted. On February 11, 2026, Hydro One phoned the member of the public and left a voicemail confirming the preferred route, and where the relocated line would connect to the existing line. Hydro One indicated that the member of the public could visit the interactive map on the Project website for more location details.

No further concerns were raised by members of the public and/or property owners.

4.10. Summary of Rightsholder and Stakeholder Comments and Concerns

Indigenous rightsholder feedback focused on ensuring that potential impacts to Indigenous and Treaty rights, wildlife habitat, vegetation management and environmental restoration were appropriately considered in project planning with mitigation measures during construction. There is emphasis on the importance of continued engagement, capacity funding, and opportunities for construction monitoring and restoration.

Concerns raised by public stakeholders during the Class EA process were related to proposed routing and associated property impacts, including impacts to the property on Rantz Road. Feedback received following the COH #1 and through communication with key agencies indicated that additional refinement of the proposed route alternatives was needed to avoid conflicts with future developments and expansion of Highway 17. Hydro One worked closely with the DND and MTO on routing constraints and considerations. A total of 11 property owners expressed concerns related to property impacts throughout the Class EA process, with 10 expressing concerns with Route Alternative A, and 1 expressing concerns with Route Alternative B. Engagement with

property owners resulted in the development of Refined Route Alternative A. Hydro One's real estate representatives have continued to work with directly affected landowners on matters specific to their property.

4.11. Notice of Completion and Draft ESR Comment Period

Hydro One provided a 30-day comment period from February 13 to March 15, 2026, to allow sufficient time for review and comment on the draft ESR. Written comments regarding the draft ESR were submitted to:

Jeff Hankin, 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 was available electronically on Hydro One's D6 Transmission Line Relocation Project webpage (https://www.hydroone.com/about/corporate-information/major-projects/d6relocation).

Copies of the draft ESR were available in print at the following locations:

Chalk River Library
15 Main Street
Chalk River, ON
K0J 1J0
(613) 589-2966

Petawawa Public Library
16 Civic Centre Road
Petawawa, ON
K8H 3H5
(613) 687-2227

The Notice of Completion was distributed as follows to indicate the draft ESR was complete and available for review:

- Hydro One emailed the notice to affected property owners during the week of January 28, 2026.
- The notice was emailed to the Project contact list by Hydro One during the week of February 2, 2026.
- Dillon Consulting coordinated the distribution of the notice through Canada Post admail to residences within the RSA the week of February 2, 2026.
- The notice was posted in the Deep River North Renfrew Times on February 25 and March 4, 2026, and the Eganville Leader on February 25, 2026.

Comments and concerns received by Hydro One during the draft ESR review were recognized, considered, addressed, and documented. The ESR has been finalized for the proposed Project in accordance with the Class EA.

The final ESR has been filed with the MECP and was made available on the Project website (https://www.hydroone.com/about/corporate-information/major-projects/d6relocation). The Project is considered acceptable to proceed as outlined in the ESR.

The *EA Act* has provisions that allow interested parties to request MECP order 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). Requests may only be made on the grounds that the requested order may prevent, mitigate, or remedy adverse effects on constitutionally protected Indigenous and Treaty rights. This process is referred to as a Section 16 Order request and must be sent in writing or email to the MECP, copying Hydro One.

No Section 16 Order requests were received by the MECP or Hydro One relating to the Project, as such, the Project will proceed as outlined in the ESR.

4.11.1. Draft ESR Review Period

Comments received from Indigenous communities and other stakeholders on the draft ESR and responses provided by Hydro One, are captured in **Table 4-1**, **Table 4-2**, **Table 4-3,** and **Table 4-4**.

Table 4-1: Comments from MCM on the Draft ESR and Hydro One's Responses

No.	Reference to Report	MCM Comments & Rationale	MCM Proposed Action/Solution	Hydro One Response
1	Draft ESR, Section 1.4.2; Other Permits, Licenses and Approvals (p.1-10)	MCM recommends that the language in Table 1-1 be revised for consistency with the legislative framework.	MCM recommends the following revisions to Table 1-1, row 9: • "Permit License ~~or~~ Approval or **Regulatory Requirement**" column: "***Ontario Heritage Act* – Entry** of ~~A~~rchaeological **assessments into the Ontario Public Register of Archaeological Reports** ~~Acceptance Letters~~" • "Description" Column: "Archaeological assessment (AA) is required prior to undertaking ~~new~~ **any** ground disturbance ~~in areas with~~ **which could impact areas** of archaeological potential **or lands containing archaeological resources. Archaeological concerns have not been fully addressed until reports have been entered into the Ontario Public Register of Archaeological Reports ('the Register') where those reports recommend that:** **1) The archaeological assessment of the project area is complete and** **2) All archaeological sites identified by the assessment are either of no further cultural heritage value or interest (as per Section 48(3) of the *Ontario Heritage Act*) or that mitigation of impacts has been accomplished through excavation or an avoidance and protection strategy."** MCM also suggests adding the following row: • "Permit, License ~~or~~ Approval or **Regulatory Requirement**" column: "***Ontario Heritage Act* – Completion of a Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment**" • "Description" column: "**Hydro One, as a prescribed public body, is required to comply with the Standards and Guidelines for Conservation of Provincial Heritage Properties (issued under Section 25.2 of the Ontario Heritage Act), including its approved Identification and Evaluation Process and completion of technical cultural heritage studies**"	Requested revisions will be completed.
2	Draft ESR, Section 5.3; Cultural Heritage Resources (p.5-68)	The terminology in the introductory paragraph in this section should be revised for consistency with the legislative framework.	MCM recommends the following revisions: "~~Provincial~~ **Cultural** heritage ~~properties~~ **resources** include three types ~~of cultural heritage resources~~: BHRs, CHLs, and archaeological **resources** ~~sites~~ (MCM, 2010).	Requested revisions will be completed.
3	Draft ESR, Section 5.3.1; Built Heritage Resources and Cultural Heritage Landscapes (p.5-68)	Please see cover letter comments. The ESR should refer to the Cultural Heritage Report by its correct title. In addition, please see the MCM's comments on the Cultural Heritage Report (cover letter and comments #10-21 below).	MCM recommends that the ESR be updated to reflect the revised Cultural Heritage Report.	Requested revisions will be completed.

No.	Reference to Report	MCM Comments & Rationale	MCM Proposed Action/Solution	Hydro One Response
			MCM also recommends including mapping in this section to show the locations of any known/potential built heritage resources (BHRs) and cultural heritage landscapes (CHLs) in relation to the route alternatives.	
4	Draft ESR, Section 5.3.2; Archaeological Resources (p.5-68)	Please see cover letter comments. The Stage 1 findings and recommendations of the Stage 1 AA should be considered preliminary at this time and the ESR may need to be revised. In addition, MCM recommends that the Stage 2 AA be carried out as early as possible during detail design and prior to any ground disturbing activities.	MCM recommends the following revisions: "Matrix Heritage Inc. was retained by Hydro One to conduct a Stage 1 AA (PIF# P378-0120-2025) and an AOA for the Project. The need for AA work was determined through Hydro One's internal environmental review of the Project lands, as per the Class EA. AA activities were conducted by a licensed archaeologist in accordance with the MCM Standards and Guidelines for Consultant Archaeologists (2011) for lands under provincial jurisdiction. **The Stage 1 AA has yet to be submitted to MCM for review and the findings and recommendations should be considered preliminary until the report has been entered into the Ontario Public Register of Archaeological Reports. The ESR may need to be updated.** […]" Hydro One commits to completing the Stage 2 AA and AIA along the Preferred Route in Spring 2026, **as early as possible during detail design and** prior to ~~construction~~ **any ground disturbing activities**. Indigenous monitors will be invited to participate and review the reports. […]"	Requested revisions will be completed. Note, the Stage 1 AA was submitted to MCM with an expedited review request on April 2, 2026.
5	Draft ESR, Section 6.3.2; Socio-Economic Environment Category (p.6-136)	Table 6-2 contains language that is inconsistent with the legislative framework. Revision recommended.	MCM recommends the following revisions to Table 6-2: • Row 1, "Measure" column: "Potential impacts to ~~lands with~~ **areas of** archaeological potential, ~~proximity to known~~ **or** archaeological **resources** ~~sites~~. • Row 2, "Criteria" column: "Cultural **Heritage** Resources" • Row 2, "Measure" Column: "Potential impacts to **known or potential** ~~properties or landscapes with~~ **built heritage resources** or cultural heritage ~~resource potential~~ **landscapes**."	Requested revisions will be completed.
6	Draft ESR, Section 6.4, Step 4: Evaluate and Select Preferred Route (p.6-141)	Please see recommended edits to table 6-2 in comment #5. Table 6.6 should be revised accordingly. In addition, please see cover letter and comments #1 and 4. The findings and recommendations of the Stage 1 AA should be considered preliminary at this time and the ESR may need to be revised. See also cover letter comments related to the Cultural Heritage Report, as well as comments #10-21. Table 6-6 should be revised to reflect the findings and	Revision to Table 6-6.	Requested revisions will be completed.

No.	Reference to Report	MCM Comments & Rationale	MCM Proposed Action/Solution	Hydro One Response
		recommendations of the revised Cultural Heritage Report. The table should clearly identify whether there could be impacts to known and potential BHRs and/or CHLs.		
7	Draft ESR, Section 7.4.1; Built Heritage Resources and Cultural Heritage Landscapes (p.7-151)	Please see cover letter comments and comment #3, as well as comments below on the Cultural Heritage Report. MCM recommends that the ESR be updated to reflect the findings and recommendations of the revised Cultural Heritage Report. Please also note MCM's comments regarding the study area for the Cultural Heritage Report.	Revision to reports.	Requested revisions will be completed.
8	Draft ESR, Section 7.4.2; Archaeological Resources (p.7-152)	Please see our cover letter comments and comments #1 and 4.	The ESR may need to be revised once the Stage 1 AA has been entered into the Register. In addition, MCM recommends that this section be revised as it is not consistent with the terminology of the *Ontario Heritage Act*: "The Stage 1 AA determined that the PSA for the Preferred Route contains **areas of** ~~land with potential to support~~ archaeological ~~resources~~ **Potential**."	Requested revisions will be completed.
9	Draft ESR, Section 7.12; Summary of Potential Environmental Effects, Mitigation Measures, and Net Effects (p.7-186)	Table 7-1, Row 3: Please see cover letter comments and comments #3 and #7, as well as comments below on the Cultural Heritage Report. Table 7-1 should be updated to reflect the findings and recommendations of the revised Cultural Heritage Report. Please also note MCM's cover letter comments regarding the study area for the Cultural Heritage Report. Table 7-1, Row 4: Please see cover letter and comments #1, #4 and #6. The Stage 2 AA (and any further stages, if recommended) should be completed as early as possible during detail design and prior to any ground disturbing activities. This row should also be revised for consistency with the requirements of *the Ontario Heritage Act* and the *Funeral, Burial and Cremation Services Act.*	MCM recommends the following revisions to Table 7-1: Row 3: [Revise based on the findings and recommendations of the updated Cultural Heritage Report.] Row 4, "Mitigation Measures" column: • "~~Prior to construction, a~~ **A** Stage 2 AA will be completed **as early as possible during detail design and prior to any ground disturbing activities** within the **areas recommended by the Stage 1 AA** ~~identified areas of archaeological potential~~ in accordance with MCM requirements. In the event the Stage 2 AA identifies the need for further assessment, Stage 3/Stage 4 AA(s) will be completed **as early as possible during detail design and prior to any ground disturbing activities**, as required in accordance with the MCM Standards and Guidelines for Consultant Archaeologists, 2011. • Should archaeological ~~artifacts~~ **resources** be 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*. Likewise, should any human remains be encountered during construction, work in the vicinity will cease and the police and coroner notified immediately as well as the Registrar, **Ontario Ministry of Public and Business Service**	Requested revisions will be completed.

No.	Reference to Report	MCM Comments & Rationale	MCM Proposed Action/Solution	Hydro One Response
			Delivery and Procurement, ~~of Cemeteries~~ to ensure compliance with the *Funeral, Burial and Cremation Services Act.* […]"	
10	Cultural Heritage Report, Executive Summary (p.1)	Please see comments below. These also apply to the Executive Summary.	Revision to report.	Executive Summary will be revised as requested.
11	Cultural Heritage Report, Table of Contents	MCM recommends that the Cultural Heritage Report be re-organized into the following sections: • Executive Summary • Introduction ○ Include information under Sections 1.1, 1.2.1, 1.2.2, 2.0 (with modifications) • Approach and Methodology ○ Include information under Section 1.2, 2.1.3 (with modifications) • Existing Conditions ○ Include information under Section 2.1, 2.2 (and sub-sections), 3.1 3.2, 3.3. (with modifications) • Community Engagement ○ Include information under Section 3.5.1 • Identification of Potential Project-Specific Impacts and Mitigation Measures ○ Include information under Section 3.6 (with modifications) • Summary and Next Steps or Recommendations ○ Include information under Section 4.0 (with modifications) • Figures • References • Appendices Please see comments below regarding recommended revisions to report sections.	Revision to report.	Table of Contents will be revised as requested and a revised report will be issued to MCM for review.
12	Cultural Heritage Report, Section 1.1; Purpose of the Report (p.6)	Please see cover letter comments. The purpose of the report described in Section 1.1 is more closely aligned with a screening report and should be revised – please see cover letter description of the purpose of a Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment.	Revision to report.	Requested revisions will be completed and a revised report will be issued to MCM for review.

No.	Reference to Report	MCM Comments & Rationale	MCM Proposed Action/Solution	Hydro One Response
		We further recommend that the information regarding the study area be removed from Section 1.1 and included under 1.2.1. In addition, we recommend that the Introduction section further elaborate on the proposed undertakings (including the proposed route alternatives). Please see also comment #11 above.		
13	Cultural Heritage Report, Section 1.2; Methodology (p.6) And Section 2.1.3 Site Visit (p.9)	See comment #11. We recommend that the description of the report's methodology be moved to a separate section. Please also see cover letter comments and comment #12 above. The methodology described in Section 1.2 seems to focus on screening. We recommend the following revisions: • The methodology section should elaborate on the (completion of MCM's checklist, primary and secondary sources consulted, information requests, etc.) • We also recommend elaborating on the field program/site visit under the methodology section. The information under 2.1.3 should be moved here. • This section should also include an overview of legislative requirements under the EA, *Ontario Heritage Act* (including Hydro One's responsibilities under the *Standards and Guidelines for Conservation of Provincial Heritage Properties*), as well as the policy context for this report. • The methodology section should include an overview of the criteria for determining cultural heritage value or interest – O. Reg. 9/06 and O. Reg. 10/06. • A description of the report's approach to assessing impacts should be included in this section. Please also note that MCM should have been contacted as part of the information gathering for this report to determine whether the study area contains any provincial heritage properties.	Revision to report.	Requested revisions will be completed and a revised report will be issued to MCM for review.
14	Cultural Heritage Report, Section 1.2.1 Study Area (p.7)	Please also see cover letter comments regarding the study area for this report. We recommend that the study area be revised to include a 120 m buffer from the project right-of-way centre line (240 m total study area).	Revision to report.	As noted in an email between Matrix Heritage and the MCM on April 10, 2026, the current study area width is 430 m. The text in the report will be revised for clarity.

No.	Reference to Report	MCM Comments & Rationale	MCM Proposed Action/Solution	Hydro One Response
		We also recommend removing references to the boundaries of the archaeological assessments undertaken for the EA, as this causes confusion. Please also see comment #11.		
15	Cultural Heritage Report, Section 2.0; About the Study Area and, Section 2.1 Development Context (p.8)	MCM recommends that information related to the description of the study area be included under Section 1.2.1. Please see comment #11. We also recommend that the description of the development context be included in the proposed Existing Conditions section.	Revision to report.	Requested revisions will be completed and a revised report will be issued to MCM for review.
16	Cultural Heritage Report, Section 2.1.1 Existing Heritage Descriptions under the Ontario Heritage Act (p.9) And Section 2.1.2 Formal Federal Recognitions and Plans (p.9)	It is not clear what is meant by “existing heritage descriptions.” The report should clear identify known and potential built heritage resources and cultural heritage landscapes within the study area, using the terminology of the legislative framework. We recommend that Sections 2.1.1 and 2.1.2 be deleted. Information regarding listed/designated properties under the *Ontario Heritage Act*, as well as federally designated/recognized properties, should be included in the proposed Existing Conditions section (see comment #11).	Revision to report.	Requested revisions will be completed and a revised report will be issued to MCM for review.
17	Cultural Heritage Report, Section 2.2 History of the Study Area (p.9)	See comment #11. We recommend that this be included as a sub-section under the proposed Existing Conditions section. In addition, MCM recommends expanding on the research to include additional information about historical mapping, and that this mapping be included in the figures at the end of the report.	Revision to report.	Requested revisions will be completed and a revised report will be issued to MCM for review.
18	Cultural Heritage Report, Section 3.0 Determining Cultural Heritage Resources Present (p.12)	Section 3.0 (and sub-sections) contains language/terminology that is not aligned with the legislative framework (e.g., “categories of heritage,” “noteworthy properties”). The report should clearly identify known (previously recognized) and potential BHRs and CHLs, including a summary table. Please see our guidance document (*MCM Sample Tables and Language for “Cultural Heritage Report:*	Revision to Report	Requested revisions will be completed and a revised report will be issued to MCM for review.

No.	Reference to Report	MCM Comments & Rationale	MCM Proposed Action/Solution	Hydro One Response
		Existing Conditions and Preliminary Impact Assessment" [….]) on how this information should be presented (attached to our email). MCM may have additional comments once this has been revised. We strongly recommend assigning an identifying cultural heritage resource number (e.g., BHR #X, CHL, #X) to each property identified and referring to each property by this number throughout the report, for clarity.		
19	Cultural Heritage Report, Section 3.4 Archaeology (p.15)	This section should be deleted. The scope of the report should be defined in the introduction and/or methodology section.	Revision to report.	Requested revisions will be completed and a revised report will be issued to MCM for review..
20	Cultural Heritage Report, Section 3.5 Engagement (p.15)	While this section includes a summary of Indigenous engagement, MCM recommends clarifying whether engagement with any other interested parties was undertaken. We also recommend that the report be circulated to municipal staff and any other interested parties (in addition to Indigenous communities) for their review and comment. Any feedback should be incorporated into the report.	Revision to report.	Information on correspondence with municipal staff will be included and a revised report will be issued to MCM for review.
21	Cultural Heritage Report, Section 3.6 Potential Impacts (p.16)	This section should be revised to include: • A description of the proposed undertaking. • A table providing an overview of potential impacts - direct, indirect, temporary, or permanent, for each identified BHR/CHL. • Proposed alternatives and mitigations measures, as appropriate. Please see MCM's sample language/guidance document (attached to our email).	Revision to report.	Requested revisions will be completed and a revised report will be issued to MCM for review.

Table 4-2: Comments from the Town of Petawawa on the Draft ESR and Hydro One's Responses

No.	ESR Section Reference	Town of Petawawa Comments & Rationale	Hydro One Response
1	5.4.1 and Figure 5-2	The Land Use Designations shown in the ESR do not reflect those in the Town of Petawawa Official Plan.	Thank you for the comment. Section 5.4.1 of the ESR has been revised to include the following Town of Petawawa land use designations: Residential, Rural Residential, Rural, Commercial, Environmental Protection Area, and Mineral Aggregate Resources. County of Renfrew land use data was publicly available and was used to show land uses in the Project area in Figure 5-2. If the Town of Petawawa can provide GIS files for the OP land use designations, the mapping will be updated in the final ESR.
2	5.4.1.5	In the Town OP section, the report references Section 18.3.1.3 however it does not mention Section 18.3.1.1 which states: “The potential impacts associated with these [hydro] facilities will be evaluated when development is proposed within 1000 metres of such facilities or when new facilities are being proposed within 1000 metres of a sensitive land use. The impacts to be evaluated include, but may not be limited to, noise, dust, odour, and vibration.” Nevertheless, adverse impacts on sensitive uses were considered throughout the ESR and do not appear to be a concern.	Thank you for the comment. The final ESR will be updated to include the wording from Section 18.3.1.1 of the Town OP.
3	Section 6, Table 6-6	The “Future Development” row refers to a planned MTO roundabout at the Highway 17 and Murphy road intersection. It is the Town’s understanding that this intersection will be a cloverleaf. Did MTO indicate they have changed the plan to a roundabout?	Thank you for the comment, the mention of roundabout was an error. Hydro One’s understanding is that the intersection will be a cloverleaf.

Table 4-3: Comments from AOO on the Draft ESR and Hydro One's Responses

No.	AOO Comment	AOO Recommendation	Hydro One Response
1	Wetlands are culturally significant to the AOO, and water is the lifeblood of these environments. As the Algonquins are the traditional stewards of the lands and waters within Algonquin territory, the AOO places great emphasis on the protection of water quality, flow, and wetland habitat. The proposed route intersects with 52 MNR-mapped unevaluated wetlands. Although these wetlands may be small on an individual scale, disturbance to 52 wetlands within the study area represents a significant cumulative ecological concern. Wetlands and their associated species function at broader watershed scales; therefore, cumulative impacts to connected wetlands, or to wetlands in proximity, can negatively affect amphibian breeding, turtle nesting, and wetland bird habitat through fragmentation, the creation of edge habitat, and altered hydrology. It is essential to consider these broader effects and implement measures to maintain wetland function, hydrological connectivity, and habitat continuity.	Hydro One should undertake a watershed-scale assessment and clearly describe the measures that will be implemented to maintain wetland connectivity and ecological function throughout the Project Study Area of Preferred Route A.	The footprint of the Preferred Route (Refined Route A) has been sited to minimize environmental interactions. Transmission lines will cross approximately 3.80 ha of wetland communities. Transmission tower locations are proposed to be sited outside of wetlands, to the extent possible. To maintain wetland function and hydrological connectivity, the Environmental Study Report (ESR) commits to utilizing existing access roads wherever practical. Where construction access through wetlands cannot be avoided, temporary access roads and work pads will be constructed using removable mats or geotextile and gravel to protect underlying soils. Furthermore, equalization culverts or French drains will be employed as necessary to maintain surface flow and existing drainage patterns during construction. All disturbed wetland areas will be restored to pre-construction drainage patterns. Because the Project footprint within wetlands is localized and standard, proven mitigation measures are expected to preserve hydrological connectivity, a broader watershed-scale assessment is not considered necessary at this time.
2	Several Species at Risk have been detected, or have potential habitat within the Project Study Area (PSA) surrounding Preferred Route A. These species include Eastern Whip-poor-will, Common Nighthawk, Monarch, multiple SAR turtle species, SAR snakes, SAR bats, four SAR dragonfly species, Lake Sturgeon, River Redhorse, Hickorynut mussel, and Yellow-banded Bumblebee. Many of these species do not appear to have been the subject of targeted surveys, creating a significant knowledge gap that limits confidence in the impact assessment. The Eastern Whip-poor-will is likely breeding in the area, as four males were recorded calling during surveys. Because this species nests on the ground, nests are particularly difficult to detect without targeted ground nest searches. The current suggestion to remove stick nests when no eggs or juveniles are present (intended for raptors or other tree-nesting birds) does not adequately address early-season breeding or pre-laying occupancy. Similar considerations apply to other hard-to-detect species, such as bats that rely on cavity trees for roosting. Monarchs may utilize milkweed or other nectar resources within the	Pre-construction nest searches and behavioral assessments should be conducted to identify occupied nests (for all SAR birds) and roosts (for SAR bats), ensuring that inadvertent harm is minimized. Hickorynut mussels, which may rely on Lake Sturgeon as a host species, should be evaluated if any in-water work is proposed in the Petawawa River. Hydro One should prepare and implement a comprehensive pre-construction SAR survey and monitoring plan for all species with potential habitat within the PSA to guide avoidance, mitigation, and construction planning.	Targeted surveys for Eastern Whip-poor-will and Common Nighthawk were completed in June 2022 in accordance with Bird Studies Canada and Canadian Nightjar Survey protocols, confirming the presence of both species. To mitigate impacts to breeding birds, including ground-nesting species, vegetation clearing is scheduled to occur outside of the migratory bird breeding season (April 1 to August 31). If clearing must occur during this window, pre-construction nest sweeps will be conducted by qualified professionals, and any identified nests will be protected by a species-specific buffer until they are inactive. Migratory bird nests are protected under the Migratory Birds Convention Act, at any time of the year if the nest is active. For other SAR (such as bats, turtles, snakes, and insects), the precautionary principle is applied, such that recommended mitigation assumes the species may be present. For bats, tree removal will be targeted for the non-active season (October 1 to March 31). If potential SAR bat maternity or day roost habitat

No.	AOO Comment	AOO Recommendation	Hydro One Response
	area; however, no surveys have confirmed habitat presence. Candidate habitats for turtles and snakes, bat maternity roosts, and dragonfly flight corridors also require targeted surveys, including proactive acoustic monitoring and cavity tree assessments for bats.		(trees >10 cm DBH) must be removed during the active season, bat visual exit and/or acoustic surveys will be completed in June per agency protocols. For turtles and snakes, daily wildlife sweeps will be conducted prior to works in suitable habitat during their active seasons, and exclusion fencing will be utilized, where appropriate. All proposed work that may impact SAR is subject to further consultation and permitting Environment and Climate Change Canada (ECCC) and registration with the Ministry of the Environment, Conservation and Parks (MECP).
3	The protection of fish and fish habitat is a priority, particularly for culturally significant species such as Lake Sturgeon. The Petawawa River, along with associated riparian and wetland habitats, must be protected during construction to maintain ecological function and cultural values. Hickorynut mussels, which rely on Lake Sturgeon as a host species, may also be present in the river.	Mitigation should include retention of riparian vegetation, implementation of sediment and noise controls during in-water work, and robust contingency protocols if Lake Sturgeon or mussels are observed within the work area. Should in-water works be planned, targeted pre-construction surveys should be conducted to confirm the presence and location of these species and inform site-specific avoidance and protective measures.	No in-water works or temporary watercourse crossings will be required for the Project, as existing access routes will be utilized. Transmission towers will be sited to avoid impacts on fish and aquatic habitat. Robust mitigation measures are in place to protect riparian and aquatic habitats during construction. Where riparian vegetation must be removed for overhead clearance, trees will be cut above ground level to leave root structures intact, maintaining stream bank and soil stability. An Erosion and Sediment Control (ESC) plan will be implemented, and no refueling or maintenance of machinery will be permitted within 30 m of watercourses and wetlands to prevent accidental spills from impacting aquatic habitat.
4	Vegetation management and restoration measures should be site-specific to support Species at Risk and culturally important species. The suggested use of generic native seed mixes may not provide suitable habitat for Monarchs, Whip-poor-wills, or bats	Restoration of the corridor and any construction areas adjacent to it should incorporate milkweed for Monarchs, low shrubs and open foraging habitat for Whip-poor-wills where appropriate, and structurally diverse woodland cover for bats where appropriate. Vegetation removal should be offset by restoration that reflects the specific habitat requirements of the species present, rather than relying solely on generic native seed mixes.	Hydro One is open to, and values the opportunity to, work collaboratively with the AOO to develop site-specific seed mixes and restoration plans for the newly established corridor. As noted in the ESR, restoration efforts will utilize compatible native species (e.g., native seed mix, shrub stock).
5	While the proposed mitigation measures are generally compliant with legislation, they are minimal and often rely on vague phrasing such as “to the extent practical.” For the Algonquins of Ontario, a stronger, species-specific commitment to avoidance, monitoring, and mitigation should be clearly articulated within the ESR.	Revision to report.	Phrasing such as "to the extent practical" is used in the Environmental Assessment phase because detailed engineering, geotechnical design, and final tower siting are still ongoing. The recommended avoidance, monitoring, and mitigation outlined in the ESR will be incorporated into a Project-specific Environmental

No.	AOO Comment	AOO Recommendation	Hydro One Response
			Management Plan (EMP). The EMP will provide mandatory, specific directions to personnel regarding the implementation of environmental mitigation measures, response plans, and environmental monitoring processes. Once it is ready, we will provide a copy of the EMP for AOO's review. Furthermore, any unavoidable impacts to SAR or their habitats will be strictly regulated by permits and authorizations issued by the MECP and/or ECCC, which will feature legally binding, species-specific monitoring and mitigation requirements.

Table 4-4: Comments from AOPFN on the Draft ESR and Hydro One's Responses

No.	AOPFN Comment	Hydro One Response
1	Hydro One must provide further information on how AOPFN will be involved and supported with capacity funding through a Process Agreement going forward in the Project. AOPFN expects to collaborate with Hydro One on the development and implementation of mitigation and monitoring plans.	Hydro One is currently reviewing the Process Agreement provided by AOPFN on June 15, 2026, and looks forward to discussing the next steps together. Hydro One remains committed to supporting AOPFN's ongoing participation in the Project, including through capacity funding. With respect to capacity funding, a clean copy of the Capacity Funding Agreement (CFA) incorporating all final edits was provided to Rosa Scarcelli on June 16, 2026, and Hydro One is prepared to proceed with the execution whenever AOPFN is ready. In the interim, Hydro One remains prepared to review and process outstanding invoices sent to HONI on August 7, 2026, as discussed in our last meeting on June 16, 2026. Hydro One values AOPFN's feedback on mitigation and monitoring for the Project. Hydro One will share the draft EMPP with AOPFN for review, and AOPFN's feedback will be considered in refining the mitigation measures, where appropriate and consistent with the project requirements, permitting obligations, and safety considerations. Hydro One also welcomes opportunities for Neyagada Wabandangaki Guardians to participate in site visits in advance of and during construction activities and will follow up with proposed dates.
2	AOPFN must be provided with capacity funding for the development of a chance find procedure with Hydro One.	The chance find procedure for the Project includes notification to Indigenous communities, including AOPFN. In the event of a discovery of archaeological resources, work in the immediate area will stop, the find will be protected, and AOPFN will be notified in addition to the required notifications to the licensed consultant archeologist and the Ministry of Citizenship and Multiculturalism. In the event of suspected human remains, notifications will proceed as required under the Funeral, Burial and Cremation Services Act, 2002, and AOPFN will be notified concurrently. We welcome AOPFN to confirm the notification protocol and AOPFN's time for this can be addressed through our capacity funding arrangements.
3	AOPFN requires more information on Garlan Ultra, the herbicide that is to be used for tree clearing on the D6 project. This includes: a) Any studies that Hydro One is relying on to inform use of the herbicide for clearing and maintenance of the project, particularly, studies that focus on the local and regional impacts to insects, birds, and wildlife and their lifecycles during and after the application; b) Safety measures that will be adhered to during application of Garlan Ultra;	a) Please see attached fact sheet (Garlan Ultra Fact Sheet) b) As a licensed pesticide operator, Hydro One must abide by many safety rules regarding signage and transportation, personal protective equipment, and application methods. The following apply specifically to environmental protection. i. No herbicide application within 15 m of potable water wells. ii. No herbicide application within 100 m of municipal well head or water intake.

No.	AOPFN Comment	Hydro One Response
	c) Timing of application cycles of Garlan Ultra or other herbicides that may be used in the maintenance of the right-of-way.	iii. No herbicide application with a minimum of 3 m to surface water, usually at least 10 m. A wider buffer zone is often required due to steepness of slope, time of year, and brush density to a maximum of 30 m. iv. Herbicide is not applied under windy or gusty conditions. v. Applications are made as close to the target vegetation as possible, with the lowest pump pressure possible. vi. Herbicides are not directed into the wind. vii. Herbicides are not applied before rainfall. c) Herbicide must be applied during the growing season of vegetation to be effective, in the spring and fall given timing restrictions below.
4	Herbicide application must not take place between June and September when the various species of berries ripen and are consumed by both humans and wildlife.	Hydro One will not apply herbicide between June and September.
5	AOPFN must be notified two weeks in advance of any herbicide application at the transmission line site.	AOPFN will be notified at least two weeks in advance of herbicide application within the transmission corridor.
6	Signage must be posted around the sites where the herbicide was applied to notify AOPFN members that the application has taken place.	Signs will be placed around sites where herbicide was applied. This is also a regulatory requirement.
7	Hydro One must commit to funding the Neyagada Wabandangaki Guardians to support construction and maintenance monitoring, particularly for activities near waterways and wetlands. Guardians on site can confirm that: 2 a. Wetlands are not being disturbed or damaged; b. Clearing is not occurring during any restricted activity periods or sensitive time periods for birds and wildlife; c. Only necessary plant removal occurs; and d. Herbicide application is taking place in a way that has been agreed to by both parties.	Neyagada Wabandangaki Guardians will be provided with opportunities to observe and participate in monitoring activities related to vegetation clearing and work occurring near waterways and wetlands. These activities may inform discussions on mitigation measures implementation. Monitoring locations and frequency will be identified collaboratively with AOPFN. Where practicable, Hydro One intends to provide periodic construction activity updates. Hydro One remains committed to discussing appropriate mechanisms to support AOPFN's participation throughout the Project, including through capacity funding arrangements. Hydro One has shared information regarding proposed herbicide use and will share the application plan with AOPFN. Hydro One welcomes AOPFN's input on the application approach and will consider that input, where appropriate, in finalizing the application plan. Hydro One will continue to provide a minimum of two weeks' advance notice of planned herbicide applications.

<table>
<tr><th>No.</th><th>AOPFN Comment</th><th>Hydro One Response</th></tr>
<tr><td>8</td><td>Hydro One must prepare critical habitat maps for Species at Risk (SAR) and maps of significant wildlife features that overlap with project components before construction begins. This will support work by the Neyagada Wabandangaki Guardians.</td><td>Hydro One notes that no critical habitat, as defined under the Species at Risk Act, has been identified within the Project study area. A map of significant wildlife habitat is enclosed with this response to support the work of the Neyagada Wabandangaki Guardians. Hydro One welcomes any further questions AOPFN may have regarding the mapping.</td></tr>
<tr><td>9</td><td>Hydro One must provide AOPFN with an arborist report on the size and volume of trees removed.

a) AOPFN would like to confirm if it is possible for Hydro One to offset the losses of these trees with trees planted elsewhere to maintain the overall number of trees in the local area. Trees of particular importance to AOPFN members include but are not limited to pin cherries, larch, and willow.</td><td>Timber cruises were completed on DND property and private properties south of the Petawawa River. Timber cruises were not completed for approximately 460 m length of planned transmission corridor on AECL property. About 1142 merchantable trees (over 13.5 cm diameter breast height) are present in total merchantable woodlot area of about 29 ha. Please see the table below for species quantities and composition.

<table>
<tr><th>Species Code</th><th>Common Name</th><th>Scientific Name</th><th>Quantity</th><th>% of Composition</th></tr>
<tr><td>Ab</td><td>Ash, Black</td><td>Fraxinus nigra</td><td>3</td><td>0.3%</td></tr>
<tr><td>Be</td><td>Beech, American</td><td>Fagus grandifolia</td><td>2</td><td>0.2%</td></tr>
<tr><td>Bf</td><td>Fir, Balsam</td><td>Abies balsamea</td><td>84</td><td>7.4%</td></tr>
<tr><td>Bw</td><td>Birch, White (or Paper)</td><td>Betula papyrifera</td><td>39</td><td>3.4%</td></tr>
<tr><td>By</td><td>Birch, Yellow</td><td>Betula alleghaniensis</td><td>6</td><td>0.5%</td></tr>
<tr><td>Cp</td><td>Cherry, Pin (or Wild Red or Fire)</td><td>Prunus pensylvanica</td><td>2</td><td>0.2%</td></tr>
<tr><td>Cw</td><td>Cedar, Eastern White (or Northern White-Cedar)</td><td>Thuja occidentalis</td><td>31</td><td>2.7%</td></tr>
<tr><td>Iw</td><td>Ironwood (or Eastern Hop-Hornbeam)</td><td>Ostrya virginiana</td><td>2</td><td>0.2%</td></tr>
<tr><td>La</td><td>Larch, Eastern (or American Larch or Tamarack)</td><td>Larix, laricina</td><td>23</td><td>2.0%</td></tr>
<tr><td>Mh</td><td>Maple, Hard (or Sugar)</td><td>Acer saccharum</td><td>13</td><td>1.1%</td></tr>
<tr><td>Ms</td><td>Maple, Silver</td><td>Acer saccharinum</td><td>150</td><td>13.1%</td></tr>
<tr><td>Mr</td><td>Maple, Red (or Soft Maple)</td><td>Acer rubrum</td><td>48</td><td>4.2%</td></tr>
<tr><td>Ob</td><td>Oak. Bur (or Mossy-cup)</td><td>Quercus macrocarpa</td><td>6</td><td>0.5%</td></tr>
<tr><td>Obl</td><td>Oak, Black</td><td>Quercus nigra</td><td>6</td><td>0.5%</td></tr>
<tr><td>Or</td><td>Oak, Red (or Northern Red)</td><td>Quercus rubra</td><td>30</td><td>2.6%</td></tr>
<tr><td>Pj</td><td>Pine, Jack</td><td>Pinus banksiana.</td><td>2</td><td>0.2%</td></tr>
<tr><td>Po</td><td>Poplar, any or mixed</td><td>Populus spp.</td><td>369</td><td>32.3%</td></tr>
<tr><td>Pr</td><td>Pine, Red</td><td>Pinus resinosa</td><td>62</td><td>5.4%</td></tr>
<tr><td>Pt</td><td>Aspen, Trembling</td><td>Populus tremuloides</td><td>11</td><td>1.0%</td></tr>
<tr><td>Pw</td><td>Pine, White (or Eastern White)</td><td>Pinus strobus</td><td>205</td><td>18.0%</td></tr>
<tr><td>Sb</td><td>Spruce, Black</td><td>Picea mariana</td><td>19</td><td>1.7%</td></tr>
<tr><td>Sr</td><td>Spruce, Red</td><td>Picea rubens</td><td>16</td><td>1.4%</td></tr>
<tr><td>Sw</td><td>Spruce, White</td><td>Picea glauca</td><td>13</td><td>1.1%</td></tr>
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No.	AOPFN Comment	Hydro One Response
		Hydro One plans to use the Biodiversity Initiative program to compensate for the loss of habitat. More information regarding the Biodiversity Initiative is provided in the response to Comment 15 below.
10	AOPFN would like more information about the contaminated soil in railbeds near Highway 17, including soil tests to characterize the extent and contents of the contamination.	Hydro One carried out geotechnical work to determine footing depth for steel monopole and lattice tower structures at nine locations, eight of which are near the abandoned railbed. Analysis of soil near the railbed indicates that there is some contamination of the soil with hydrocarbons, along with elevated levels of cobalt, copper, nickel, cadmium, benzene, and xylenes. All samples except one, which showed elevated cadmium levels, meet Table 3.1: Full Depth Excess Soil Quality Standards in Non-Potable Ground Water Conditions contained in the Rules for Soil Management and Excess Soil Quality Standards (MECP, 2025). All soil samples exhibited low pH levels and are naturally acidic. Hydro One will follow Ontario Regulation 406/19: On Site and Excess Soil Management under the Environmental Protection Act when re-using or disposing of excess soil. Soil meets criteria for re-use on site.
11	During reclamation of contaminated areas, plants with berries must not be planted. This will help prevent contaminants from getting into food sources for insects, birds, and other wildlife.	No plants with berries will be planted in potentially contaminated areas, such as along the abandoned railbed.
12	AOPFN is interested in a Hydro One funded program of phytoremediation in the areas of the right of-way near the railbed. If the soil contamination can be removed from the area, it has potential to become a more suitable area for harvesting.	Hydro One acknowledges AOPFN's interest in phytoremediation near the railbed. Areas near the railbed may not be suitable for harvesting as many locations are fenced, graveled, or next to Highway 17, which could also introduce hydrocarbons into the soil from ongoing depositions of road related contaminants and may continue regardless of remediation efforts. Hydro One will incorporate deep rooted native grasses into the revegetation near the railbed, which may support natural phytoremediation over time.
13	Post-construction, the cleared corridor should be revegetated with native St. John's wort, sweet fern, tobacco, wildflowers, milkweed, sage, and sweetgrass. a) In areas that do not have soil contamination, edible plants like wild rice and blueberries should be planted. b) Where possible, AAC members have flagged that they would like the reclamation mix to include flowering plants that would bring pollinators to the area in either the grass mix or the shrub mix that Hydro One is planning on using.	Hydro One will incorporate native species into the revegetation plans for the Project, including species identified by AOPFN such as flowering plants to support pollinators, subject to seed availability and site-specific soil and light conditions. It should be noted that many native seeds need to overwinter to germinate, so a non-native "nurse crop" of fast growing annual grasses (rye, millet, oats) will be required in the short term to prevent soil erosion following construction. These fast-growing, annual grasses die off within one to two years, after which the native species establish and take over. With response to edible species such as wild rice and blueberries, Hydro One will review the feasibility of including these in uncontaminated areas and wetlands and will confirm the proposed seed and planting mixes with AOPFN prior to planting.
14	AOPFN Guardians to be involved in monitoring post-construction vegetation growth to ensure invasive plant growth is minimized and desirable species are growing as expected.	Hydro One welcomes Guardians to participate in a planned site visit several months after construction is completed to assess vegetation re-establishment and any potential erosion issues, subject to site

No.	AOPFN Comment	Hydro One Response
		conditions, access permissions, and scheduling considerations. An invitation will be provided once the visit has been scheduled. Hydro One notes that its ongoing vegetation activities during operations are focused on vegetation management for the safe and reliable operation of the line, carried out under operating programs and costs approved by the Ontario Energy Board (OEB). Long-term ecological landscaping stewardship falls outside the scope of these approved operational programs, rather than reflecting any lack of support for the objective. For this reason, Hydro One suggests opportunities for longer-term vegetation and habitat monitoring involving Guardians under Hydro One's biodiversity Initiative. Hydro One welcomes AOPFN's interest in exploring this.
15	AOPFN would like more information on participating in Hydro One's biodiversity initiative.	Hydro One's Biodiversity Initiative supports habitat creation, restoration, and enhancement projects associated with Hydro One infrastructure projects. Through this process, Hydro One seeks opportunities that provide meaningful ecological benefits, are located on secured lands with long-term protection and management potential, and are feasible from a design, implementation, maintenance, and monitoring perspective. Rather than relying solely on area-based replacement ratios, the Biodiversity Initiative evaluates opportunities based on ecological value, including factors such as habitat quality, landscape connectivity, rarity, and biodiversity benefits. This approach aims to achieve no net loss, or where feasible, a net gain in overall ecological value. Consistent with previous Biodiversity Initiative projects, opportunities are not necessarily limited to like-for-like habitat replacement. While wetland restoration and creation opportunities will be considered, other habitat enhancement projects that provide significant conservation benefits may also be evaluated. Habitat enhancement opportunities may also help address temporal lag by delivering ecological benefits more quickly than newly created habitats. Hydro One welcomes AOPFN's interest in participating. AOPFN's knowledge of the lands and wetlands in the Project area, and the capacity for the Neyagada Wabandangaki Guardians could inform the identification, design and monitoring of potential biodiversity initiative opportunities. As a next step, Hydro One proposes a meeting with AOPFN to discuss potential opportunities. Hydro One will follow up to arrange a time as the project progresses.
16	The ESR spatial boundaries for the project study area include lands within 120m of the route center lines (3-22). AOPFN requires confirmation on amount of clearing that is expected during the construction and operations phase of the project and what method of clearing Hydro One will be using during these phases.	The transmission corridor will be 30.5 m (100 feet) in width. Non-compatible vegetation will be removed within the corridor prior to construction. Mechanical clearing methods (e.g. using feller-bunchers, skidders, grinders, and other forestry equipment) will be used. In sensitive areas, hand cutting may be required. Approximately 42 ha of vegetation will be removed.

No.	AOPFN Comment	Hydro One Response
		During operation, mechanical and non-mechanical methods (e.g., mechanical forestry equipment, hand cutting or herbicide application) may be used depending on the condition of the transmission corridor and the amount of re-growth. Additional details will be added to Section 2.2 and 2.3 to indicate methods and equipment used for vegetation removal during construction and operation.
17	Sections 4.3 (p.4-34) and 4.10 (p.4-61) provides a summary of stakeholder concerns (government and business etc.) but the Draft ESR does not provide a summary of concerns presented by affected First Nations. As an impacted First Nation, AOPFN concerns and input must inform project design if the project is approved.	Thank you for your comment. The final ESR will be updated to include a summary of Indigenous concerns, including the comments provided by AOPFN in this submission. Hydro One will provide AOPFN with the draft Environmental Mitigation and Protection Plan (EMPP) in advance of construction. The EMPP will include details regarding proposed H-frame, pole, and tower locations, construction activities, and mitigation measures, providing AOPFN with an opportunity to review and provide detailed input. Hydro One will work collaboratively with AOPFN to ensure the community concerns are considered and where feasible incorporated in the mitigation measures implemented during construction.
18	Section 4.0 only provides a summary of engagement undertaken to-date and does not outline next steps for engaging affected First Nations, including AOPFN, on the Project. Hydro One must provide further information on how AOPFN will be involved and supported with capacity funding going forward in the Project. Hydro One must provide further information how they will collaborate with AOPFN on the development and implementation of mitigation and monitoring plans.	Thank you for your comment. The final ESR will be updated to outline opportunities for continued engagement with AOPFN through detailed design, construction, and post construction phases of the project, including discussions regarding potential biodiversity initiatives. As part of the next phase of the project development, Hydro One will share the EMPP with AOPFN for review and input, including information on detail design considerations and proposed mitigation measures. Hydro One would welcome to meet AOPFN to walk through the EMPP and discuss any feedback. Hydro One will continue to explore opportunities for AOPFN participation in monitoring during construction, including identifying appropriate locations in collaboration with AOPFN, where feasible and consistent with project safety considerations and access. Hydro One remains committed to supporting AOPFN's capacity to participate in the next phases of the project through capacity funding, as referenced in Section 4.4.1 of the ESR. The specific scope and arrangements for capacity funding are being addressed directly with AOPFN through the Capacity Funding Agreement process, separate from the ESR.
19	Hydro One has not provided a summary of First Nation and Indigenous Concerns in section 4.0. AOPFN expects the concerns laid out in this submission to be reflected in the final ESR.	The final ESR will be updated to include a summary of Indigenous concerns.
20	The baseline conditions described in this section rely exclusively on published documents, government databases, municipal sources, and limited field surveys; none of which explicitly incorporate AOPFNs Knowledge. This results	Thank you for your comment. Hydro One values the observations AOPFN representatives shared during the June 26, 2026 site visit, which have informed AOPFN's comments in this submission and Hydro One's understanding of the Project area. These, along with AOPFN's written comments, will be reflected

No.	AOPFN Comment	Hydro One Response
	in incomplete context and ill-formed conclusions for the potential impacts to AOPFN and our rights. A meaningful baseline must include AOPFN's Knowledge, values, and perspectives (p. 5-64). Hydro One must provide further information on how AOPFN will be involved and supported with capacity funding going forward in the Project. Hydro One must provide further information on how they will collaborate with AOPFN on the development and implementation of mitigation and monitoring plans.	in the final ESR. Building on this, Hydro One welcomes any feedback AOPFN chooses to share. Hydro One welcomes opportunities in reviewing EMPP, construction site visits, and have provided several commitments on seed mixes and discussions on biodiversity initiatives. The specific scope and arrangements for capacity funding are being addressed directly with AOPFN through Capacity Funding and Process Agreements, separate from the ESR.
21	There is no mention of capacity funding for AOPFN's inclusion in archaeological monitoring programs proposed by Hydro One (pp. 2-18 - 2-19) There is also no mention of utilizing AOPFN's cultural heritage policies within the development of the archaeological methodology being used to complete the archaeological review (p. 2-18). Hydro One must provide further information on how AOPFN will be involved and supported with capacity funding going forward in the Project. Hydro One must provide further information on how they will collaborate with AOPFN on the development and implementation of mitigation and monitoring plans.	Thank you for your comment. AOPFN monitors participating in archaeological fieldwork have been retained and compensated through Matrix Heritage. Any remaining archaeological monitoring will continue to be supported through this arrangement. Hydro One acknowledges AOPFN's comment regarding utilizing cultural heritage policies and welcomes discussions about how these can inform any future archaeological or cultural heritage work. Archaeology fieldwork for the project is completed. Please see the response to Comment 18 regarding next steps for AOPFN's collaboration of mitigation and monitoring during construction.
22	There are no specific mentions of the impacts of vegetation removal during either the construction phase of the project or the ongoing maintenance of line (p.3-22, 7-195) or any confirmation of whether the proponent would be using mechanical removal methods or herbicides to do the vegetation removal (P.3-24, 7-195). During June 26, 2026, site visit Hydro One staff confirmed the right-of way (ROW) would be 50m on each side of the transmission line (100m total buffer). Hydro One staff stated targeted herbicides is the preferred method for vegetation removal as it limits ground disturbance and erosion and that Garlan Ultra is the herbicide they will be using. It will be used in targeted applications on woody trees and shrubs that grow taller than 3m and pose a danger to the transmission line. AOPFN understands from the site visit that no clearing of the ROW will be required near wetlands areas and that some clearing will occur where the D6 Project overlaps with the right-of-way of the old rail corridor and the pipeline corridor.	Impacts of vegetation removal are discussed in Section 7.8.6. of the Draft ESR. Approximately 42 ha of vegetation will be removed. Vegetation removal during construction will be carried out using mechanical methods with standard forestry equipment such as feller bunchers, skidders, grinders, and chippers. Additional details will be added to Section 2.2 and 2.3 to indicate methods and equipment used for vegetation removal during construction and operation. Herbicides are only used during maintenance to prevent small saplings within the transmission corridor from becoming a safety hazard. Herbicide use is preferred for vegetation maintenance during operation as it is more selective than mechanical methods and greatly reduces disturbance to soil and surrounding compatible vegetation. Incompatible vegetation will be removed within the transmission corridor, which is about 30.5 m (or 100 feet) in total width, or about 15.25 m or 50' on each side from centreline. The Project route is designed to parallel existing infrastructure or utilize unused corridors such as abandoned rail-beds as much as possible to reduce habitat fragmentation. No clearing will be required within wetlands dominated by cattails or other low-growing species, but trees must be removed throughout the transmission corridor to maintain electrical safety.

No.	AOPFN Comment	Hydro One Response
	AOPFN requires confirmation on how much clearing will be required throughout the project area, including areas near wetlands and existing ROWs.	
23	The chance find procedure mentioned in section 2.4 (p. 2-18 - 2-19) is not reflected in the Archaeological Resources subsection (p. 7-152 - 7-153). Any chance find procedure needs to have a confirmed notification path with AOPFN. AOPFN must be provided with capacity funding for development of a chance find procedure with Hydro One.	Thank you for your comment. The chance find procedure detailed in Section 7.4.2., 5th paragraph, will be updated to include notification of AOPFN immediately on discovery of any archaeological resources.
24	There are no additional details provided by Hydro One regarding the methods for required vegetation removal or offsets within Appendix B-4 (p.1.0-3) apart from one statement stating that Hydro One will minimize effects to known forested areas and vegetation (PDF 24). Hydro One provided details on plans for vegetation removal and monitoring programs during construction and operations as noted in comments provided in Section 7.0. AOPFN requires more information on the volume of vegetation removal expected during the construction phase and any offsetting plans for vegetation communities. AOPFN seeks to provide input into the offsetting location plans and species mix developed for the offsets.	The purpose of Natural Environment Existing Conditions Technical Report contained in Appendix B-4 is to document existing conditions. Additional details regarding vegetation removals will be added to ESR Sections 2.2 and 2.3. As noted in ESR Section 7.8.6, approximately 42 ha of vegetation will be removed. Hydro One welcomes AOPFN's input into offsetting location plans and species mix.
25	The report relies on field verification where access was available and desktop/aerial review where access was limited. Hydro One must provide a map of areas where access was limited or not available and explain how uncertainty was addressed. AOPFN expects Hydro One to commit, where possible, to construction verification surveys with AOPFN monitors once access is available. If new habitat features are found, AOPFN expects Hydro One to commit, where possible, to adjusting access roads, pole locations, work pads, clearing limits, and mitigation to protect those features (p. 1.0-4).	A map of survey locations is provided in Appendix B-4, Figure 3. The northernmost section of the route was inaccessible during field surveys. Hydro One will commit to a construction verification site visit and to adjusting access road, structure locations, work pads, and mitigation to protect additional features in this area if feasible. Clearing limits (e.g. 15.25 m on either side of centreline or 30.5 m total corridor width) must be maintained to ensure electrical safety and ensure that clearance between conductors and vegetation meets North American Electric Reliability Corporation (NERC) standards and engineering requirements.
26	There is a lack of baseline data regarding Species at Risk (SAR) habitat. Various surveys for SAR have not been completed, so details about important habitat features have not informed construction plans (3.0-29, 3.0-31). Hydro One must prepare critical habitat maps for SAR species and share them with AOPFN before construction begins (3.0 -26). Additionally, Hydro One	Hydro One acknowledges the concern regarding the availability of baseline information for Species at Risk (SAR) habitat and significant wildlife features within the Study Area. The Natural Environment Existing Conditions Technical Report (Appendix B-4 of the ESR) identifies locations of SAR observations documented during field investigations (Figure 5) and significant wildlife

No.	AOPFN Comment	Hydro One Response
	must provide a map of all significant wildlife features that overlap with project components before construction begins.	habitat (Figure 6). However, detailed habitat assessments or species-specific surveys were not completed to qualify or quantify SAR habitat within the transmission corridor. During the route refinement and structure siting process, structure locations and potential access routes were selected to avoid sensitive environmental features, including wetlands, watercourses, and other environmentally significant habitats, thereby minimizing the potential for effects on wildlife and wildlife habitat. In addition, vegetation clearing activities will be scheduled outside of the migratory bird nesting period to avoid potential impacts to breeding birds, including bird Species at Risk. Given the broad distribution of potentially suitable habitat within the Study Area, detailed mapping would not have meaningfully refined project planning beyond the avoidance measures already incorporated into the design. Instead, a precautionary approach was applied by avoiding sensitive environmental features and implementing timing restrictions and other mitigation measures to reduce the potential for impacts to SAR and their habitats. While detailed habitat mapping was not developed during the ESR, the Natural Environment Existing Conditions Technical Report (Appendix B-4) documents SAR observations and significant wildlife habitat identified through field investigations. Hydro One will continue to consider available SAR information during detailed design and construction planning and will implement additional mitigation measures, where required.

5.0 Environmental Inventory

Natural and socio-economic environment baseline conditions are described in the following sections. The study areas used for these assessments are described and depicted in **Section 3.1.1**. Desktop information for the natural environment was generally collected within the LSA, while natural environment field surveys were completed within the PSA. Desktop information for the socio-economic environment was generally collected within the RSA and LSA.

Information presented below was obtained through a review of:

- 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.
- Input received through consultation with rightsholders and stakeholders.

Information for the following natural and socio-economic environment elements was collected for the purposes of defining existing conditions, in accordance with Section 3 of the Class EA for Transmission Facilities (Hydro One, 2024):

- Agricultural resources.
- Forestry resources.
- Cultural heritage resources (i.e., built heritage resources [BHRs], cultural heritage landscapes [CHLs], and archaeological resources).
- Municipal land use planning and communities.
- Mineral resources.
- Natural environment resources (e.g., air, land, water, wildlife, etc.).
- Recreational resources.
- Visual and aesthetic resources (i.e., appearance of the landscape).

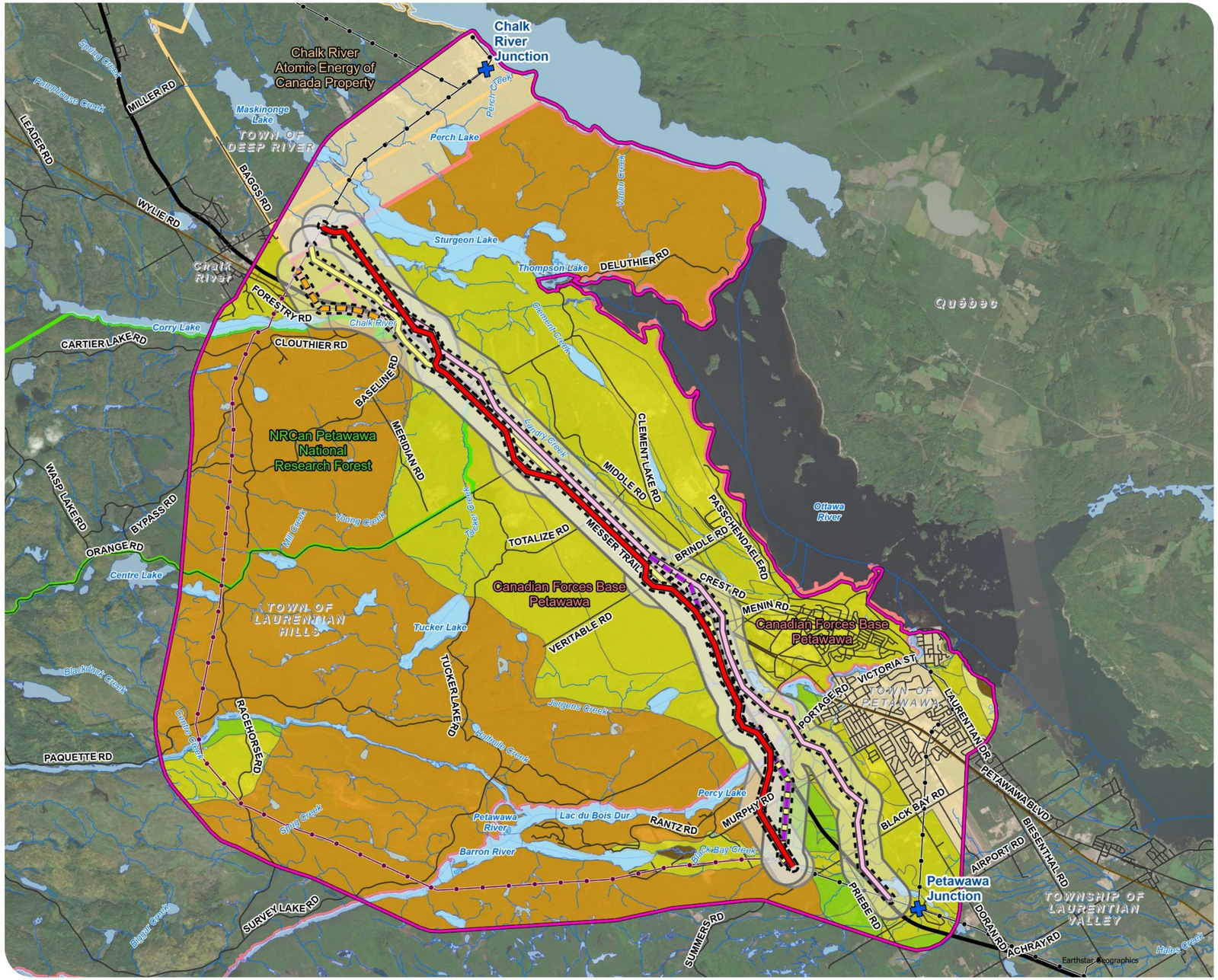
5.1. Agricultural Resources

The Canada Land Inventory (CLI) classifies soil types across Canada and categorizes agricultural land capability into seven classes representing the soil's suitability for agriculture. Class 1 is the highest agricultural capability and Class 7 is the lowest capability. Class 1 to Class 3 lands are considered Prime Agricultural Land. Descriptions of each class are provided below (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.
- 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.

Land within the PSA does not contain any agricultural land uses. Soil classes within the PSA are shown in **Figure 5-1**. The PSA primarily consists of Class 4 soils, with some Class 6 and 7 soils south of the Petawawa River. Soils within the AECL property are unclassified (Ministry of Agriculture, Food and Agribusiness [OMAFA], 2023). As such, there is no potential for the Project to affect agricultural resources.

Figure 5-1: Canada Land Inventory Soil Classes



HYDRO ONE NETWORKS INC.

D6 TRANSMISSION LINE RELOCATION PROJECT

AGRICULTURAL SOIL CLASSES

FIGURE 5-1

Route Alternatives

- Route A
- Route A Alternate Start
- Route B East of Highway
- Variation B Highway Crossing Deviation
- Refined Route Alternative A
- Project Study Area (120 m)
- Local Study Area (500 m)
- Regional Study Area

CLI Class

- 0
- 3
- 4
- 6
- 7
- O
- W
- Transmission Line Junction
- Existing Transmission Line to Be Decommissioned
- Existing Transmission Line
- Highway
- Road
- Waterbody
- Watercourse
- Abandoned Railway Track
- NRCan Petawawa National Research Forest
- Canadian Forces Base Petawawa
- Chalk River Atomic Energy of Canada Property

SCALE 1:90,000

0 1 2 4 Kilometers

MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR

MAP CREATED BY: -PR
MAP CHECKED BY: -LW
MAP PROJECTION: NAD 1983 CSRS UTM Zone 18N

DILLON CONSULTING

PROJECT: 21-2314
STATUS: DRAFT
DATE: 2026-02-03

FILE LOCATION: K:\2021\212314 HONI Petawawa\Product\Client\ESR\ESR.aprx

5.2. Forestry Resources

Timber harvesting in Ontario occurs on both Crown and private land. Timber harvesting on Crown land owned by the Government of Canada is subject to Canada's *Forestry Act, 1985*. Timber harvesting on Crown land owned by the Government of Ontario is subject to Ontario's *Crown Forest Sustainability Act, 1994*. Municipal-owned land is subject to municipal policies and plans, as well as provincial and federal legislation (e.g. *SCA*). Private land harvesting is subject to municipal by-laws (as applicable) as well as provincial and federal legislation.

The PSA falls within the Ottawa Valley Forest Management Unit (MNR, 2025a).

5.2.1. Natural Resources Canada Petawawa Research Forest

NRCan maintains two research forests that function as "living laboratories." These sites provide scientists and industry professionals with critical long-term data needed to address both immediate and future forestry issues (NRCan, 2025a).

The PRF is located in the northern portion of the DND lands and overlaps with the PSA. The PRF is the oldest operating research forest in Canada and is an important source of knowledge for forest researchers having hosted numerous long-term studies on silviculture, wildland fire, forest ecology, tree genetics, and other areas of sustainable forest management practices (NRCan, 2025a).

5.2.2. Ottawa Valley Forest Management Plan

The Ottawa Valley Forest Management Plan is the operational document that guides the sustainable management of the Ottawa Valley Forest Management Unit (MU #780). It establishes the long-term direction and identifies the short-term operational goals for managing provincial Crown Forest resources in the Ottawa Valley Forest from 2021 to 2031.

According to the Forest Management Plan Index Map, lands within the PSA are under federal and private tenure. As identified in the Summary Map, sections of the RSA include Optional Harvest Area, Past & Approved Harvest Area, and Areas Eligible for Renewal & Tending. These areas are primarily located west of Petawawa outside of the PSA (MNR, 2021a).

5.2.3. 2017 to 2026 Forest Management Plan for the County of Renfrew

The Forest Management Plan outlines the objectives and strategies for the sustainable management of the County's forests, as well as operational details from January 1, 2017 to December 31, 2026. The Renfrew County Forest land base is scattered over 53 different parcels and is 6,527 hectares (ha). The forested area amounts to 5,493 ha with the remaining area in rock, wetlands, swamp, or otherwise unproductive areas. Based on Map 1 of the Forest Management Plan, there are no County Forest Tracts within the PSA (County of Renfrew, 2017).

5.3. Cultural Heritage Resources

Cultural heritage resources include three types: BHRs, CHLs, and archaeological resources (MCM, 2010).

5.3.1. Built Heritage Resources and Cultural Heritage Landscapes

Matrix Heritage Inc. (Matrix Heritage) was retained by Hydro One to conduct a CHRECPIA for the Project. The report was prepared in accordance with the MCM *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes.*

The report identified known and potential BHRs and CHLs within the Study Area: a 200 m corridor around Refined Route Alternative A. The report did not identify any federally or provincially designated BHRs within the Study Area. The CHRECPIA identified four properties in the Study Area with buildings that appear to be older than 40 years of age with potential to be considered BHRs. The report concluded that, of the four properties, three should not be reviewed further as they are of limited or no heritage value in the categories of design, history, and context. The CHRECPIA recommended that, for the remaining property, a Cultural Heritage Evaluation Report (CHER) only be undertaken if the barn or adjacent building fall within the vibration zone of influence for the Project, or if other destructive alterations are anticipated.

No CHLs have been identified within the CHRECPIA Study Area.

A copy of the CHRECPIA is provided in **Appendix B-1**.

5.3.2. Archaeological Resources

Matrix Heritage was retained by Hydro One to conduct a Stage 1 AA (PIF# P378-0120-2025) and an AOA for the Project. The need for archaeological assessment was determined through Hydro One's internal environmental review of the Project lands, as per the Class EA. Archaeological assessment activities were conducted by a licensed archaeologist in accordance with the MCM *Standards and Guidelines for Consultant Archaeologists* (2011) for lands under provincial jurisdiction. The Stage 1 AA was submitted to MCM for review on April 2, 2026, with an expedited review request letter. The findings and recommendations of the Stage 1 AA should be considered preliminary until the report has been entered into the Ontario Public Register of Archaeological Reports.

The AOA was prepared to satisfy the requirements of the Parks Canada *Guidelines for the Management of Archaeological Resources* (2008) and the *Reference Guide for Archaeological Work on Federal Lands and Lands Underwater* (n.d.) for federal lands within the study area. The study area for both reports was defined based on the centreline of Refined Route Alternative A with a 20 m buffer added on either side for a total width of 40 m.

The Stage 1 AA concluded that the study area has both pre-contact Indigenous as well as historical Euro-Canadian archaeological potential requiring Stage 2 AA, based on the following:

- Potential for pre-contact Indigenous archaeological resources is based on the well drained sandy and loam soils, several known sites in the broader area, and the proximity to several watercourses including marshlands, creeks, and both the Chalk and Petawawa Rivers which are main tributaries to the Ottawa River.
- Potential for historical Euro-Canadian archaeological resources is based on proximity to historical transportation routes, historical community buildings such as schools, churches, and businesses, as well as known archaeological and/or culturally significant sites.

The AOA, which focused on federal lands within the study area, similarly concluded that the study area retains both pre-contact Indigenous and historical Euro-Canadian archaeological potential and that an AIA should be undertaken.

Hydro One commits to completing the Stage 2 AA and AIA along the Preferred Route in Spring 2026, as early as possible during detailed design and prior to ground disturbing activities. Indigenous monitors will be invited to participate and review the reports.

A copy of the Stage 1 AA report is provided in **Appendix B-2** and a copy of the AOA is provided in **Appendix B-3**.

5.4. Municipal Land Use Planning and Communities

The LSA intersects several municipalities including the County of Renfrew, Town of Laurentian Hills, Town of Deep River, and the Town of Petawawa. The LSA includes human settlement areas located within the Town of Laurentian Hills and the Town of Petawawa. The LSA also falls within lands owned by the DND within CFB Petawawa.

The County of Renfrew is comprised of four urban communities (i.e., the towns of Arnprior, Renfrew, Petawawa, and Deep River), and several villages including the Village of Chalk River within the LSA. In 2021, the County had a population of 106,365, representing an increase of 3.9% from 102,394 people in 2016 (Statistics Canada, 2023a).

The Town of Laurentian Hills is comprised of the Village of Chalk River, as well as rural areas, Crown land, and federal lands owned by the DND that do not fall under municipal jurisdiction. In 2021, the Town had a population of 2,885, representing a decrease of 2.6% from 2,961 people in 2016 (Statistics Canada, 2023b).

The Town of Deep River is comprised of the urban community of the Town of Deep River, as well as rural areas and lands owned by AECL which are managed and operated by CNL. In 2021, the Town had a population of 4,175, representing an increase of 1.6% from 4,109 people in 2016 (Statistics Canada, 2023c).

The Town of Petawawa is comprised of the urban community of the Town of Petawawa, as well as rural areas, Crown land, and federal lands owned by the DND that do not fall under municipal jurisdiction. In 2021, the Town had a population of 18,160, representing an increase of 5.7% from 17,187 people in 2016 (Statistics Canada, 2023d).

It is noted that the populations above include geographic areas that extend beyond the LSA limits.

Several school board districts are within the municipalities noted above, including:

- Renfrew County District School Board

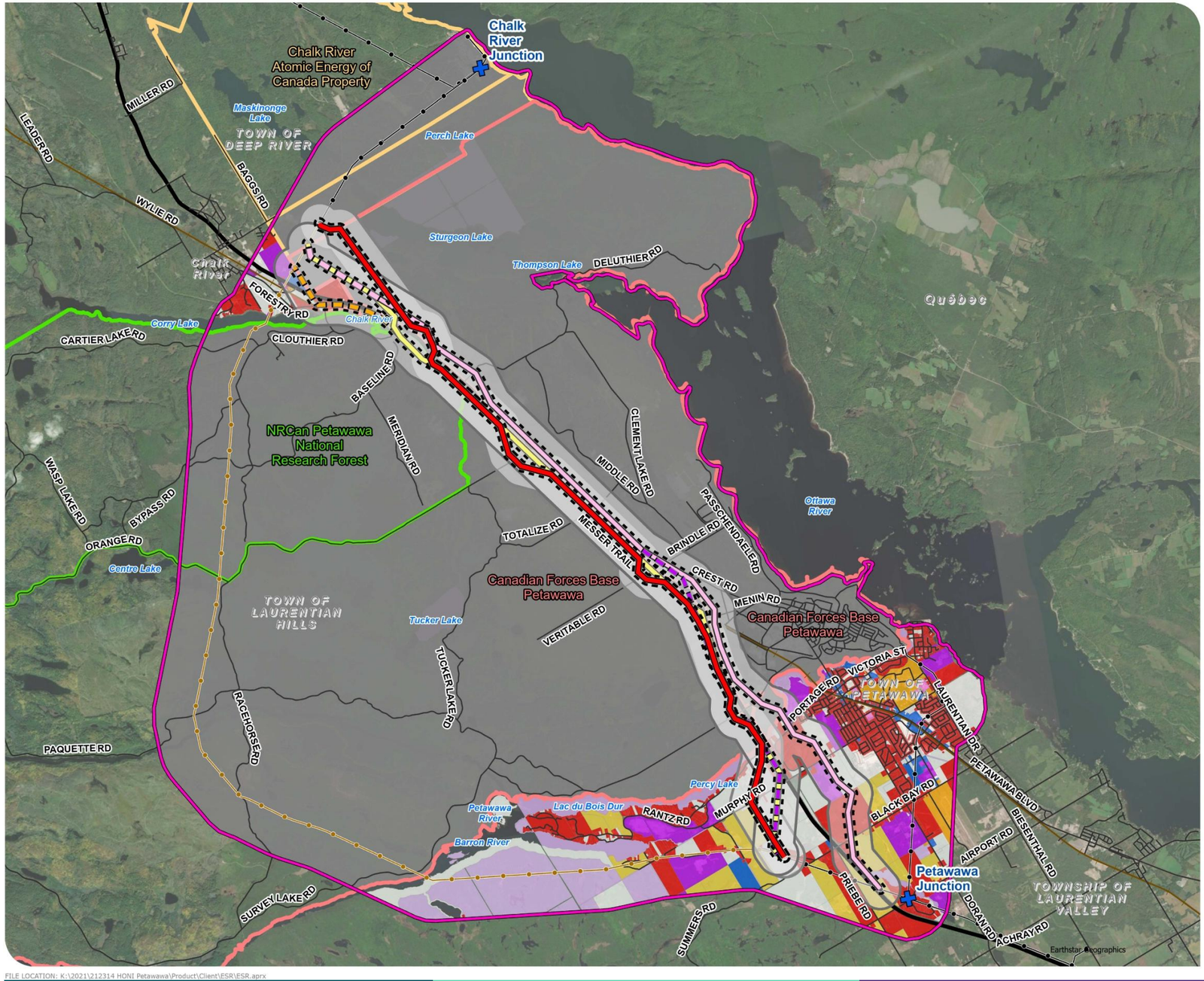
- Renfrew County Catholic District School Board
- Conseil des écoles catholiques du Centre-Est
- Conseil des écoles publiques de l'Est de l'Ontario

No schools occur within the LSA for any of the Route Alternatives.

5.4.1. Land Use Planning

The Official Plans (OPs) for the County of Renfrew, Town of Deep River, and Town of Petawawa 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 in **Figure 5-2**.

Figure 5-2: Land Use Designations



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HYDRO ONE NETWORKS INC.

D6 TRANSMISSION LINE RELOCATION PROJECT

LAND USE DESIGNATIONS

FIGURE 5-2

Route Alternatives
- Route A
- Route A Alternate Start
- Route B East of Highway
- Variation B Highway Crossing Deviation
- Refined Route Alternative A
- Project Study Area (120 m)
- Local Study Area (500 m)
- Regional Study Area

Land Use
- Residential
- Vacant
- Farm
- Commercial
- Industrial
- Special Purpose
- Unassessed
- Institutional
- Government
- Federal Land

Base Data
- Transmission Line Junction
- Existing Transmission Line to Be Decommissioned
- Existing Transmission Line
- Highway
- Road
- Municipal Boundary
- Abandoned Railway Track
- NRCan Petawawa National Research Forest
- Canadian Forces Base Petawawa
- Chalk River Atomic Energy of Canada Property

SCALE 1:90,000

0 1 2 4 Kilometers

MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR AND COUNTY OF RENFREW

MAP CREATED BY: -PR
MAP CHECKED BY: -LW
MAP PROJECTION: NAD 1983 CSRS UTM Zone 18N

DILLON CONSULTING

PROJECT: 21-2314
STATUS: DRAFT
DATE: 2026-02-03

5.4.1.1. 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 (Ministry of Municipal Affairs and Housing [MMAH], 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) include 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.
- 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.

5.4.1.2. County of Renfrew Official Plan (2020)

The County of Renfrew OP was adopted by County Council in March 2002 and was approved by the MMAH in June 2003. The OP provides a policy framework for growth and development in the County and promotes "orderly and efficient development in a manner which is consistent with the desired lifestyle and needs for growth and prosperity as envisaged by the local communities and Councils, and County Council" (County of Renfrew, 2020).

As shown in Schedule A of the OP, the LSA is comprised of Urban Community and Rural land use designations. There are also several Inactive Waste Disposal Sites within the LSA. Specifically, the inactive waste disposal sites are in close proximity to the Route A Alternate Start Point near Chalk River, Route Alternatives A and B on DND lands, and Route Alternative A near Petawawa.

In the Urban Community designation, the policies of the OP direct growth primarily to these areas.

The Rural designation is comprised of lands that are not considered resource lands (i.e., agricultural land, mineral aggregate resource lands, wetlands, etc.,) and are traditionally utilized as an alternative location for those who prefer a rural residential lifestyle. This designation is intended to guide rural type development while at the same time protecting the rural character, heritage, and natural resources of the County. The designation is also intended to manage growth in an environmentally and fiscally responsible manner.

Section 13.3(8)(a) of the OP permits all electrical power facilities in any land use designation subject to the provisions of the local zoning by-law and that the development satisfies the provisions of the Ontario *EA Act*, the *Environmental Protection Act*, and any other relevant legislation (County of Renfrew, 2020).

5.4.1.3. Town of Laurentian Hills

The Town of Laurentian Hills uses the County of Renfrew OP to guide development within the municipality. The majority of lands that the LSA encompasses within the Town are federal lands owned by the DND and do not fall within municipal jurisdiction. At the northern portion of the LSA, lands are designated as Rural and Environmental Protection Area. There is also an Inactive Waste Disposal Site in close proximity to the Route A Alternate Start Point near Chalk River.

As noted in the County of Renfrew section above, the Rural designation is comprised of lands that are not considered resource lands (i.e., agricultural land, mineral aggregate resource lands, wetlands, etc.,) and are traditionally utilized as an alternative location for those who prefer a rural residential lifestyle. This designation is intended to guide rural type development while at the same time protecting the rural character, heritage, and natural resources of the County. The designation is also intended to manage growth in an environmentally and fiscally responsible manner.

The Environmental Protection designation refers to natural water systems, natural heritage features, and hazard lands within the County of Renfrew. The OP states that this designation requires special attention as they may be sensitive to environmental damage or contain potential threats to life and property if developed.

Section 13.3(8)(a) of the OP permits all electrical power facilities in any land use designation subject to the provisions of the local zoning by-law and that the development satisfies the

provisions of the Ontario *EA Act*, the *Environmental Protection Act*, and any other relevant legislation (County of Renfrew, 2020).

5.4.1.4. Town of Deep River Official Plan (2017)

The Town of Deep River OP was adopted by Council on March 2, 1993, and approved by the MMAH on April 11, 1995. The OP was updated in 2017. The OP is intended to establish guidelines to direct future development and redevelopment in a logical and orderly manner.

As shown on Schedule A, “Land Use Plan”, the northern section of the LSA is located on lands under the jurisdiction of AECL, managed and operated by CNL. Although there are no restrictions for development of transmission and distribution facilities in all land use designations, they are subject to criteria outlined under Section 3.15 of the OP and any regulatory requirements applicable to Hydro One. Criteria in Section 3.15 of the OP are as follows:

1. Public uses include educational, institutional, administrative, cultural and recreational facilities that are owned by a public authority, and public utilities such as natural gas, electricity generation facilities and transmission and distribution systems. Unless otherwise prohibited in this Plan, public uses shall be permitted in all land use designations subject to certain criteria:
    a) The site design, and the design of the buildings and structures must be in keeping with the character of the surrounding area and the use will not detract from the primary function of the area
    b) Buildings and structures shall be subject to the policies of this Plan for Environmental Protection areas
    c) Off-street parking shall be adequately provided
    d) The requirements of the implementing zoning by-law are satisfied.
2. Notwithstanding Policy 1 of this section, electricity generation facilities and transmission and distribution systems are permitted in all designations, subject to any regulatory requirements for the utility involved.
3. Public uses except electricity generation facilities as described above will be subject to site plan control.
4. The Town of Deep River shall participate in discussions about the location of all electricity generation facilities and other public uses.

5. Secondary uses, such as active and passive recreation, agriculture, community gardens, other utilities and uses such as parking lots and outdoor storage that are accessory to adjacent land uses, are encouraged on hydro corridor lands, where compatible with surrounding land uses. However, a proponent should be aware of the primacy of the electricity transmission and distribution facilities and that secondary uses require technical approval from Hydro One.

Section 5.1.1 of the OP states that electricity generation facilities and transmission and distribution systems shall be provided in a coordinated, efficient, and cost-effective manner that considers impacts from climate changes and shall be coordinated and integrated with land use planning. Further, section 5.1.2 states that planning for infrastructure, electricity generation facilities and transmission and distribution systems, and public service facilities shall be coordinated and integrated with land use planning so that they are financially viable over their life cycle, which may be demonstrated through asset management planning, and available to meet current needs (Town of Deep River, 2017).

5.4.1.5. Town of Petawawa Official Plan (2024)

The OP of the Town of Petawawa was first adopted by Town Council in 2002 and approved by the County of Renfrew in January 2004. It was subsequently approved by the Ontario Municipal Board in July 2004. The OP was recently updated in 2024. The purpose of the OP is to provide a guide for the orderly growth and development of the Town of Petawawa to the year 2051.

As shown in Schedule A of the OP, the majority of lands under the Town of Petawawa's jurisdiction are south of the Petawawa River. Lands to the north of the Petawawa River are owned by DND and are not governed by the policies and land use designations of the Town's OP. As the Town's settlement pattern has been influenced by DND lands, a variety of different land use designations fall within the LSA, including Residential, Rural Residential, Rural, Commercial, Environmental Protection Area, and Mineral Aggregate Resources. Section 18.3.1.3 states that "all existing power facilities and the development of any new electricity generation facilities and transmission and distribution systems, including all works defined in the *Power Corporation Act* (such as transmission lines, transformer stations and distributing stations) shall be permitted in any land use designation without an amendment to this Plan provided that such development satisfies the provisions of the *EA Act*, including regulations made under the Act, and any other relevant statutes" (Town of Petawawa, 2024).

5.4.2. Infrastructure and Services

5.4.2.1. Transportation - Roads

The LSA includes multiple road networks throughout the County of Renfrew and the towns of Deep River, Petawawa, and Laurentian Hills. Highway 17 passes through the County from north to south.

Road classifications within the LSA are summarized in **Table 5-1**. The County of Renfrew is responsible for County Roads while roads under the Local Municipal Roads classification fall within the jurisdiction of the local municipalities (County of Renfrew, 2020). It is noted that the Town of Deep River does not have any Local Municipal Roads within the LSA.

Table 5-1: Road Classifications within the LSA

Municipality	Road Classification
County of Renfrew	Provincial Highway Crown Road County Road County Trail Municipal Road Private Road
Town of Laurentian Hills	Provincial Highway Municipal Road Crown Road County Trail
Town of Petawawa	Provincial Highways County Roads Municipal Roads Municipal Roads – Collector Municipal Roads – Seasonal Private Roads

5.4.2.2. Transportation – Rail Corridor

The LSA contains an abandoned rail corridor that was formerly used by CP Rail and runs north to south through the LSA. The abandoned rail corridor partially intersects with the location of Route Alternatives A and B. The Abandoned Rail Corridor is identified as a potential trail by the County of Renfrew (refer to **Section 5.8.1**).

5.4.2.3. Transportation – Airport

The Pembroke and Area Airport is located approximately 2 km east of the LSA. The Pembroke and Area Airport is a small airport publicly owned by six member municipalities including the

Town of Petawawa, City of Pembroke, Town of Deep River, Township of Laurentian Valley, Township of Whitewater Region, and Town of Laurentian Hills. The airport sees close to 5,000 aircraft movements annually and is used for military, life-saving services, business, and tourism purposes (Town of Petawawa, n.d.(a)).

5.4.2.4. Pipelines

TransCanada PipeLines Limited (TCPL) operates two high pressure natural gas pipelines which cross through the County of Renfrew (Appendix A – County of Renfrew OP Schedule B: Map 2 - Infrastructure Map). The two pipelines are located within the LSA for the Project (i.e., within 500 m of the Route Alternatives). As outlined under Section 2.2(22) of the County of Renfrew's OP:

- As development within 200 m of TCPL's facilities may affect the safety and integrity of the pipelines, the approval authority will require early consultation with TransCanada for any development proposals within 200 m of its facilities.
- Within 750 m of a fence line of a TCPL compressor station, consultation with TCPL is required early in development planning when undertaking the technical review of any such development that requires approval under the *Planning Act*:
    - Development within 750 m of a TCPL compressor station shall not be permitted approved unless it can be demonstrated that the developer can mitigate any adverse impacts that might result from land use incompatibility issues such as noise or vibration can be achieved.
    - Proponents of a development may be required to carry out noise and vibration studies and mitigation measures identified by those studies shall be included by the County as a condition of development approval.
- TCPL is regulated by the Canada Energy Regulator (CER) which has a number of requirements regulating development in proximity to its pipelines, including approval for activities within 30 m of the pipeline centreline.
- Subject to consultation with TCPL, TCPL's pipeline rights-of-way may be designated for use as passive open space.
- No permanent building or structure shall be located within 7 m of the limit of the pipeline ROW. Accessory structures shall have a minimum setback of at least 3 m from the limit of the ROW.
- In addition to the requirements for the above setbacks, the following may need to be setback a minimum of 7 m from the limit of the pipeline ROW:

- Road rights-of-way (paralleling pipeline rights-of-way), paved private driveways, parking spaces and parking areas;
- Stormwater management facilities (County of Renfrew, 2020).

5.4.2.5. Community Services and Institutions

The County of Renfrew provides community services including emergency services (hospitals and paramedic services), social housing, long-term care, and children's services. The towns of Laurentian Hills, Deep River, and Petawawa provide community services including recreational facilities, waste management facilities, water and wastewater services, and fire services. The Town of Deep River has their own police services, and the towns of Laurentian Hills and Petawawa have policing services provided by the Ontario Provincial Police.

The Town of Laurentian Hills has a water treatment plant and elevated storage tank in the Village of Chalk River that was constructed in 1985. The plant has a treatment capacity of 435,000 gallons/day and the tower has a storage capacity of 300,000 gallons. The plant services approximately 450 homes and businesses and was upgraded in 2003 to 100% redundancy for all treatment systems. This plant is located approximately 0.5 km north of the RSA (Town of Laurentian Hills, n.d.).

In the Town of Laurentian Hills, water and sewer treatment plants provide services for the Village of Chalk River. The Chalk River Wastewater Treatment Plant is located on Blimke Street and serves approximately 400 homes in Chalk River. The Treatment Plant is located approximately 1 km north of the RSA. Outside of Chalk River, the remainder of the Town of Laurentian Hills is serviced by private septic and well systems (Town of Laurentian Hills, 2019).

The Town of Deep River has a Water Treatment Plant and a Wastewater Treatment Plant that fall outside of the RSA.

The Town of Petawawa is serviced by a single communal water treatment plant and water distribution system, and a sanitary sewage collection and treatment system. The water and sewage plants are owned by the Town of Petawawa and are operated by the Ontario Clean Water Agency, under an operating agreement with the Town (Town of Petawawa, n.d.(b); Town of Petawawa, n.d.(c)).

- The sanitary sewage system for the Town of Petawawa is comprised of the sewage collection system and the Wastewater Treatment Facility. The facility was upgraded in 1998 and was designed to treat sewage originating from the Town of Petawawa, CFB

Petawawa, and the Canadian Forces Housing Authority Townsites. The facility had a rated capacity of 8,730 m³/day (Town of Petawawa, n.d.(b)).

- The Petawawa Water Treatment Plant is located on the southern shore of the Ottawa River and is surrounded by CFB Petawawa. The rated capacity of the facility is 21,500 m³/day (Town of Petawawa, n.d.(c)). The existing water distribution system goes through the Town of Petawawa and CFB Petawawa.
- Based on an Infrastructure Study Update prepared in 2013, the sewer and water distribution systems are likely to run adjacent or cross the transmission line alternatives (Jp2g Consultants, 2013).

5.4.3. CFB Petawawa

A large portion of the lands that the LSA encompasses are federal lands owned by the DND as part of CFB Petawawa. Further, the existing D6 transmission line corridor bisects active areas of CFB Petawawa. CFB Petawawa is one of Canada's oldest military training establishments and is one of the busiest operational Army Garrisons in Canada (Petawawa Post, 2024). The DND makes up over 14,000 people (7,000 military and defence team members and their families) in the local area (Petawawa Post, 2024).

5.5. First Nations Lands and Interests

As outlined in **Section 4.4**, Indigenous communities were consulted in parallel and as part of the Class EA process. While there are no First Nation reserve lands situated within the RSA, Hydro One recognizes that the proposed Project resides on the traditional, unceded, and unsurrendered territory of the Anishinaabe Algonquin Nation. The closest community to the PSA is the AOPFN (Golden Lake 39), located approximately 30 km south of the LSA.

While awaiting a response from the Crown regarding the potential delegation of the procedural aspects of the Duty to Consult, Hydro One advanced early engagement activities consistent with Hydro One's long-term relationship-based consultation practices. This work was undertaken on a without prejudice basis and was not intended to predetermine, replace, or diminish any Crown-led consultation responsibilities.

While awaiting Crown direction, Hydro One completed a preliminary assessment of potentially interested Indigenous communities based on the Project location and known asserted rights and interests associated with the Algonquin land claim and broader Algonquin traditional territory. On this basis, Hydro One initiated outreach and engagement with AOO, AOPFN, and KZA to share preliminary Project information, invite early input, and welcome participation and

review of archaeology and environmental field studies to identity potential concerns. In addition to the above communities, the Project Notice of Commencement was sent to the Métis Nation of Ontario to provide Project information and outline engagement opportunities.

At the time of preparing this ESR, Hydro One remains in receipt of no formal confirmation from the Crown regarding the delegation of procedural aspects of the Duty to Consult for the Project. Hydro One will align with subsequent engagement activities with any Crown direction provided and will continue ongoing consultation with engaged Indigenous communities.

5.6. Mineral Resources

Based on MNR's Pits and Quarries database, there are eight active aggregate sites within the RSA. None of the active aggregate sites are within the LSA (MNR, 2025b).

- Bonnechere Excavating Inc. – Northeastern Pit
- Bonnechere Excavating Inc. – Black Bay Pit
- Bonnechere Excavating Inc. – Mielke Quarry
- Bonnechere Excavating Inc. – Pit
- Eastway Developments Inc. – Hoffman Pit
- Miller Paving Ltd. – Pit
- R.G.T Clouthier Construction Ltd. – Pit
- W.W. Siegel Sand and Gravel Ltd – Siegel W.W. Pit

There are no petroleum wells, no abandoned mines, and no active mineral exploration areas located in the LSA (MNR, 2025c; MEM, 2025a).

5.7. 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
- Natural heritage features

Field surveys were undertaken in Fall 2021, Spring 2022, and Spring/Summer 2025 to assess baseline environmental conditions and significant natural values to inform the Class EA.

Environmental field survey staff were regularly accompanied during the aquatic and terrestrial surveys by Indigenous monitors from AOO. AOPFN were invited to participate, however, they were unable to do so at the time as their Guardian Program was undergoing restructuring during the field surveys. AOPFN deferred participation but requested post-survey summaries for review. Summaries of the field survey results were provided to both Indigenous communities on a regular basis throughout the field program.

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.

A Natural Environment Existing Conditions Technical Report (**Appendix B-4**) was prepared for the Project and provides a summary of the natural environment existing conditions associated with the Preferred Route (Refined Route A).

An overview of the field survey program is provided below in **Table 5-2**. A summary of the field program results is included in **Section 5.7.6**.

Table 5-2: Field Survey Program Overview

Field Survey Program	Rationale	Dates
Ecological Land Classification (ELC)	Determine types of vegetation communities present (e.g., forest, meadow, etc.)	• September 27, 2021 • September 28, 2021 • September 29, 2021
Botanical Assessments	Compile a vegetation species list.	• September 27, 2021 • September 28, 2021 • September 29, 2021 • June 12, 2025 • June 26, 2025

Field Survey Program	Rationale	Dates
Aquatic Habitat Assessments (Fish and Fish Habitat Assessments)	Characterize aquatic habitat including aquatic feature type (watercourse or waterbody), channel size, adjacent land uses, and potential risks of pollution. As well as, classifying in-stream and riparian vegetation, the sediment type, bank stability, and the presence of groundwater seeps contributing to base flow.	• September 27, 2021 • September 28, 2021 • September 29, 2021
SAR Habitat Assessment	Incidental observations of wildlife, including SAR, and determine the presence of suitable habitat for SAR.	• All dates
Wildlife Habitat Assessment	Incidental observations of wildlife and determine the presence of candidate Significant Wildlife Habitat (SWH).	• All dates
Diurnal Breeding Bird Surveys	Establish quantitative estimates of bird abundance and evidence of breeding behaviour including males singing, nest building, egg incubation, territorial defence, carrying food, and feeding young.	• June 14, 2022 • June 12, 2025 • June 26, 2025 • July 4, 2025
Amphibian Call Count Surveys	Documentation of species observed and estimations of population size and density, as well as incidental amphibian observations including individual species sightings and evidence of breeding behaviour.	• April 26, 2022 • May 25, 2022 • April 30, 2025 • May 20, 2025 • June 26, 2025
Eastern Whip-poor-will and Common Nighthawk Surveys	Surveys for Eastern Whip-poor-will and Common Nighthawk, two species of SAR birds.	• June 14, 2022

5.7.1. Physical Environment

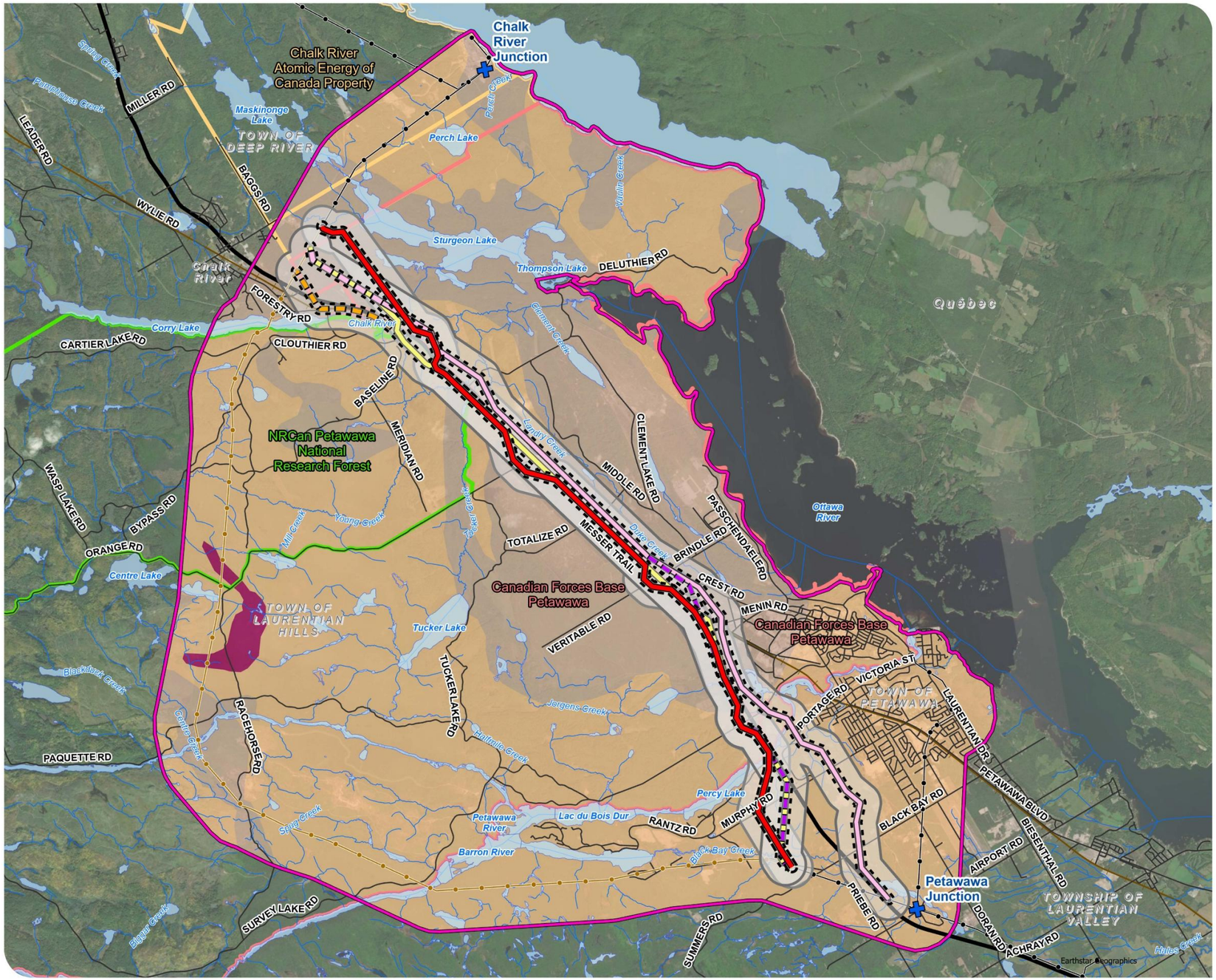
Bedrock geology of the PSA is illustrated in **Figure 5-3**. Bedrock deposits within the PSA include felsic igneous rocks and migmatitic rocks and gneisses of undetermined protolith of the Grenville Province (MEM, 2025b).

Quaternary geology of the PSA is illustrated in **Figure 5-4**. The PSA consists mainly of glaciofluvial outwash deposits (gravel and sand), fluvial deposits (gravel, sand, silt, and clay), and till (predominantly sand to silty sand matrix) (MEM, 2025c). The surficial geology of the PSA consists mainly of Precambrian bedrock, glaciofluvial outwash deposits, and Pleistocene Till (MEM, 2025c). In the central portion of the PSA there are some areas of Precambrian bedrock and pockets of organic deposits of peat, muck, and marl (MEM, 2025c). The till in the PSA consists of undifferentiated, predominantly sand to silty sand matrix, with high content of clasts, often low in matrix carbonate content (MEM, 2025c). There is an area of Precambrian bedrock immediately south of the PSA consisting of undifferentiated igneous and metamorphic rock, exposed at surface or covered by a discontinuous, thin layer of drift (MEM, 2025d). The overburden thickness in the PSA is generally low, ranging between 1.23 m and 6.22 m in the northern and central areas of the PSA, just south of Chalk River along Highway 17 and between 0 m and 16.29 m in the southern end of the Project near Petawawa (MEM, 2025d).

The PSA is located entirely within the Petawawa Sand Plain physiographic region (Chapman and Putnam, 2007). The sand plain on the Ontario side of the river is interrupted by several outcrops of Precambrian rocks. The sand plain region extends south of the City of Pembroke and covers an estimated 330 square km. The plain originated as a delta built in the Champlain Sea by the Petawawa, Barrow, Indian, and Ottawa Rivers (Chapman and Putnam, 2007).

The PSA can be characterized as having rolling topography, ranging in elevation from approximately 140 m above sea level (masl) to 170 masl.

Figure 5-3: Bedrock Geology



HYDRO ONE NETWORKS INC.

D6 TRANSMISSION LINE RELOCATION PROJECT

BEDROCK GEOLOGY

FIGURE 5-3

Route Alternatives
- Route A
- Route A Alternate Start
- Route B East of Highway
- Variation B Highway Crossing Deviation
- Refined Route Alternative A
- Project Study Area (120 m)
- Local Study Area (500 m)
- Regional Study Area

Bedrock Geology
- 43 - Felsic igneous rocks
- 42 - Anorthosite and alkalic igneous rocks
- 41 - Migmatitic rocks and gneisses of undetermined protolith

Base Data
- Transmission Line Junction
- Existing Transmission Line to Be Decommissioned
- Existing Transmission Line
- Highway
- Road
- Municipal Boundary
- Waterbody
- Watercourse
- Abandoned Railway Track
- NRCan Petawawa National Research Forest
- Canadian Forces Base Petawawa
- Chalk River Atomic Energy of Canada Property

SCALE 1:90,000

0 1 2 4 Kilometers

MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR AND ONTARIO GEOLOGICAL SURVEY, BEDROCK GEOLOGY OF ONTARIO - MISCELLANEOUS RELEASE –DATA 126 - REVISION

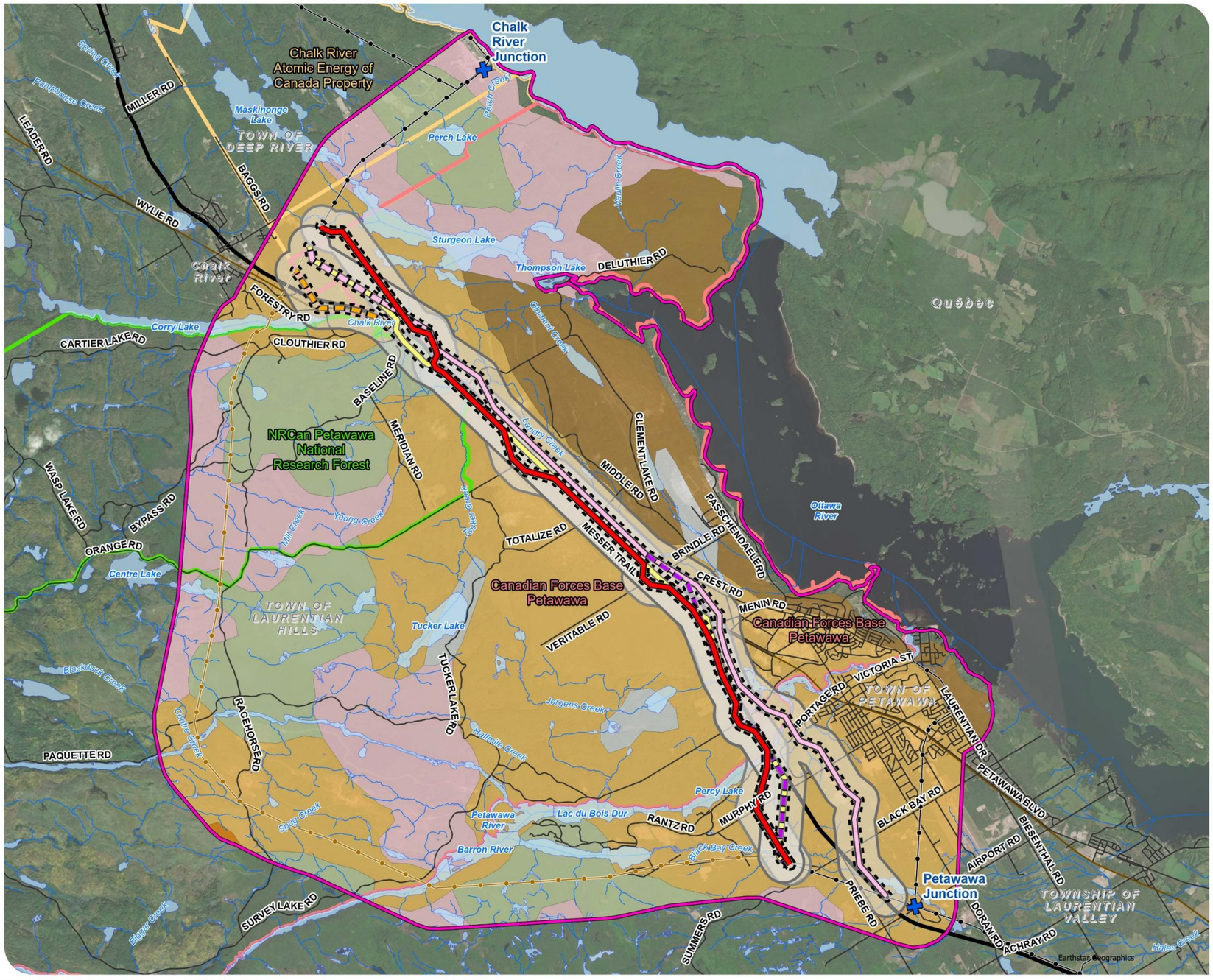
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MAP PROJECTION: NAD 1983 CSRS UTM Zone 18N

DILLON CONSULTING

PROJECT: 21-2314
STATUS: DRAFT
DATE: 2026-02-03

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Figure 5-4: Quaternary Geology



HYDRO ONE NETWORKS INC.

D6 TRANSMISSION LINE RELOCATION PROJECT

QUATERNARY GEOLOGY

FIGURE 5-3

Route Alternatives
- Route A
- Route A Alternate Start
- Variation B Highway Crossing Deviation
- Route B East of Highway
- Refined Route Alternative A
- Project Study Area (120 m)
- Local Study Area (500 m)
- Regional Study Area

Quaternary Geology
- 1: Bedrock
- 18: Till
- 22: Glaciofluvial Ice
- 23: Glaciofluvial Outwash deposits
- 28: Fluvial deposits
- 32: Organic deposits

Base Data
- Transmission Line Junction
- Existing Transmission Line to Be Decommissioned
- Existing Transmission Line
- Highway
- Road
- Municipal Boundary
- Waterbody
- Watercourse
- Abandoned Railway Track
- NRCan Petawawa National Research Forest
- Canadian Forces Base Petawawa
- Chalk River Atomic Energy of Canada Property

SCALE 1:90,000

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MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR, ONTARIO GEOLOGICAL SURVEY, 1997. QUATERNARY GEOLOGY, SEAMLESS COVERAGE OF THE PROVINCE OF ONTARIO: ONTARIO GEOLOGICAL SURVEY, DATA SET 14.

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DILLON CONSULTING

PROJECT: 21-2314
STATUS: DRAFT
DATE: 2026-02-03

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5.7.2. Atmospheric Environment

5.7.2.1. Climate

The Project is located within the Humid High Moderate Temperature Ecoclimate Region (MNR, 2009). Climate in this region is cool-temperate and humid, with a growing season between 183 to 219 days (MNR, 2009).

A meteorological station with long-term data for the general Project area has been identified in Petawawa. The meteorological station for Petawawa is a composite station, which is comprised of several individual stations (Climate IDs: 610FC98, 6106396, 6106398). The data from these individual stations are combined to create a 30-year data series for a specific location.

Temperature and precipitation data listed in **Table 5-3** are based on annual Climate Normals data available from 1991 to 2020 (ECCC, 2025a).

Table 5-3: Summary of Published Annual Climate Normals for the 1991 to 2020 Period for Petawawa

Parameter	Composite Station Name: Petawawa (5 km east of the LSA)
Daily average (degrees Celsius [°C])	5.0
Daily maximum (°C)	11.2
Daily minimum (°C)	-1.2
Rainfall (millimetre [mm])	720.9
Snowfall (centimetre [cm])	199.0
Precipitation (mm)	931.5
Days with maximum temperature >35°C	0.06
Days with minimum temperature <-30°C	0.0
Days with rainfall ≥ 25 mm	3.9
Days with snowfall ≥ 25 cm	0.21
Days with precipitation ≥ 25 mm	4.7
Monthly Precipitation (mm) Min & Max	Min: 51.0 (February) Max: 96.1 (June)
Extreme Snow Depths (cm)	465 (February 2016)

Source: ECCC, 2025a

5.7.2.2. Temperature

The climate normal mean annual temperature recorded for Petawawa is 5.0°C. The climate normal daily average temperature varies between -1.2°C and 11.2°C (ECCC, 2025a).

5.7.2.3. Precipitation

Precipitation is distributed throughout all four seasons, with snowfall typically limited to between October and April, and rainfall occurring throughout the year. Climate normal days with precipitation (equal to or over 0.2 millimetres [mm]) occur 174.4 days per year. Similarly, climate normal monthly precipitation varies between 51 mm (February) and 96.1 mm (June). The climate normal total annual precipitation is 931.5 mm (ECCC, 2025a).

Extreme daily rainfall varies from 21.2 mm (December 1999) to 97.0 mm (July 2007). Extreme daily snowfall ranges from 0.0 to 38 cm (February 2020; ECCC, 2025a).

5.7.2.4. Wind

Winds primarily originate from the southeast with an average annual hourly speed of 9.6 kilometres per hour (km/hr). Wind extremes were recorded at 65 km/hr in March 1991 and extreme gust speed at 100 km/hr in August 1992 (ECCC, 2025a).

5.7.2.5. Air Quality

In Ontario, air quality is monitored through a network of air quality monitoring stations operated by the MECP and ECCC (MECP, 2025a; ECCC, 2025b); the MECP monitors air quality throughout the province as part of the Air Quality Monitoring System. The nearest station to the LSA is the Ottawa Downtown station in the City of Ottawa near Rideau Street and Wurtemburg Street (MECP, 2025a). 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, and particulate matter are measured at the Ottawa Downtown station.

The Ottawa Downtown monitoring station is an ambient monitoring station, which aims to capture the general air quality of an area without any direct influence of local industrial sources (MECP, 2022). The 10-year trend (2013 to 2022) for the Ottawa Downtown station shows a decrease in the annual mean of nitrogen dioxide by 25 percent, a decrease in the annual mean concentrations of fine particulate matter by 16 percent, and no trend (no increase or decrease) in ground-level ozone (MECP, 2022).

Through the federal Facility Greenhouse Gas Emissions Reporting Program, administered by ECCC, large industrial emitters that emit 10 kilotonnes or more must submit an annual report of their greenhouse gas (GHG) emissions based on a reporting threshold. The DND at CFB Petawawa is the nearest large emitter of GHGs to the Project. In 2023, the DND reported a total of 34.44 kilotonnes of carbon dioxide equivalent (ECCC, 2025c; ECCC, 2025d).

5.7.2.6. Noise

In accordance with the MECP 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) (MECP, 2013). Based on a desktop review, points of reception were identified within the LSA to represent the noise-sensitive receptors in the vicinity, all being residential dwellings and a cemetery (St. Andrew’s Cemetery).

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), residential activities, and CFB Petawawa 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.

5.7.3. Surface Water Resources

The Project is located within the Great Lakes – St. Lawrence Primary watershed, and Central Ottawa River Secondary Watershed. For the purposes of this Class EA, aquatic features are defined using two categories: 1. Watercourses and 2. Waterbodies. Watercourses include rivers, tributaries, and constructed drains (e.g., agricultural drains), while waterbodies include natural or man-made ponds or lakes that are land-locked within the landscape.

Major watercourses identified within the RSA as part of the background review include:

- Chalk River
- Young Creek
- Laundry Creek
- Tucker Creek
- Duke Creek
- Jorgens Creek
- Petawawa River
- Black Bay Creek

Additionally, Percy Lake, Mudturtle Lake, and Brennan Lake (waterbodies) were identified within the RSA; however, several other unidentified waterbodies are present based on a review of aerial photograph interpretation and digital data sets.

A total of ten aquatic habitat / fish and fish habitat assessment stations were assessed within the PSA at locations identified as potential watercourse features. Stations were sited at Route Alternative crossings or the nearest roadside crossing, or through aerial imagery due to restricted property access. Of the ten aquatic habitat / fish and fish habitat assessment stations assessed in the field, nine were at watercourse locations with permanent flow, and one was dry and had no defined channel (lacking characteristics of a watercourse).

Table 5-4 lists the survey stations and watercourses associated with each Route Alternative.

Table 5-4: Aquatic Habitat / Fish and Fish Habitat Assessment Stations

Survey Station	Watercourse Name	Route A	Route A – Alternative Start Point	Refined Route A (2025)	Route B – East of Highway	Route B - Highway Crossing Deviation
RB-WC-01	Tributary of Mudturtle Lake	No	No	No	Yes	No
RB-WC-01_RB-WC-03	Black Bay Creek	No	No	No	Yes	No
RB-WC-07	Tributary of the Petawawa River	No	No	No	Yes	No
RA-WC-02_RB-WC-04	Tributary of the Petawawa River	Yes	Yes	No	No	Yes
RA-WC-03_RB-WC-05	Petawawa River	Yes	Yes	Yes	Yes	Yes
RB-WC-09	Jorgens Creek	Yes	Yes	Yes	Yes	Yes
RA-WC-08	Chalk River	Yes	Yes	Yes	Yes	Yes
RA-WC-07	Young Creek	Yes	Yes	Yes	Yes	Yes
RA-WC-06	Tucker Creek	Yes	Yes	Yes	Yes	Yes
Unnamed	Unnamed (dry, no defined channel, lacks watercourse characteristics)	Yes	Yes	Yes	Yes	Yes

The PSA can be characterized as having rolling topography, ranging in elevation from approximately 140 masl to 170 masl. There are no active Provincial Water Quality Monitoring Network stations within the vicinity of the LSA (MECP, 2024).

5.7.4. Groundwater Resources

Ground water resources were evaluated within the PSA to understand potential effects on groundwater from the proposed Project.

5.7.4.1. Water Wells

Well information contained in the MECP (2025b) Water Well Information System (WWIS) was reviewed to better understand local groundwater conditions in the PSA. There is a total of 33 unique well IDs located within the PSA, consisting of 1 observation well, 2 abandoned wells, 26 water supply wells, and 3 with unknown well type. Locations of these wells are show in **Figure 5-5**. A summary of the water wells within the PSA is identified in **Table 5-5**.The wells identified within the PSA range in depth between 5.5 m to 135.6 m below ground surface (mbgs).

Table 5-5: Water Well Records Selected for Review within the PSA

Well ID	Route Alternative(s)	Date Complete	Universal Transverse Mercator (UTM) Coordinates (Zone 18) Eastings	UTM Coordinates (Zone 18) Northings	Depth to Water (m)	Overburden	Final Status
5509736	Route A - Alternative Start Point	08/27/1989	311874.80	5097642.00	5.5	Sand, Silt, Gravel, Rock, Clay	Observation Wells
5510078	Route A - Alternative Start Point	06/27/1990	311874.80	5097642.00	16.5	Sand, Silt, Granite	Water Supply
5512585	Route A - Alternative Start Point	04/18/1996	311874.80	5097642.00	28.7	Medium Sand, Fine Sand, Silt, Gravel, Granite	Water Supply
5513056	Route A - Alternative Start Point	08/28/1997	312016.00	5097198.00	121.9	Fine Sand, Granite	Water Supply
5512458	Route A - Alternative Start Point	09/19/1995	312497.80	5097035.00	68.6	Sand, Clay, Granite	Water Supply
5503035	Route A & Route A - Alternative Start Point	04/23/1974	314329.80	5095943.00	45.7	Sand, Granite	Water Supply
7223468	Route A, Route A - Alternative Start, Refined Route A	02/13/2014	315584.00	5093886.00	Not Applicable (N/A)	N/A	Abandoned – Other
7117492	Route B - East of Highway	12/05/2008	320414.00	5087422.00	6.1	Medium Sand	Monitoring and Test Hole

Well ID	Route Alternative(s)	Date Complete	Universal Transverse Mercator (UTM) Coordinates (Zone 18) Eastings	UTM Coordinates (Zone 18) Northings	Depth to Water (m)	Overburden	Final Status
5511813	Route A, Route B - Highway Crossing Deviation, Refined Route A	12/16/1993	320679.80	5084759.00	37.8	Hard Pan, Limestone	Water Supply
7118725	Route B - East of Highway	11/14/2008	321521.00	5084612.00	56.7	Sand, Granite	Water Supply
7182367	Route B - East of Highway	05/25/2012	321622.00	5084537.00	32.0	Sand, Granite	Water Supply
7194857	Route B - East of Highway	11/20/2012	321645.00	5084575.00	38.1	Sand, Granite	Water Supply
7207232	Route B - East of Highway	07/16/2013	321645.00	5084575.00	74.7	Granite	Water Supply
5509587	Route B - East of Highway	07/11/1989	321784.90	5084374.00	47.2	Till, Clay, Hard Pan, Granite	N/A
5509073	Refined Route A	07/21/1988	320319.80	5083495.00	54.3	Loam, Granite	Water Supply
5510039	Refined Route A	05/29/1990	320319.80	5083495.00	135.6	Loam, Granite	Abandoned – Supply
5510040	Refined Route A	05/29/1990	320319.80	5083495.00	68.6	Loam, Granite	Water Supply
5513679	Refined Route A	07/28/1999	320385.00	5083064.00	15.5	Gravel	Water Supply
5506626	Route A, Route A - Alternative Start Point, Route B - Highway Crossing Deviation, Refined Route A	07/13/1981	320628.80	5081922.00	26.8	Sand, Gravel	Water Supply

Well ID	Route Alternative(s)	Date Complete	Universal Transverse Mercator (UTM) Coordinates (Zone 18) Eastings	UTM Coordinates (Zone 18) Northings	Depth to Water (m)	Overburden	Final Status
5506119	Route A, Route A - Alternative Start Point, Route B - Highway Crossing Deviation, Refined Route A	04/22/1980	320728.80	5081922.00	20.1	Sand, Granite	Water Supply
7438927	Route A, Route A - Alternative Start Point, Route B - Highway Crossing Deviation	12/05/2022	320938.00	5083863.00	N/A	N/A	N/A
5512925	Route A, Route A - Alternative Start Point, Route B - Highway Crossing Deviation	05/07/1997	321061.90	5083838.00	19.8	Gravel, Clay, Silt, Rock, Granite	Water Supply
7039072	Route A, Route A - Alternative Start Point, Route B - Highway Crossing Deviation	12/20/2006	320978.00	5083548.00	44.2	Sand, Granite	Water Supply
7298938	Route A, Route A - Alternative Start Point, Route B - Highway Crossing Deviation	06/08/2017	321035.00	5083550.00	38.1	Sand, Granite	Water Supply

Well ID	Route Alternative(s)	Date Complete	Universal Transverse Mercator (UTM) Coordinates (Zone 18) Eastings	UTM Coordinates (Zone 18) Northings	Depth to Water (m)	Overburden	Final Status
7298940	Route A, Route A - Alternative Start Point, Route B - Highway Crossing Deviation	05/16/2017	321062.00	5083519.00	12.2	Sand, Clay, Granite	Water Supply
5516424	Route A, Route A - Alternative Start Point, Route B - Highway Crossing Deviation	07/04/2006	320999.00	5083473.00	86.9	Sand, Granite	Water Supply
7426854	Route A, Route A - Alternative Start Point, Route B - Highway Crossing Deviation	07/29/2022	320970.00	5083331.00	15.2	Sand, Clay, Granite	Water Supply
7233398	Route A, Route A - Alternative Start Point, Route B - Highway Crossing Deviation	10/08/2014	321102.00	5083174.00	N/A	N/A	N/A
5514037	Route B - East of Highway	07/10/2000	322553.10	5083241.00	16.2	Sand, Clay, Granite, Medium Gravel	Water Supply
5511019	Route B - East of Highway	09/01/1992	322440.00	5081579.00	50.3	Sand, Granite	Water Supply
5514312	Route B - East of Highway	01/17/2001	322542.00	5081602.00	68.6	Coarse Sand, Medium Gravel, Granite	Water Supply

Well ID	Route Alternative(s)	Date Complete	Universal Transverse Mercator (UTM) Coordinates (Zone 18) Eastings	UTM Coordinates (Zone 18) Northings	Depth to Water (m)	Overburden	Final Status
5512416	Route B - East of Highway	09/05/1995	322639.00	5081638.00	18.9	Sand, Gravel, Clay, Granite	Water Supply
5510581	Route B - East of Highway	08/01/1991	322451.90	5081048.00	32.0	Sand, Clay, Gravel, Hard Pan	Water Supply
7492394	Refined Route A	02/12/2024	320904	5081605	28	Sand	Water Supply

Source: MECP, 2025b

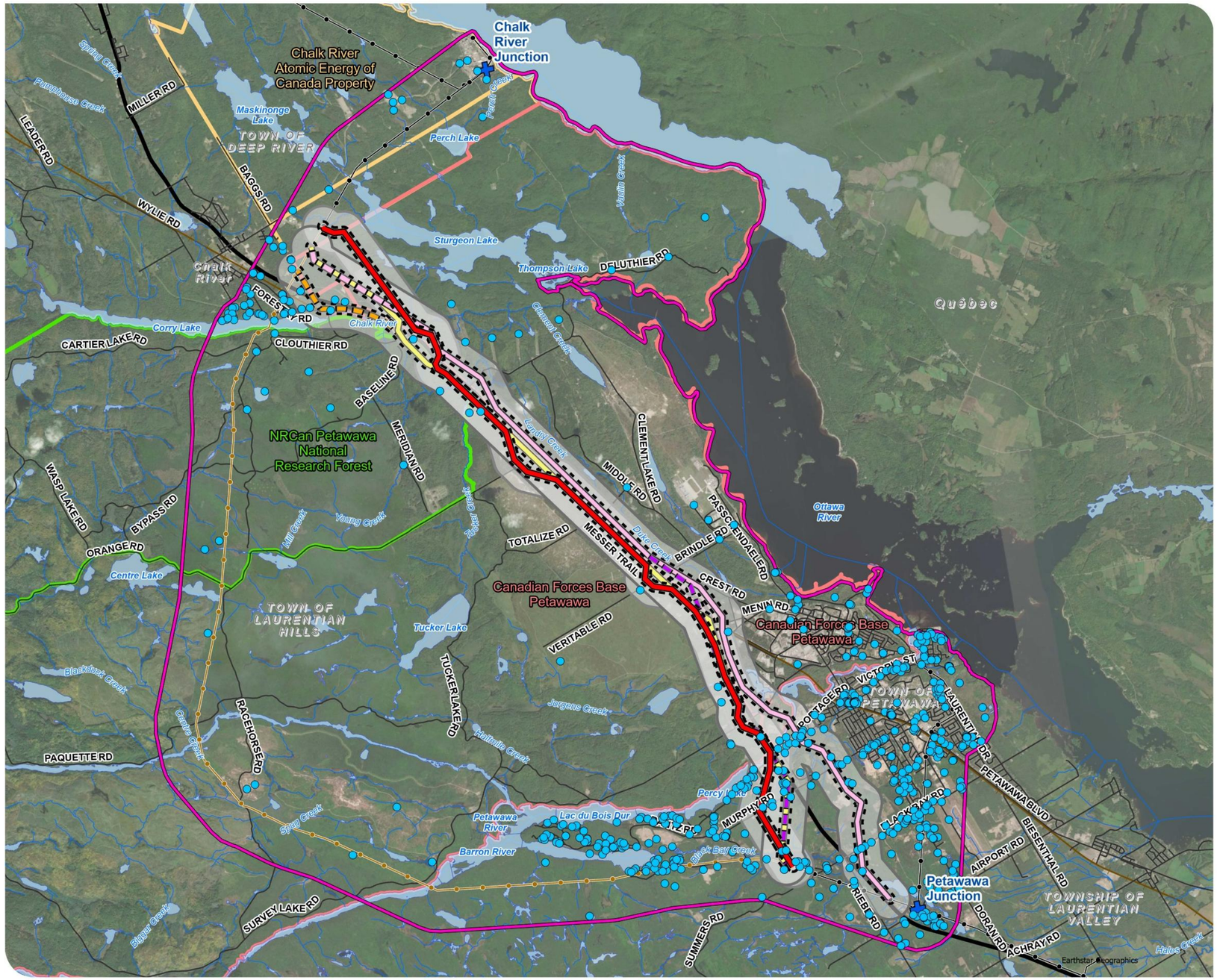
5.7.4.2. Groundwater Hydrogeology

Groundwater hydrogeology was assessed in the Renfrew County – Mississippi – Rideau Groundwater Study conducted by Golder Associates Ltd. (Golder) in association with Dillon Consulting, J.L. Richards and Associates Ltd., and Agricultural Watersheds Inc. (Golder et al., 2003). The results of this study were not incorporated into the provincial web-based Source Protection Information Atlas; the PSA is not mapped as being within a Source Protection Region (MECP, 2025c).

The PSA falls within the Petawawa Sand Plain physiographic region of Ontario (Chapman and Putnam, 2007). The Petawawa Sand Plain encompasses the entirety of the PSA, spanning from Point Alexander south to Pembroke along the west side of the Ottawa River (Chapman and Putnam, 2007). The topography of the PSA is characterized as rolling and varying between 140 masl to 170 masl. The surficial geology in the PSA is mainly glaciofluvial deposits and delta topset facies. In the central portion of the PSA there are some areas of Precambrian bedrock and pockets of organic deposits of peat, muck, and marl (MEM, 2025d).

The PSA is considered an area of high infiltration due to the presence of the sand plain (Golder et al., 2003). Significant overburden aquifers exist around Petawawa and locally throughout Renfrew County (Golder et al., 2003). Overburden aquifers, where they are not covered by clay, are often unconfined and therefore not well protected from sources of contamination at the surface (Golder et al., 2003). Mapping of groundwater recharge conditions indicate that significant regional recharge areas exist in the highlands of Renfrew County (Golder et al., 2003). Groundwater in the PSA generally flows towards the Petawawa and Ottawa Rivers (Golder et al., 2003).

Figure 5-5: Water Wells



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D6 TRANSMISSION LINE RELOCATION PROJECT

WATER WELLS

FIGURE 5-5

- MECP Water Wells

Route Alternatives

- Route A
- Route A Alternate Start
- Variation B Highway Crossing Deviation
- Route B East of Highway
- Refined Route Alternative A
- Project Study Area (120 m)
- Local Study Area (500 m)
- Regional Study Area

Base Data

- Transmission Line Junction
- Existing Transmission Line to Be Decommissioned
- Existing Transmission Line
- Highway
- Road
- Municipal Boundary
- Waterbody
- Watercourse
- Abandoned Railway Track
- NRCan Petawawa National Research Forest
- Canadian Forces Base Petawawa
- Chalk River Atomic Energy of Canada Property

SCALE 1:90,000

0 1 2 4 Kilometers

MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR

MAP CREATED BY: -PR
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MAP PROJECTION: NAD 1983 CSRS UTM Zone 18N

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5.7.5. 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. Designated or special natural areas within the PSA are outlined below.

5.7.5.1. Provincial Parks and Conservation Reserves

The *Provincial Parks and Conservation Reserves Act* "permanently protects a system of provincial parks and conservation reserves that includes ecosystems that are representative of all of Ontario's natural regions, protects provincially significant elements of Ontario's natural and cultural heritage, maintains biodiversity, and provides opportunities for compatible, ecologically sustainable recreation" (Provincial Parks and Conservation Reserves Act, 2006).

There are no Provincial Parks within the PSA. The nearest Provincial Parks to the PSA are Petawawa Terrace Provincial Park located approximately 6 km east of the PSA, Barron River Provincial Park located approximately 5 km west of the PSA, and Algonquin Provincial Park located approximately 15 km west of the PSA. There are no Conservation Reserves near the PSA. No Provincial Parks or Conservation Reserves are associated with any of the Route Alternatives.

5.7.6. 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. Mary's River).
- Habitat of endangered species and threatened species, SWH, and significant areas of natural and scientific interest (ANSI), 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 background sources:

- Protected Species in Ontario (PSO) List (O.Reg. 60/26).
- *SARA* Database.
- Natural Heritage Information Centre (NHIC) database (MNR, 2024a).
- 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, n.d.).
- Ontario's Reptile and Amphibian Atlas (Ontario Nature, 2025).
- County of Renfrew OP (Office Consolidation May 24, 2024).
- Town of Deep River OP (Office Consolidation, February 29, 2024).
- Town of Petawawa OP (2024).
- Aerial Imagery.
- Geospatial Ontario (MNR, 2024b).

Information collected from these background sources was supplemented by field surveys.

5.7.6.1. Ecological Land Classification

Vegetation communities were characterized using the ELC System for the Greak Lakes – St Lawrence Region (Banton et. al., 2010). Vegetation community boundaries were determined through review of aerial imagery, and then verified and refined on-site, where property access was permitted. Where access was not permitted, assessments of vegetation communities were performed as roadside surveys, from adjacent lands where access had been permitted, and/or a detailed review of aerial mapping. Constructed communities (e.g. highways, transmission corridors), though not technically vegetation communities, were also mapped and described to provide a more fulsome understanding of the land uses in the PSA.

The majority of the PSA consists of woodland and wetland habitat. None of the ELC communities are provincially rare.

Vegetation communities identified within the PSA are illustrated in **Figure 5-6**. The composition of vegetation communities identified within the PSA by Route Alternative are listed below in **Table 5-6**.

Table 5-6: Vegetation Communities Identified within the PSA

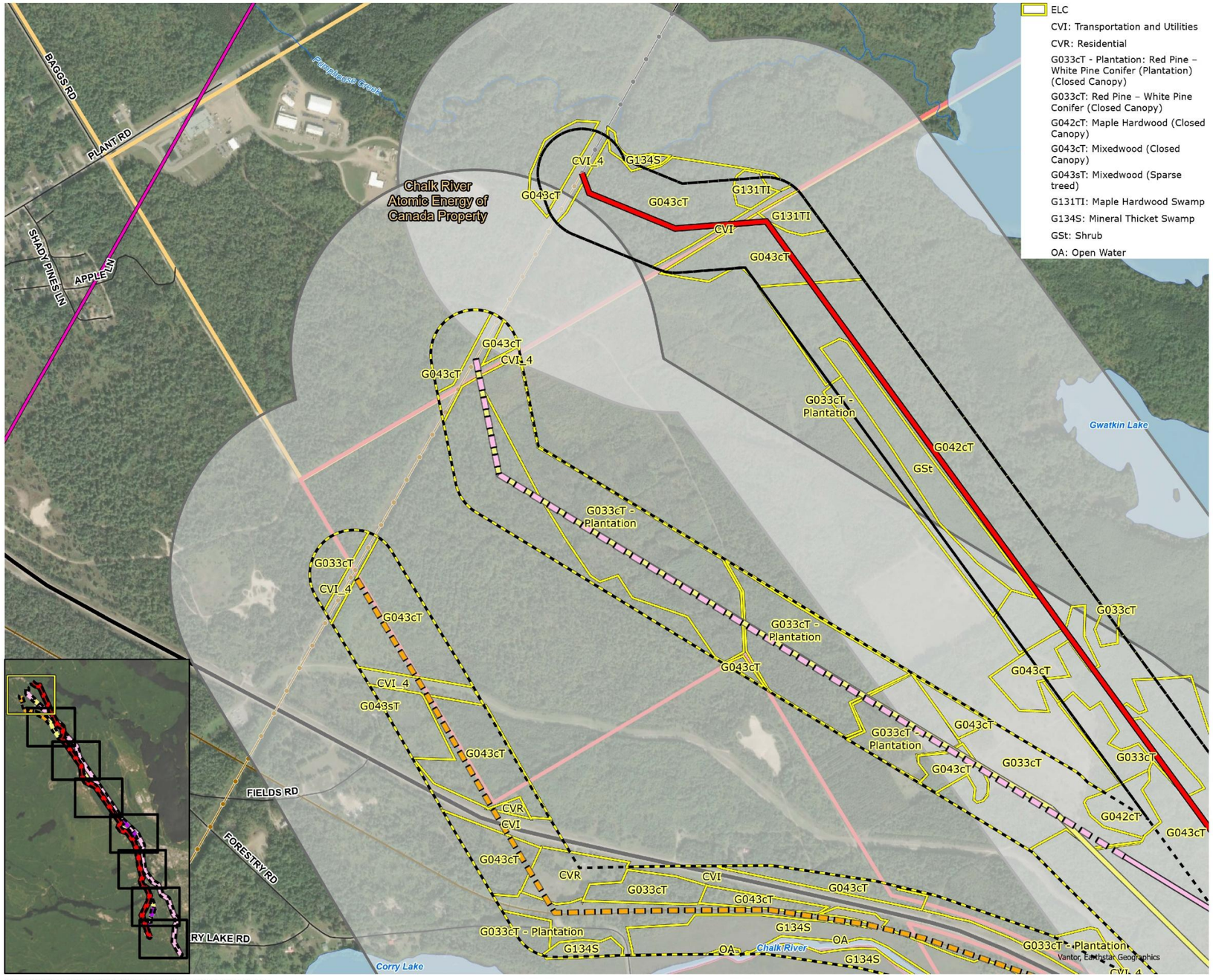
ELC Community Code	Route Alternative A	Route Alternative A – Alternative Starting Point	Refined Route A	Route Alternative B – East of Highway	Route Alternative B – Highway Crossing Deviation
CGL Greenlands	Yes	Yes	Yes	No	Yes
CVC Commercial and Institutional (DND)	Yes	Yes	Yes	Yes	Yes
CVC_1 Business Sector (veterinarian)	No	No	No	Yes	No
CVC_4 Extraction (Aggregate Storage)	No	No	No	Yes	No
CVI Transportation and Utilities	Yes	Yes	Yes	Yes	Yes
CVI_1 Transportation Rest Area	No	No	No	Yes	No
CVI Transportation and Utilities (TC Energy Pipeline ROW)	No	No	Yes	No	No

ELC Community Code	Route Alternative A	Route Alternative A – Alternative Starting Point	Refined Route A	Route Alternative B – East of Highway	Route Alternative B – Highway Crossing Deviation
CVI_4 Transportation and Utilities – Power Generation	Yes	Yes	Yes	Yes	Yes
CVR Residential	Yes	Yes	No	Yes	Yes
G033cT Red Pine – White Pine Conifer (Closed Canopy)	Yes	Yes	Yes	Yes	Yes
G033cT – Plantation Red Pine – White Pine Conifer (Plantation) (Closed Canopy)	Yes	Yes	Yes	Yes	Yes
G033sT Red Pine – White Pine Conifer (Sparse Treed)	Yes	Yes	Yes	Yes	Yes
G042cT Maple Hardwood (Closed Canopy)	Yes	Yes	Yes	Yes	Yes
G042T Maple Hardwood	Yes	Yes	Yes	No	Yes

ELC Community Code	Route Alternative A	Route Alternative A – Alternative Starting Point	Refined Route A	Route Alternative B – East of Highway	Route Alternative B – Highway Crossing Deviation
G043cT Mixedwood (Closed Canopy)	Yes	Yes	Yes	Yes	Yes
G043sT Mixedwood (Sparse Treed)	Yes	Yes	Yes	No	Yes
G043T Mixedwood	Yes	Yes	Yes	Yes	Yes
G109N Field	Yes	Yes	Yes	Yes	No
G110N Meadow	Yes	Yes	Yes	Yes	Yes
G128TI Intermediate Conifer Swamp	Yes	Yes	No	Yes	Yes
G128T1 Hardwood Swamp	No	No	Yes	No	No
G131TI Maple Hardwood Swamp	Yes	Yes	Yes	Yes	Yes
G133T Hardwood Swamp	Yes	Yes	Yes	No	No
G134S Mineral Thicket Swamp	Yes	Yes	Yes	Yes	Yes

ELC Community Code	Route Alternative A	Route Alternative A – Alternative Starting Point	Refined Route A	Route Alternative B – East of Highway	Route Alternative B – Highway Crossing Deviation
G148N Mineral Shallow Marsh	Yes	Yes	Yes	Yes	Yes
GSt Shrub	No	No	Yes	No	No
OA Open Water	Yes	Yes	Yes	Yes	Yes

Figure 5-6: Ecological Land Classification



ELC
CVI: Transportation and Utilities
CVR: Residential
G033cT - Plantation: Red Pine – White Pine Conifer (Plantation) (Closed Canopy)
G033cT: Red Pine – White Pine Conifer (Closed Canopy)
G042cT: Maple Hardwood (Closed Canopy)
G043cT: Mixedwood (Closed Canopy)
G043sT: Mixedwood (Sparse treed)
G131TI: Maple Hardwood Swamp
G134S: Mineral Thicket Swamp
GSt: Shrub
OA: Open Water

HYDRO ONE NETWORKS INC.

D6 TRANSMISSION LINE RELOCATION PROJECT

ECOLOGICAL LAND CLASSIFICATION
FIGURE 5-6

Route A
Route A Alternate Start
Route B East of Highway
Refined Route Alternative A
Project Study Area (120 m)
Local Study Area (500 m)
Regional Study Area
Existing Transmission Line to Be Decommissioned
Existing Transmission Line
Highway
Road
Waterbody
Watercourse
Abandoned Railway Track
Canadian Forces Base Petawawa
Chalk River Atomic Energy of Canada Property

SCALE 1:10,000

0 100 200 400 Metres

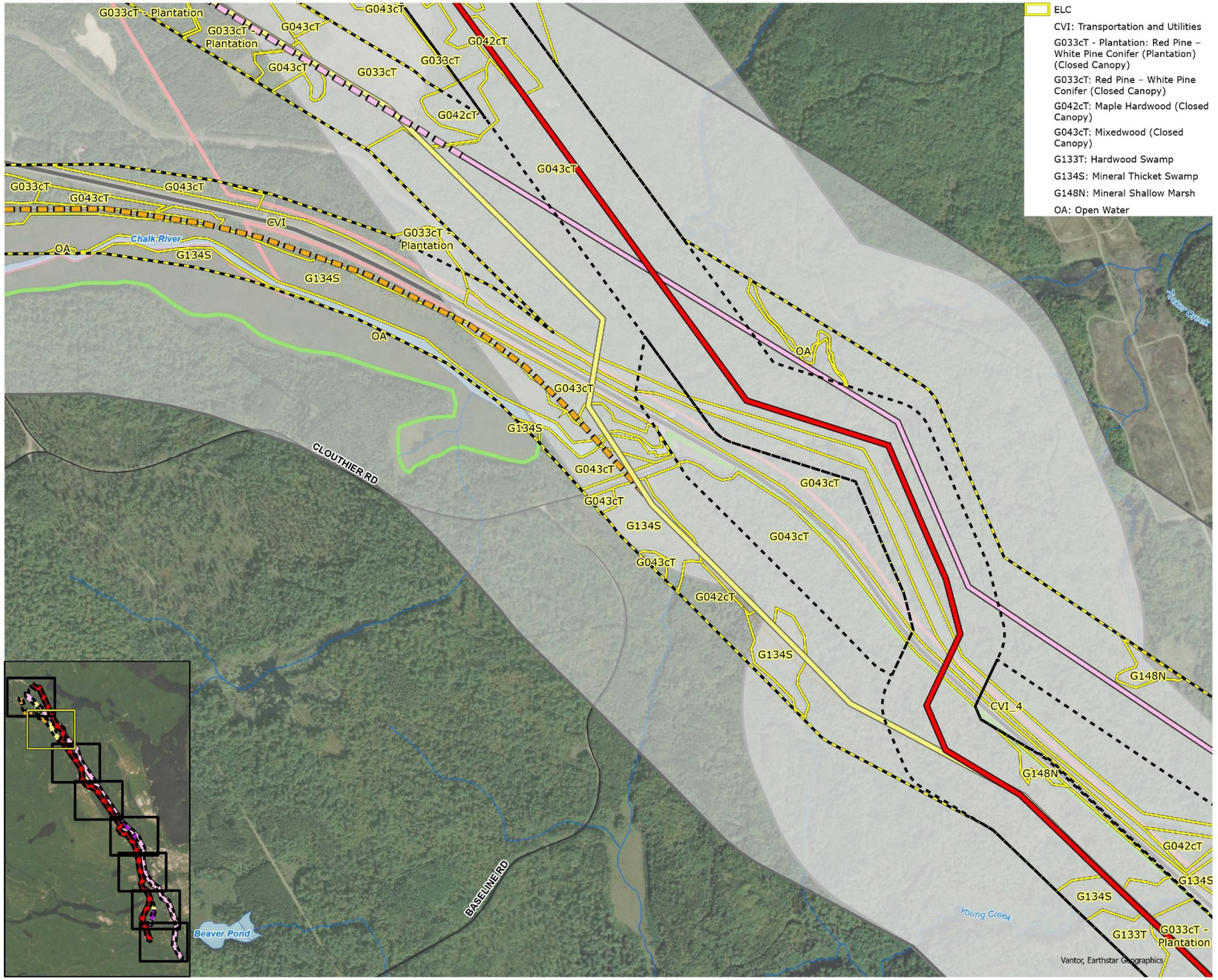
MAP DRAWING INFORMATION:
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MAP CREATED BY: -AEE
MAP CHECKED BY: -LW
MAP PROJECTION: NAD 1983 CSRS UTM Zone 18N

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- G043cT: Mixedwood (Closed Canopy)
- G133T: Hardwood Swamp
- G134S: Mineral Thicket Swamp
- G148N: Mineral Shallow Marsh
- OA: Open Water

HYDRO ONE NETWORKS INC.

D6 TRANSMISSION LINE RELOCATION PROJECT

ECOLOGICAL LAND CLASSIFICATION
FIGURE 5-6

- Route A
- Route A Alternate Start
- Route B East of Highway
- Refined Route Alternative A
- Project Study Area (120 m)
- Local Study Area (500 m)
- Regional Study Area
- Highway
- Road
- Waterbody
- Watercourse
- Abandoned Railway Track
- NRCan Petawawa National Research Forest
- Canadian Forces Base Petawawa

SCALE 1:10,000

0 100 200 400 Metres

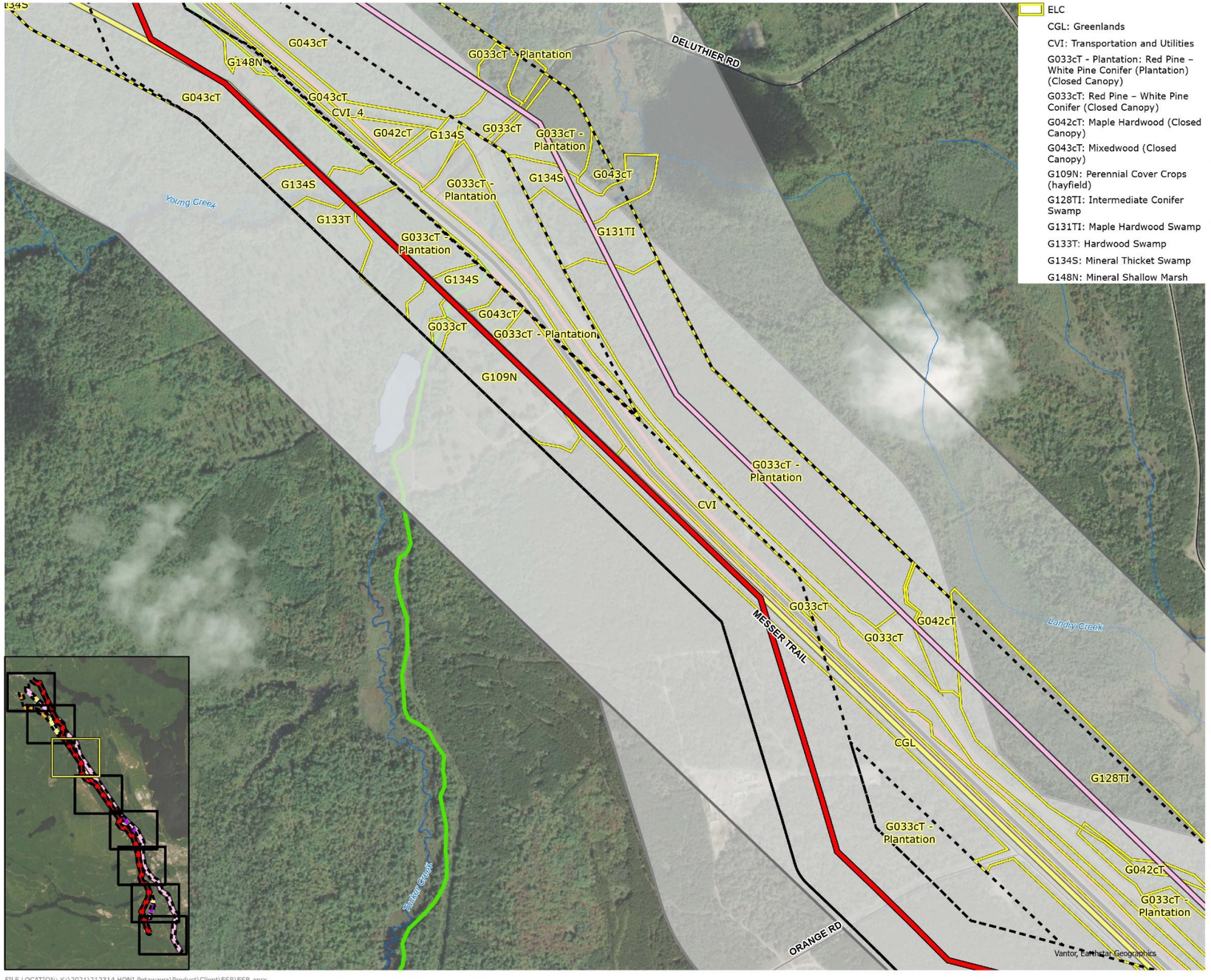
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ELC
CGL: Greenlands
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G043cT: Mixedwood (Closed Canopy)
G109N: Perennial Cover Crops (hayfield)
G128TI: Intermediate Conifer Swamp
G131TI: Maple Hardwood Swamp
G133T: Hardwood Swamp
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HYDRO ONE NETWORKS INC.

D6 TRANSMISSION LINE RELOCATION PROJECT

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- Canadian Forces Base Petawawa

SCALE 1:10,000

0 100 200 400 Metres

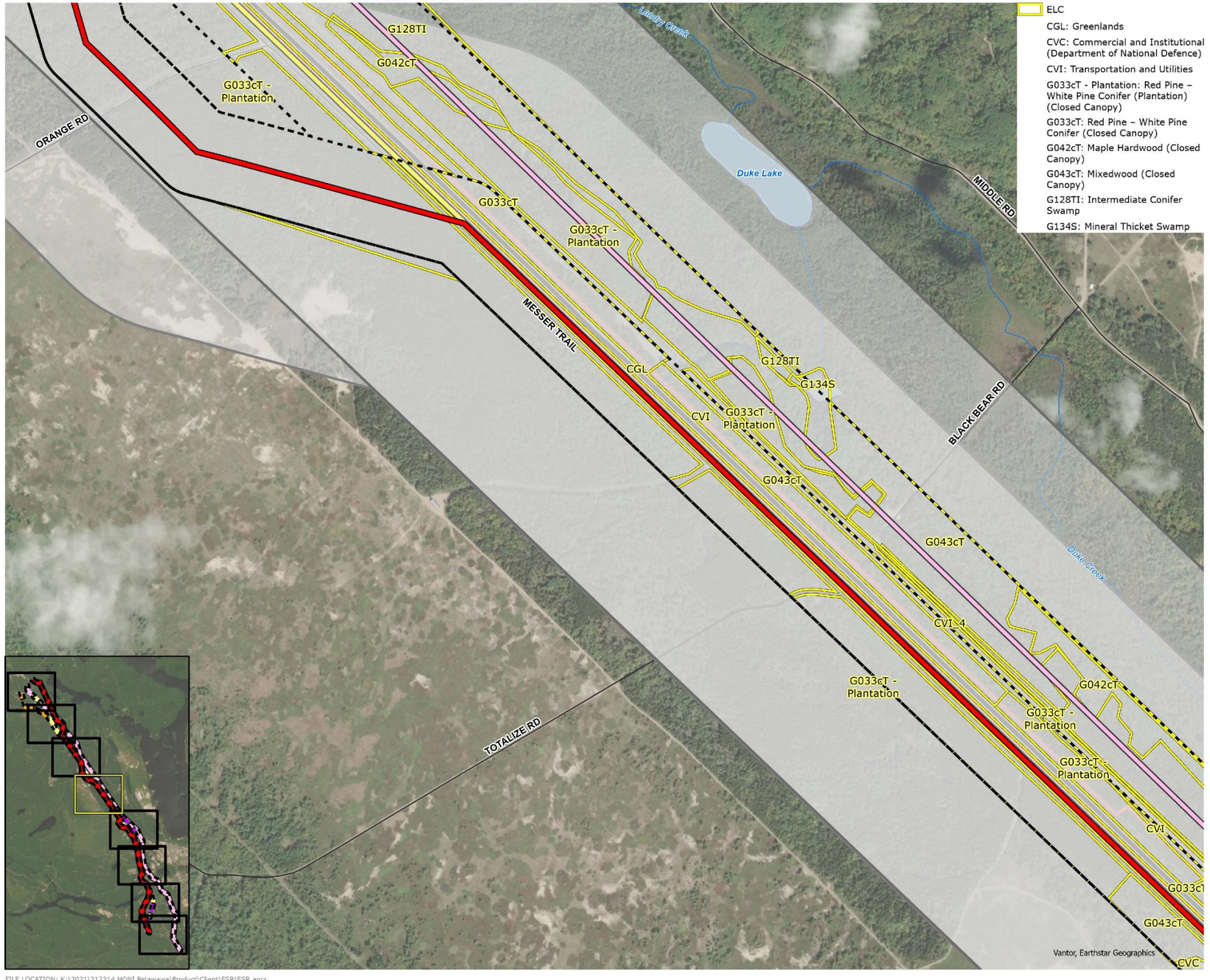
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D6 TRANSMISSION LINE RELOCATION PROJECT

ECOLOGICAL LAND CLASSIFICATION
FIGURE 5-6

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- Waterbody
- Watercourse
- Abandoned Railway Track
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SCALE 1:10,000

0 100 200 400 Metres

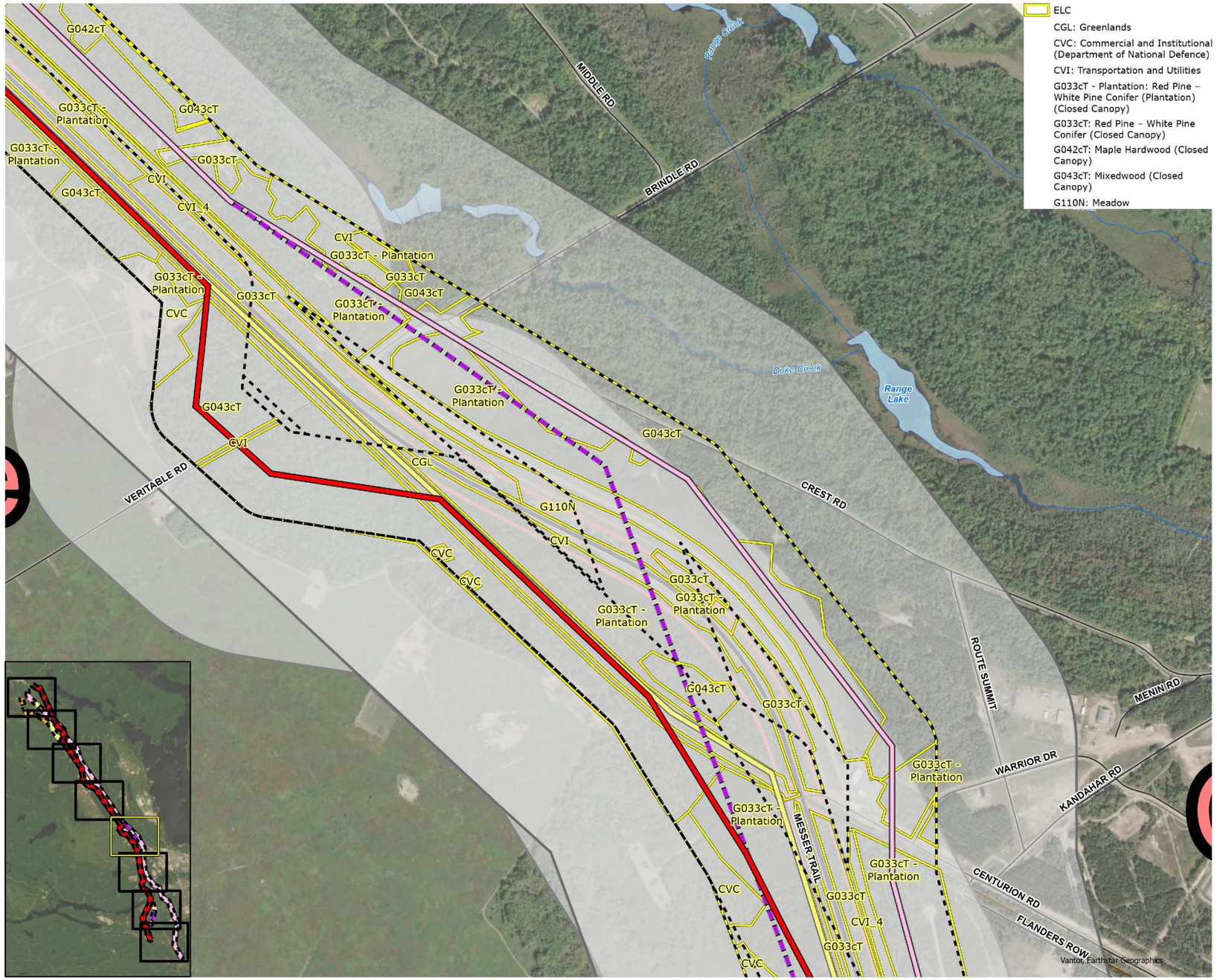
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G033cT: Red Pine – White Pine Conifer (Closed Canopy)
G042cT: Maple Hardwood (Closed Canopy)
G043cT: Mixedwood (Closed Canopy)
G110N: Meadow

HYDRO ONE NETWORKS INC.

D6 TRANSMISSION LINE RELOCATION PROJECT

ECOLOGICAL LAND CLASSIFICATION
FIGURE 5-6

- Route A
- Route A Alternate Start
- Variation B Highway Crossing Deviation
- Route B East of Highway
- Refined Route Alternative A
- Project Study Area (120 m)
- Local Study Area (500 m)
- Regional Study Area
- Highway
- Road
- Waterbody
- Watercourse
- Abandoned Railway Track
- Canadian Forces Base Petawawa

SCALE 1:10,000

0 100 200 400 Metres

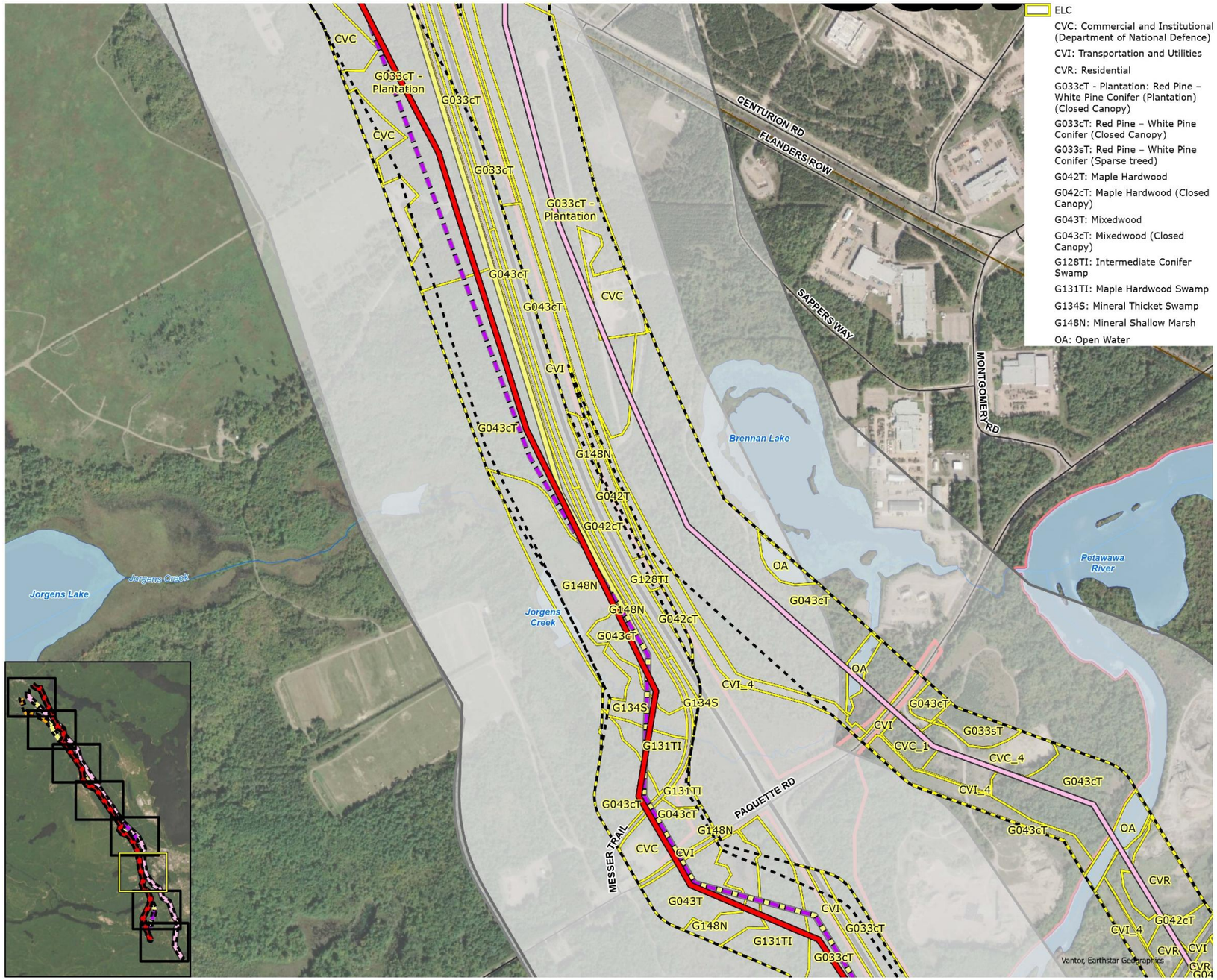
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CVR: Residential
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G033cT: Red Pine – White Pine Conifer (Closed Canopy)
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G042T: Maple Hardwood
G042cT: Maple Hardwood (Closed Canopy)
G043T: Mixedwood
G043cT: Mixedwood (Closed Canopy)
G128TI: Intermediate Conifer Swamp
G131TI: Maple Hardwood Swamp
G134S: Mineral Thicket Swamp
G148N: Mineral Shallow Marsh
OA: Open Water

HYDRO ONE NETWORKS INC.

D6 TRANSMISSION LINE RELOCATION PROJECT

ECOLOGICAL LAND CLASSIFICATION
FIGURE 5-6

- Route A
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- Route B East of Highway
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- Regional Study Area
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- Road
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- Watercourse
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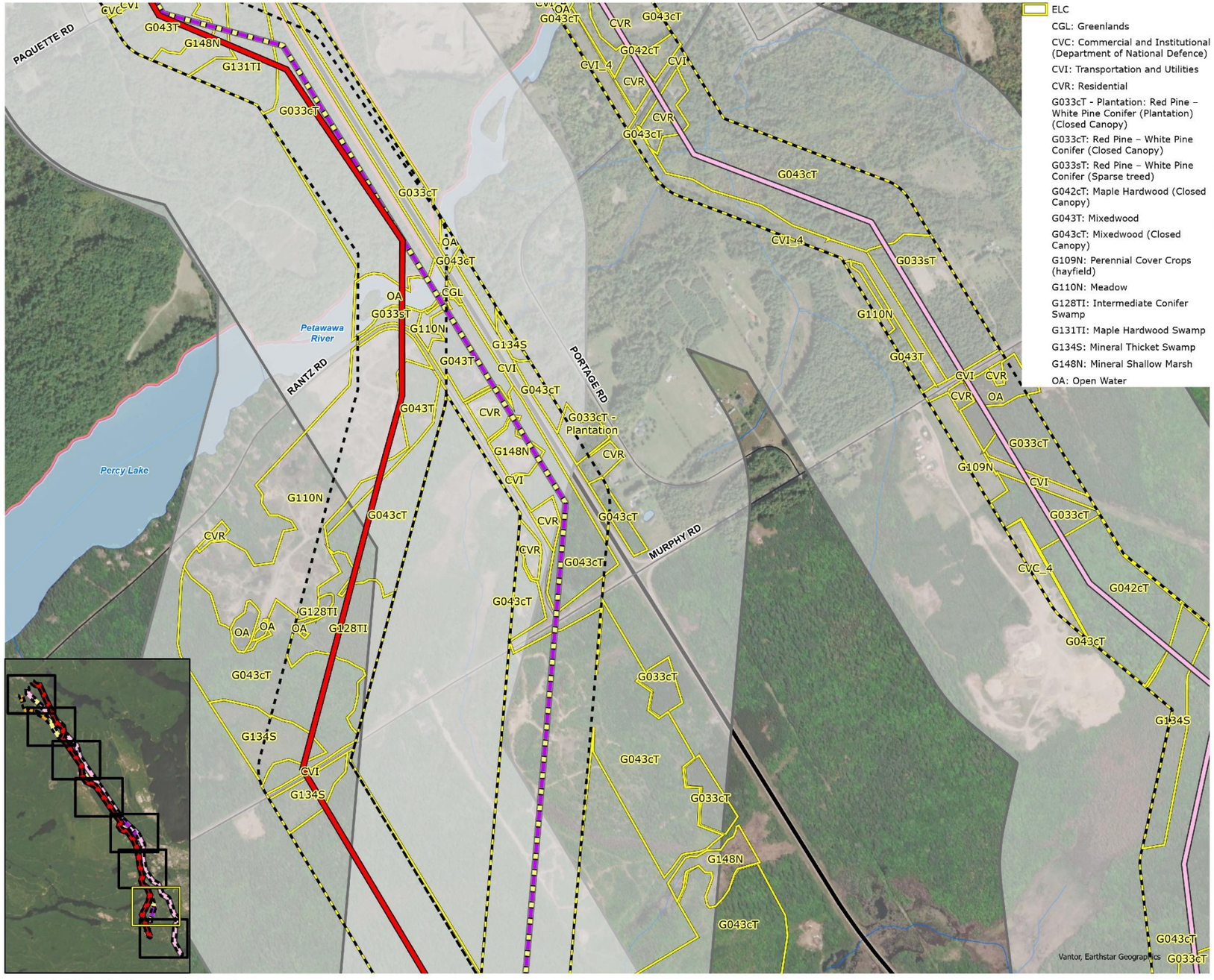
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0 100 200 400 Metres

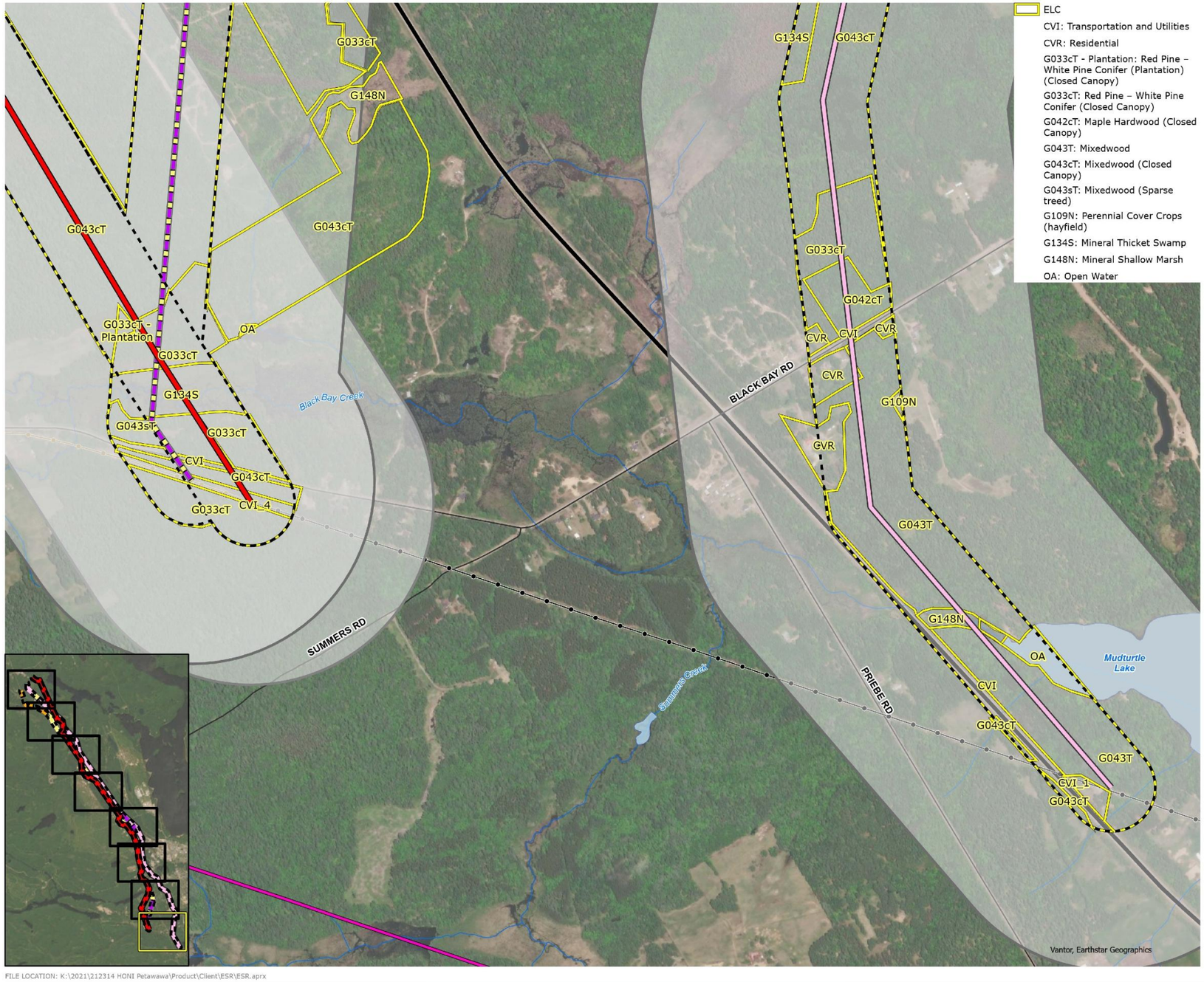
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D6 TRANSMISSION LINE RELOCATION PROJECT

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0 100 200 400 Metres

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5.7.6.2. Botanical Assessment

A three-season vegetation inventory was completed (i.e., spring, summer, fall). If encountered, the location and abundance of botanical Species of Conservation Concern (SCC) and/or SAR were documented and photographed, and UTM coordinates were recorded. No targeted species-specific plant surveys were completed.

138 vascular plant species were documented throughout the PSA. One species of moss, and one species of lichen were also recorded.

Of the 138 vascular plant species observed, 133 species were identified to the species level, while 5 were identified to genus level. Of the 133 species identified:

- None are SAR
- None are provincially rare (i.e., SRank of S1 to S3)
- 20 have a Co-efficient of Conservatism (CC) value of 7 or higher (typical of species that may be more susceptible to disturbance):
    - Big Bluestem (*Andropogon gerardii*)
    - Water Sedge (*Carex aquatilis var. aquatilis*)
    - Leatherleaf (*Chamaedaphne calyculata*)
    - Blue Bead-lily (*Clintonia borealis*)
    - Marsh Cinquefoil (*Comarum palustre*)
    - Sweet Fern (*Comptonia peregrina*)
    - Bunchberry (*Cornus canadensis*)
    - Woodland Horsetail (*Equisetum slyvaticum*)
    - Sheep Laurel (*Kalmia angustifolia*)
    - American Larch (*Larix laricina*)
    - Whorled Loosestrife (*Lysimachia quadrifolia*)
    - Interrupted Fern (*Osmunda claytoniana*)
    - Jack Pine (*Pinus banksiana*)
    - Red Pine (*Pinus resinosa*)
    - Common Labrador Tea (*Rhododendron groenlandicum*)
    - Balsam Willow (*Salix pyrifolia*)
    - American Mountain-ash (*Sorbus americana*)
    - Fraser's St. John's-wort (*Triadenum fraseri*)
    - Alpine Clubrush (*Trichophorum alpinum*)
    - Velvetleaf Blueberry (*Vaccinium myrtilloides*)

5.7.6.3. Non-Native and Invasive Plant Species

The Invasive Priority for Control represents the threat level to Ontario botanical communities, which provides additional information on the nature of the botanical communities within the PSA. The Invasive Priority Control values range between Category 1 (C1; Top priority) and Category 5 (C5; Potential Invasive Species) (Urban Forest Associates, 2014).

The categories of control are:

- Category 1 (C1) – widespread invasive species that are top priority for control.
- Category 2 (C2) – less widespread invasive species that are medium priority.
- Category 3 (C3) – local priority – spread locally or persist from initial introduction.
- Category 4 (C4) – species to watch that spread locally or regionally but have minimal effects on biodiversity.
- Category 5 (C5) – potentially invasive.

Table 5-7 details the priority invasive species that were observed within the PSA.

Table 5-7: Invasive Priority Control Category for Invasive Species Observed within the PSA

Scientific Name	Common Name
Category 1	
Lythrum salicaria	Purple Loosestrife
Melilotus albus	White Sweet-clover
Category 2	
Securigera varia	Common Crown-vetch
Category 3	
Bromus inermis	Awnless Brome
Cirsium arvense	Canada Thistle
Dactylis glomerata	Orchard Grass
Elymus repens	Creeping Wildrye
Hieracium aurantiacum	Orange Hawkweed
Hieracium caespitosum ssp. caespitosum	Yellow or Field Hawkweed
Pinus sylvestris	Scotch Pine
Robinia pseudoacacia	Black Locust
Typha angustifolia	Narrow-leaved Cattail

Scientific Name	Common Name
Category 4	
Daucus carota	Wild Carrot
Leucanthemum vulgare	Oxeye Daisy

5.7.6.4. Wetlands

There are no Provincially Significant Wetlands (PSWs) within the PSA. However, during background review, 52 MNR-mapped unevaluated wetlands were identified as potentially intersecting the PSA as shown on **Figure 5-7.**

5.7.6.5. Fish Habitat

The PSA is located in the Southern Ontario Fisheries Management Zone 15 (FMZ 15) for Parry Sound, Bancroft, Pembroke, and Algonquin Park (MNR, 2021b). The PSA intersects the Chalk River Tertiary Watershed, the Petawawa Point Watershed and Ile aux Alumettes Watershed of the Ottawa River, as well as the Black Bay Watershed of the Petawawa and Barron River.

Game fish species identified within FMZ 15 include Northern Pike (*Esox lucius),* Walleye (*Sander vitreus vitreus*), Lake Whitefish (*Coregonus clupeaformis*), Lake Sturgeon (*Acipenser fulvescens pop. 3*), Brown Trout (*Salmo trutta*), Largemouth Bass (*Micropterus salmoides*), Smallmouth Bass (*Micropterus dolomieu*), and Muskellunge (*Esox masquinongy)* (MNR, 2021b).

A search for provincial fish records was completed to identify fish known to be present within the provincially mapped aquatic line segment overlapping with each of the fish and fish habitat assessment stations identified in the PSA. Provincial fish data was available for eight of the ten stations. Provincial water line segment identifier PE-008-PET overlaps with two assessment stations identified in the PSA (RB-WC-07 and RA-WC-02_RB-WC-04). Both are along a tributary of the Petawawa River.

Table 5-8: Provincial Fish Records

Project Survey Station	Watercourse Name	Provincial Water Line Segment Identifier (Land Information Ontario (LIO), 2025)	Fish Species (LIO, 2025)
RB-WC-01	Tributary of Mudturtle Lake	PE-0002-PET	Northern Pike (*Esox lucius*), Pumpkinseed (*Lepomis gibbosus*), Rock Bass (*Ambloplites rupestris*), Smallmouth Bass (*Micropterus dolomieu*), Yellow Perch (*Perca flavescens*)
RB-WC-01_RB-WC-03	Black Bay Creek	None	No data
RB-WC-07 and RA-WC-02_RB-WC-04	Both are along a tributary of the Petawawa River	PE-0008-PET	Brassy Minnow (*Hybognathus hankinsoni*), Brook Stickleback (*Culaea inconstans*), Central Mudminnow (*Umbra limi*), Creek Chub (*Semotilus atromaculatus*), Northern Redbelly Dace (*Chrosomus eos*)
RA-WC-03_RB-WC-05	Petawawa River	PE-0005-PET	Blacknose Shiner (*Notropis heterolepis*), Brassy Minnow, Brown Bullhead (*Ameiurus nebulosus*), Central Mudminnow, Channel Catfish (*Ictalurus punctatus*), Creek Chub, Fallfish (*Semotilus corporalis*), Iowa Darter (*Etheostoma exile*), Johnny Darter (*Etheostoma nigrum*), Johnny Darter x Tesselated Darter (*Etheostoma nigrum* x *Etheostoma olmstedi*), Lake Sturgeon (*Acipenser fulvescens*), Largemouth Bass (*Micropterus salmoides*), Logperch (*Percina caprodes*), Longnose Dace (*Rhinichthys cataractae*), Mottled Sculpin (*Cottus bairdii*), Muskellunge (*Esox masquinongy*), Northern Pike, Rainbow Smelt (*Osmerus mordax*),

Project Survey Station	Watercourse Name	Provincial Water Line Segment Identifier (Land Information Ontario (LIO), 2025)	Fish Species (LIO, 2025)
			River Redhorse (*Moxostoma carinatum*), Rock Bass, Shorthead Redhorse (*Moxostoma macrolepidotum*), Smallmouth Bass, Walleye (*Sander vitreus*), White Sucker (*Catostomus commersonii*), Yellow Perch
RB-WC-09	Jorgens Creek	PE-0019-PET	Bluegill (*Lepomis macrochirus*), Brown Bullhead, Central Mudminnow, Fathead Minnow (*Pimephales promelas*), Iowa Darter, Mottled Sculpin, Northern Pike, Northern Redbelly Dace, Pumpkinseed, White Sucker, Yellow Perch
RA-WC-08	Chalk River	PE-0032-BUC	Bluegill, Brown Bullhead, Central Mudminnow, Fathead Minnow, Iowa Darter, Mottled Sculpin, Northern Pike, Northern Redbelly Dace, Pumpkinseed, White Sucker, Yellow Perch.
RA-WC-07	Young Creek	PE-0024-BUC	Bluntnose Minnow (*Pimephales notatus*), Brook Stickleback, Brook Trout (*Salvelinus fontinalis*), Central Mudminnow, Common Shiner (*Luxilus cornutus*), Creek Chub.
RA-WC-06	Tucker Creek	PE-0019-BUC	Blacknose Dace (*Rhinichthys atratulus*), Bluntnose Minnow, Brook Trout, Central Mudminnow, Common Shiner, Creek Chub, Largemouth Bass, Northern Redbelly Dace, Rainbow Smelt, Rainbow Trout (*Oncorhynchus mykiss*), Smallmouth Bass, Yellow Perch.
Unnamed	Unnamed (ephemeral)	None	No data

5.7.6.6. Woodlands

The majority of the PSA consists of forested habitat. Woodlands present within the PSA are located within the Ottawa Valley Forest Management Unit. A portion of the PSA overlaps with the PRF.

Coniferous forest is the dominant forest cover throughout the PSA; mixed forests and sparse treed habitat types were the next most common forest types mapped (MNR, 2014).

While woodlands were not specifically mapped within the County of Renfrew OP, Schedule B, Map 4 (Hazards) indicates that the Route Alternatives may cross some forest types considered high "Wildland Hazards." The Wildland Hazard designation is meant to identify forest types associated with the risk of high to extreme wildland fires; the risk assessment tools used to apply this designation were established by the MNR. The County mapping also indicates areas of pine requiring further evaluation to determine the level of hazard present.

Woodlands identified as part of the background review are shown on **Figure 5-7**.

5.7.6.7. Wildlife and Wildlife Habitat

SCC are defined as:

- Species listed as Special Concern, Threatened, or Endangered under *SARA*.
- Species that are provincially rare/tracked (i.e., have a Sub-national (provincial) Rank of S1 – Critically Imperiled, S2 – Imperiled, or S3 – Vulnerable).
- Species that are designated as Special Concern under COSSARO.

Eleven species of SCC were identified during background review, including three bird species, four plant species, and four insect species (all dragonflies). Breeding bird surveys were completed, during which none of the SCC bird species were recorded. Botanical surveys were completed, during which none of the SCC plant species were recorded.

Candidate SWH was identified for four of the insects (dragonfly species) based solely on the presence of watercourses of an appropriate size. Candidate SWH requires suitable substrate, current, and water quality. These characteristics were not recorded during field surveys. The assessment of candidate SWH is based solely on watercourse

size (small, medium, large). To confirm SWH for any of these species, they would need to be recorded in suitable habitat. Targeted dragonfly surveys were not completed.

The Ontario Significant Wildlife Habitat Criteria Schedules for Ecoregion 5E (MNR, 2015) and the Significant Wildlife Habitat Technical Guide (MNR, 2000) were reviewed to assess candidate SWH within the PSA.

The following three types of **confirmed SWH** occur within the PSA:

- Amphibian Breeding Habitat (woodland)
    - One location was identified based on the results of the amphibian call count surveys
- Colonial Nesting Bird Breeding Habitat (Ground)
    - This SWH type is mapped by the Province and is present in the PSA
- Deer Yarding Areas
    - This SWH type is mapped by the Province and is present in the PSA

Confirmed SWH within the PSA for the Preferred Route (Refined Route A) is shown on **Figure 6** of **Appendix B-4**.

The following **candidate SWH** have the potential to occur within the PSA:

- Raptor Wintering Areas
    - Candidate SWH requires a combination of meadow/field and forest/woodland ecosites greater than 20 ha in size.
- Bat Maternity Colonies
    - Candidate SWH is present in deciduous and mixed forest communities.
- Turtle Wintering Areas
    - Candidate SWH is present in permanent waterbodies, large wetlands, and deeper rivers or streams with a current.
- Reptile Hibernaculum
    - Candidate SWH may be found in any ecosite other than very wet ones.
- Turtle Nesting Areas
    - Candidate SWH for turtle nesting may be found in exposed sand and gravel areas that are located in open, sunny areas, and adjacent to wetlands, waterbodies and watercourses.

- Special Concern and Rare Wildlife Species:
    - Uhler's Sundragon (*Helocordulia uhleri*)
        - Candidate SWH is present in clean, rocky, small to medium-sized forest streams and creeks with sandy and/or gravelly substrate and a moderate current.
    - Broad-tailed Shadowdragon (*Neurocordulia michaeli*)
        - Candidate SWH is present in clean, clear, medium-to-large rivers with strong, moderate currents and a substrate of coarse cobbles and gravel.
    - Extra-striped Snaketail (*Ophiogomphus anomalus*)
        - Candidate SWH is present in clear, cold, fast-flowing, medium-to-large rivers with very high water quality and a substrate of sand, gravel, and cobble.
    - Harlequin Darner (*Gomphaeschna furcillata*)
        - Candidate SWH is present in conifer swamps, fens, and bogs (especially cedar, alder, or cypress swamps). Larvae require these quiet, acidic or neutral wetland pools for development.

Incidental observations of wildlife (including dens, tracks and scats, and other wildlife evidence) were recorded during the 2021, 2022, and 2025 field investigations.

5.7.6.8. Areas of Natural and Scientific Interest

There are no ANSIs mapped by the Province within the PSA.

5.7.6.9. Species at Risk

The federal *SARA* applies to species listed as Threatened or Endangered under Schedule 1 of the Act on federal lands and aquatic species, as well as migratory birds listed under both the *MBCA*, as well as Threatened or Endangered under Schedule 1 of the Act. Under *SARA*, species listed as Threatened 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 *SCA* came into force on March 30, 2026, replacing the *ESA* as Ontario's primary legislation for the protection and conservation of SAR. The *SCA* applies to species classified as Extirpated, Endangered, or Threatened and included on the PSO List under O. Reg. 60/26. It should be noted that protections have been removed for most bird and fish species under the *SCA* that are currently protected under federal legislation. The *SCA* provides protection for listed species and their habitat, with habitat defined based on the biological requirements of the species. For animal species, habitat includes a dwelling place, such as a den, nest, or other similar place, that is occupied or habitually occupied for breeding, rearing, staging, wintering, or hibernating, as well as the area immediately surrounding the dwelling place that is essential for these purposes. For vascular plants, habitat includes the critical root zone surrounding an individual, while for other species, habitat is defined as an area on which a member of the species directly depends to carry out its life processes. Unlike the *ESA*, the *SCA* does not distinguish between "General Habitat" and "Regulated Habitat"; however, regulations may limit the application of the habitat definition for specific species. The *SCA* also establishes a registration framework for prescribed activities that may adversely affect protected species or their habitat, with applicable mitigation and conservation measures prescribed through O. Reg 75/26 Registrable Activities. A desktop screening to identify potential SAR and SAR habitat within the PSA was completed in support of the natural environment field program. In total, 40 SAR were identified as having the potential to occur within the general vicinity of the PSA based on background review.

Based on the results of field investigations, three SAR are confirmed to be present: Eastern Whip-poor-will (*Caprimulgus vociferus),* Common Nighthawk (*Chordeiles minor*), and Monarch *(Danaus Plexippus)***.** During field investigations, potential habitat was identified for 20 SAR.

Descriptions of suitable habitat for the 3 SAR confirmed to be present and each of the 20 SAR with potential habitat are discussed below.

5.7.6.9.1. Eastern Whip-poor-will

Eastern Whip-poor-will is listed federally as Threatened. This species receives protection under the *SARA* and the *MBCA*.

Four male Eastern Whip-poor-will were recorded calling at survey station CREP 3 on June 14, 2022. An Eastern Whip-poor-will was recorded calling incidentally during amphibian calling surveys June 26, 2025 (AMPH #10). This station is located within the MTO ROW of Highway 17.

5.7.6.9.2. Common Nighthawk

Common Nighthawk is listed federally as Special Concern. This species does not receive protection under the *SARA,* but is protected under the *MBCA.*.

One Common Nighthawk was recorded at CREP 3 on June 14, 2022.

5.7.6.9.3. Monarch

Monarch is listed federally as Endangered. This species receives protection under *SARA*. Monarch was uplisted to Endangered under *SARA* in December 2023, from its previous listing as a species of Special Concern. A recovery strategy has not yet been prepared for this species, and therefore Critical Habitat has not been defined and cannot be mapped.

Monarch was recorded incidentally during ELC surveys completed September 27 and 28, 2021.

5.7.6.9.4. SAR Turtles

SAR turtles for which potential habitat is present include Wood Turtle, Eastern Musk Turtle, Midland Painted Turtle, Northern Map Turtle, and Snapping Turtle.

Targeted surveys for SAR turtles (e.g., visual encounter surveys) were not conducted. SAR turtles were not observed incidentally during the field surveys.

All five species have similar habitat requirements, with the exception of Wood Turtle which has a higher preference for terrestrial upland habitat. Suitable habitat includes wetlands, watercourses, ponds, and nearby terrestrial areas for nesting. Turtles will also cross terrestrial habitat, including roads and trails, while moving between aquatic and wetland features.

5.7.6.9.5. SAR Snakes

SAR snakes for which potential habitat is present include Eastern Ribbonsnake and Milksnake.

Targeted surveys for SAR snakes (e.g., visual encounter surveys, artificial cover boards) were not conducted. SAR snakes were not observed incidentally during the field surveys.

Eastern Ribbonsnake habitat includes sunny grassy areas with low dense vegetation near bodies of shallow permanent quiet water; wet meadows, grassy marshes or sphagnum bogs; borders of ponds, and lakes or streams. Milksnake habitat includes farmlands, meadows, hardwood or aspen stands; pine forest with brushy or woody cover; and river bottoms or bog woods.

5.7.6.9.6. SAR Bats

SAR bats for which potential habitat is present include Eastern Red Bat, Eastern Small-footed Myotis, Hoary Bat, Little Brown Myotis, Northern Myotis, Silver-haired Bat, and Tri-coloured Bat.

Targeted surveys for SAR bats and bat habitat (e.g., SAR acoustic call surveys, exit surveys, cavity tree assessments) were not conducted. SAR bats were not observed incidentally during the field surveys. However, indicators of bat habitat were observed, including potential maternity and day roost trees, as well as foraging habitat. No overwintering habitat was observed or is believed to be present within the PSA.

All seven species have similar habitat requirements, typically roosting in/within tree foliage, and foraging for insects over terrestrial, wetland, and aquatic habitat. Some species also roost in buildings and rock outcrops. Given the abundant woodland cover, and presence of wetlands, watercourses and waterbodies, there is a high likelihood that SAR bats are present in the PSA.

5.7.6.9.7. Lake Sturgeon

Targeted surveys for Lake Sturgeon were not completed. Lake Sturgeon was not observed incidentally during the field surveys.

There are occurrence records for Lake Sturgeon for the Petawawa River (MNR, 2024a). While the exact locations are not known, it is possible that Lake Sturgeon occasionally use the portion of the Petawawa River that overlaps with the PSA.

Lake Sturgeon habitat includes large rivers and lakes. They prefer relatively shallow areas (2 to 3 m) in lakes with moderate water flow. They spawn in fast-flowing sections of large rivers with a substrate of coarse gravel, cobble, or rubble. Spawning typically occurs downstream of natural or man-made barriers (e.g., dams).

5.7.6.9.8. River Redhorse

Targeted surveys for River Redhorse, a species of fish, were not completed. River Redhorse was not observed incidentally during the field surveys.

There are occurrence records of River Redhorse in the Ottawa River, which is outside of the PSA (COSSARO, 2016). Due to the proximity of the records, and the presence of potential suitable habitat, there is potential for this species to be present in the PSA.

River Redhorse habitat includes medium to large rivers with substantial flows and clear water. Adults typically occupy deeper, slower-moving pools, and runs outside of spawning season.

5.7.6.9.9. Yellow-banded Bumblebee

Targeted surveys for Yellow-banded Bumblebee were not completed (e.g., catch and release netting). Yellow-banded Bumblebee was not observed incidentally during the field surveys.

Yellow-banded Bumblebee is a habitat generalist. It forages on flowers in open habitats including meadows, riparian areas, open farmland, open parkland, and along roadways. They are ground-nesting bees that typically use pre-existing underground cavities such as in abandoned animal burrows. They will also nest in decomposing logs, and under clumps of grass and dense vegetation. Based on the results of field investigations, potential habitat is present in the PSA.

5.7.6.9.10. Transverse Ladybird Beetle

Targeted surveys for Transverse Ladybird Beetle were not completed (e.g., catch and release netting). Transverse Ladybird Beetle was not observed incidentally during the field surveys.

Transverse Ladybird Beetle is a habitat generalist, preferring open, vegetated areas, similar to Yellow-banded Bumblebee. The critical factor determining its habitat use is the availability of its primary food source – aphids and other small soft-bodied insects. The

beetle exhibits low site fidelity and is highly mobile, moving across different habitats seasonally to follow the fluctuating availability of aphids.

This species had not been observed in Ontario for approximately 30 years, until an observation was made in 2021 near Sault Ste. Marie (MNR, 2024a; iNaturalist, 2025).

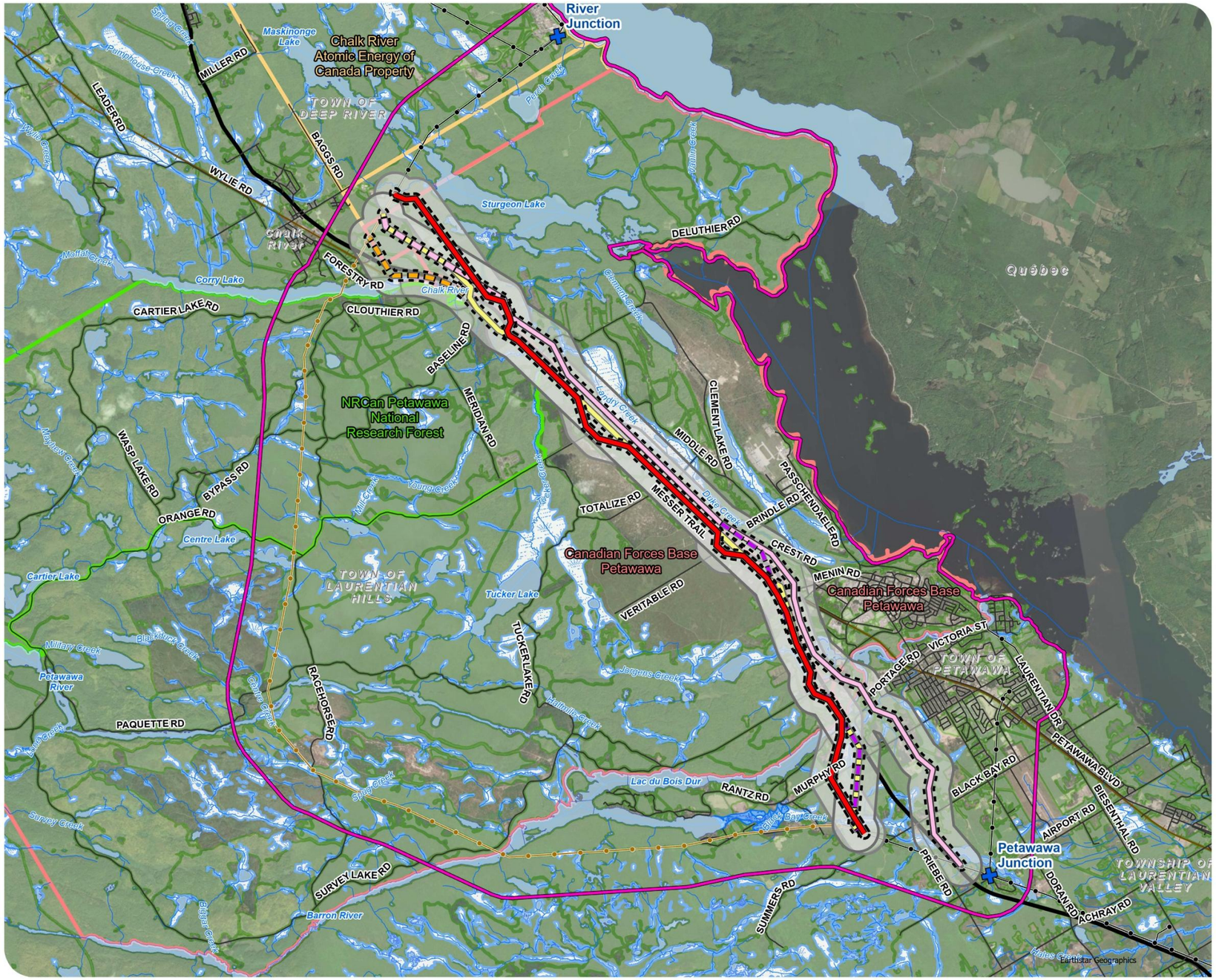
5.7.6.9.11. Hickorynut

Targeted surveys for Hickorynut, a mollusc, were not completed (e.g., visual-tactile search and excavation). Hickorynut was not observed incidentally during the field surveys.

Lake Sturgeon are considered hosts for hickorynut mollusc larvae. Occurrence records for Lake Sturgeon exist for the Petawawa River (MNR, 2024a) with potential within the PSA, which may provide habitat for this species as well.

Hickorynut live on the sandy beds in large, wide, deep rivers – usually more than 2 to 3 m deep – with a moderate to strong current.

Figure 5-7: Natural Heritage Features



HYDRO ONE NETWORKS INC.

D6 TRANSMISSION LINE RELOCATION PROJECT

NATURAL HERITAGE FEATURES

FIGURE 5-7

Route Alternatives
- Route A
- Route A Alternate Start
- Variation B Highway Crossing Deviation
- Route B East of Highway
- Refined Route Alternative A
- Project Study Area (120 m)
- Local Study Area (500 m)
- Regional Study Area

Base Data
- Transmission Line Junction
- Existing Transmission Line to Be Decommissioned
- Existing Transmission Line
- Highway
- Road
- Waterbody
- Watercourse
- Abandoned Railway Track
- NRCan Petawawa National Research Forest
- Canadian Forces Base Petawawa
- Chalk River Atomic Energy of Canada Property
- Woodlands (MNRF)
- Unevaluated Wetlands (MNRF)
- Provincially Significant Wetlands (MNRF)

SCALE 1:90,000

0 875 1,750 3,500 Metres

MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR

MAP CREATED BY: -AEE
MAP CHECKED BY: -LW
MAP PROJECTION: NAD 1983 CSRS UTM Zone 18N

DILLON CONSULTING

PROJECT: 21-2314
STATUS: DRAFT
DATE: 2026-02-03

FILE LOCATION: K:\2021\212314 HONI Petawawa\Product\Client\ESR\ESR.aprx

5.8. Recreational Resources

5.8.1. 2016 County of Renfrew Trails Strategy

The County Trails Strategy is intended to guide the County through the process of implementing and achieving a coordinated trails system for the benefit of the region. The study was accepted by County Council but not adopted or implemented; however, the Strategy identifies several existing trails and corridors which are within the LSA. This includes the Canadian Pacific (CP) Corridor and the PRF Trails.

The CP Corridor is an abandoned rail corridor that extends from outside of the Town of Smith Falls to the Town of Mattawa and goes through the LSA. The Strategy identifies the CP Corridor as a potential component to a linked trail system.

The PRF Trails are located along Highway 17 between CFB Petawawa and AECL and illustrate potential connections to a proposed CP corridor. The Strategy also indicates that the PRF is a hub for forest research and is open to both the public and forest professionals. Additionally, there are several loop trails and forest roads in association with the PRF. Part of the PRF intersects the LSA near Chalk River.

The Strategy also identifies an existing snowmobile trail network near Deep River, just northwest of the LSA (County of Renfrew, 2016).

5.8.2. The Ottawa Valley Recreational Trail Management Plan (2018)

The Ottawa Valley Recreational Trail Management Plan provides direction to achieve the goals and objectives of the Ottawa Valley Recreational Trail. The trail is approximately 300 km in length and runs between Smith Falls and Mattawa. The goal of the plan is to preserve the Ottawa Valley Recreation Trail as a destination trail and will be developed as a full multi-use trail. The corridor was jointly purchased by the County of Renfrew, the Township of Papineau-Cameron, and the County of Lanark.

The Management Plan identifies uses allowed along the corridor and access and by-passes for urban and rural areas, and is intended to guide development, user groups, and maintenance standards for the corridor.

Under Section 7.1.2 of the Management Plan, it recommends that each municipality review any proposals for use of the trail for utility corridors, including hydro (Ontario Trails Council, et. al., 2018).

5.9. 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 a large portion of the lands within the PSA encompassing federal lands owned by the DND as part of CFB Petawawa. Natural elements include the Petawawa River, woodlands, unevaluated wetlands, and other successional riparian vegetation adjacent to waterways. Existing vertical elements include traffic and lights standards, signage associated with Highway 17, as well as towers on the DND property. The majority of sensitive receptors are residences with wide views into the horizon. Many of the residential properties are surrounded by woodlots that offer localized privacy from adjacent visual elements.

6.0 Identification of the Preferred Route

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 relocation of approximately 25 km of the D6 transmission line between Chalk River JCT in the Township of Laurentian Hills and the Petawawa JCT in the Town of Petawawa. 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.

The Class EA process (**Section 1.4.1**) requires the identification of feasible and reasonable Route Alternatives that can be compared and evaluated based on the Natural Environment, Socio-economic Environment, Technical and Cost categories to determine a Preferred Route Alternative. Above and beyond this requirement, Hydro One has welcomed Indigenous communities to provide input to incorporate an Indigenous Culture, Values and Land Use category as part of the evaluation of alternatives for this Project. Quantitative and qualitative assessment of the potential effects associated with each of the Route Alternatives identified are considered.

In an effort to make the route selection process easier to understand and more transparent, a qualitative trade-offs approach was used that assigned relative preference rankings (least, moderately, or most preferred) to each alternative based on their anticipated effects after standard mitigation. These rankings were then aggregated and analyzed looking at the advantages and disadvantages of each route to identify the preferred alternative.

The evaluation of the Route Alternatives followed a four-step process:

1. Establish Need
2. Identify Route Alternatives
3. Define Criteria
4. Evaluate and Select Preferred Route

6.1. Step 1: Establish Need

As outlined in **Section 1.1** and **Section 1.3**, the relocation of the D6 transmission line was requested by DND because the existing transmission line corridor bisects active

areas of CFB Petawawa. The existing transmission line has also reached end of life and requires refurbishment, including wood pole structure and conductor replacements. Given that active military operations preclude refurbishment of the transmission line in a timely manner, Hydro One is proposing to relocate the transmission line.

6.2. Step 2: Identify Route Alternatives

The Class EA process requires identification of technically feasible and reasonable alternatives to address the need for the Project. As outlined in **Section 1.3**, Hydro One evaluated "alternatives to" the undertaking to determine the most appropriate approach to addressing the need for the undertaking. Through this evaluation it was determined that the relocation of the transmission line would best allow crews to safely perform refurbishment work on equipment nearing the end of its service life and minimize impacts to military activities at CFB Petawawa.

The Class EA process requires the identification and evaluation of technically feasible and reasonable "alternative methods", such as routes and/or sites, to implementing the selected "alternative to" the undertaking.

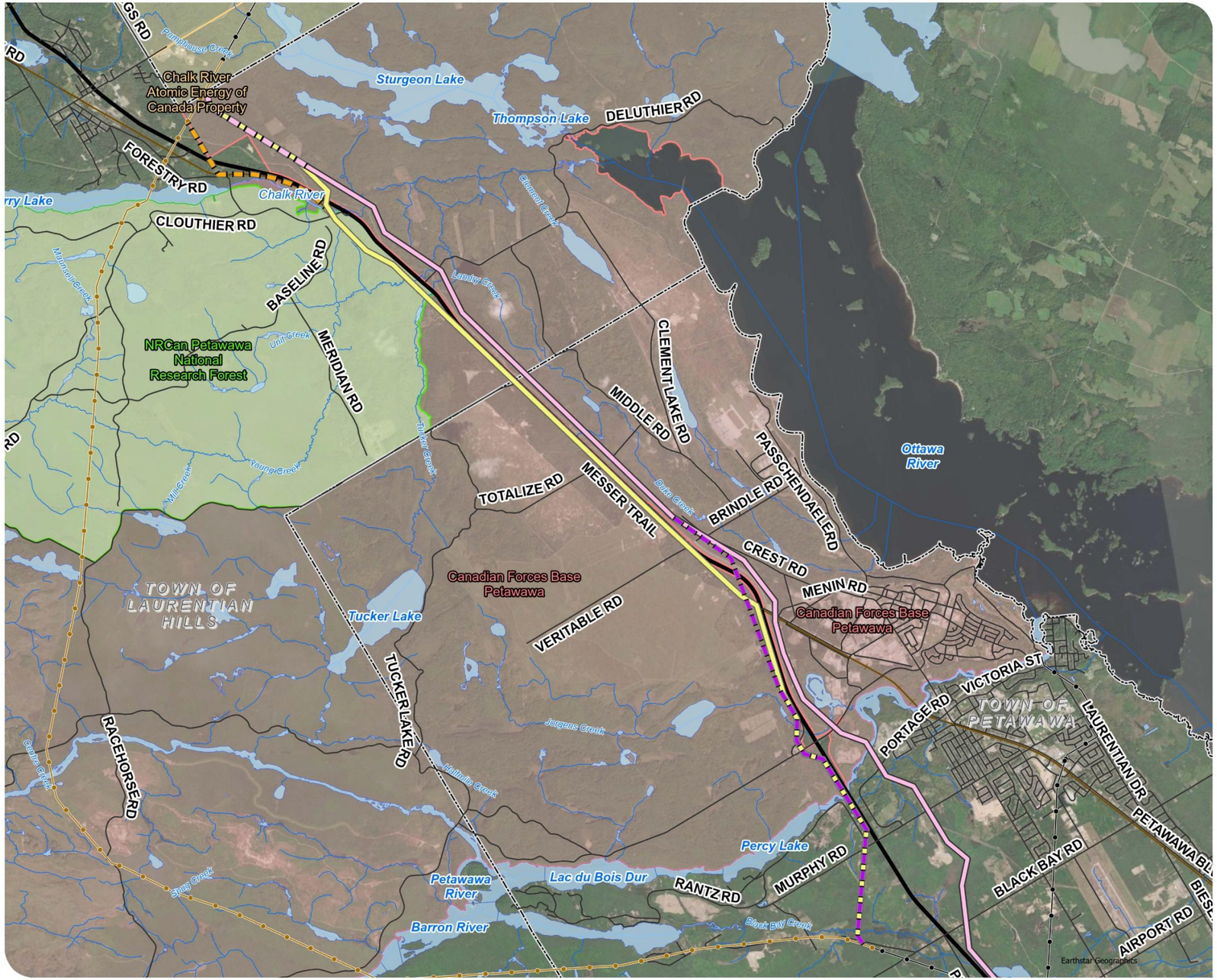
To identify the route alternatives, publicly available data was collected and used to develop a data catalog of available datasets. Using this information, the Hydro One Project team researched and mapped technical and environmental constraints and, where possible, identified potential opportunities to parallel linear infrastructure, such as existing transmission lines and highways. The Hydro One Project team also 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, two feasible and reasonable route alternatives and associated variations were identified to be carried forward to the Class EA process (**Figure 6-1**):

- **Route Alternative A**, shown in yellow in **Figure 6-1**, begins approximately 2 km southeast of the Highway 17 and Plant Road interchange in the Village of Chalk River connecting to the existing D6 transmission line within the AECL property and proceeds south, through CFB Petawawa and parallel to the west side of Highway 17 for approximately 18 km. Route Alternative A crosses the Petawawa River and continues south for approximately 700 m before diverting southwest for approximately 2.5 km where it then connects to the existing D6 transmission line.

  - **Route Alternative A - Alternative Start Point**, shown in orange in **Figure 6-1**, generally follows the same path as Route Alternative A, however, it begins approximately 700 m southwest of the start point of Route Alternative A and parallels the Ottawa Valley Railway before it joins the same route as Route Alternative A near the intersection of Clouthier Road and Highway 17.
- **Route Alternative B – East of Highway**, shown in pink in **Figure 6-1**, begins approximately 600 m southwest of the Route Alternative A start point connecting to the existing D6 transmission line on the border of the AECL and CFB Petawawa properties and proceeds south, through CFB Petawawa and parallel to the east side of Highway 17 and the abandoned rail corridor formerly used by CP Rail for approximately 17 km. Route Alternative B then diverts southeast from Highway 17 running parallel to the abandoned rail corridor, crosses the Petawawa River, and continues south for approximately 3.6 km before diverting southwest for approximately 2.6 km where it then connects to the existing D6 transmission line.
  - **Route Alternative B – Highway Crossing Deviation**, shown in purple in **Figure 6-1**, generally follows the same path as Route Alternative B, however, instead of diverting southeast from Highway 17 running parallel to the abandoned rail corridor, the route crosses Highway 17 and follows the same path as Route Alternative A to connect to the existing D6 transmission line to the southwest.

Note that following the receipt of feedback from COH #1 and communication with key agencies including MTO and the DND, additional refinement of Route Alternative A was required to avoid conflicts with future developments and expansion of Highway 17. The development of Refined Route Alternative A is further described in **Section 6.4.1**.

Figure 6-1: Route Alternatives



HYDRO ONE NETWORKS INC.

D6 TRANSMISSION LINE RELOCATION PROJECT

ROUTE ALTERNATIVES

FIGURE 6-1

Route Alternatives

- Route A
- Route A Alternate Start
- Route B East of Highway
- Variation B Highway Crossing Deviation

Base Data

- Transmission Line Junction
- Abandoned Railway Track
- NRCan Petawawa National Research Forest
- Canadian Forces Base Petawawa
- Chalk River Atomic Energy of Canada Property
- Highway
- Road
- Municipal Boundary
- Waterbody
- Watercourse
- Existing Transmission Line
- Existing Transmission Line to Be Decommissioned

SCALE 1:65,000

0 1 2 Kilometers

MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR

MAP CREATED BY: -PR
MAP CHECKED BY: -LW
MAP PROJECTION: NAD 1983 CSRS UTM Zone 18N

DILLON CONSULTING

PROJECT: 21-2314
STATUS: DRAFT
DATE: 2026-02-03

FILE LOCATION: K:\2021\212314 HONI Petawawa\Product\Client\ESR\ESR.aprx

6.3. Step 3: Define Criteria

Following the identification of Route Alternatives, the next step in the process was the establishment of criteria with associated quantitative and qualitative metrics.

Criteria for the Project were grouped into four key Evaluation Categories, as follows:



6.3.1. Natural Environment Category

The Natural Environment category comprises seven criteria, as shown in **Table 6-1**. The criteria measure the potential effects of the Route Alternatives on the Natural Environment features within the PSA and LSA.

Table 6-1: Natural Environment Category Criteria

Criteria	Measure
Forest Resources	Potential impacts to forests, including footprint effects, potential removal, disturbance and/or destruction.
Wetlands	Potential impacts to wetlands, including footprint effects, potential removal, disturbance and/or destruction.
Wildlife and Wildlife Habitat	Potential impacts to wildlife and wildlife habitat including footprint effects, potential removal, disturbance and/or destruction of habitat, potential disturbance to wildlife movement/habitat fragmentation.
Fish and Aquatic Features	Potential impacts to fish and aquatic features (i.e. watercourses and waterbodies).
Species at Risk & Species of Conservation Concern	Potential impacts to SAR, SCC, and their habitats.
Areas of Natural and Scientific Interest, Environmentally Sensitive Areas, or other Protected Areas	Potential impacts to ANSIs, Environmentally Sensitive Areas, or other Protected Areas, including footprint effects, potential removal, disturbance and/or destruction.
Natural Hazards	Crossings of floodplains and wetlands.

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

- Field surveys and GIS analysis and interpretation, including:
  - Fish and fish habitat assessments
  - ELC
  - Botanical assessment
  - Breeding bird surveys
  - Amphibian call count surveys
  - SAR habitat assessments
  - Information provided by third parties, including regulation areas and restoration areas
  - Publicly accessible LIO geographic datasets
  - Aerial photography

6.3.2. Socio-Economic Environment Category

The Socio-Economic Environment category consists of 12 criteria, as shown in **Table 6-2**. The criteria measure the potential effects of the Project on the socio-economic features within the LSA and RSA, which includes lands within the County of Renfrew, Town of Laurentian Hills, Town of Deep River, and Town of Petawawa.

Table 6-2: Socio-Economic Environment Category Criteria

Criteria	Measure
Archaeological Resources	Potential impacts to areas of archaeological potential, or archaeological resources.
Built Heritage Resources and Cultural Heritage Landscapes	Potential impacts to known or potential built heritage resources or cultural heritage landscapes.
Residential Buildings & Properties	Potential impacts to existing residential properties including proximity to existing homes or building effects.
Commercial/Industrial Buildings & Properties	Potential impacts to existing commercial or industrial properties, including proximity to commercial/industrial properties.
Institutional Buildings & Properties	Potential impacts to existing institutional buildings and properties (e.g., DND lands and AECL lands).
Future Development	Potential impacts to known planned developments.
Contaminated Sites	Potential impacts to existing contaminated sites (e.g., waste disposal sites).

Criteria	Measure
Alignment with Provincial Policy Statement[1]	Alignment with the Provincial Policy Statement.
Aggregate Resources	Potential impacts to Aggregate Extraction Areas.
Recreational Resources & Operations	Potential impacts to Recreational Resources (e.g., proximity to trails and/or disturbance to trail operations).
Parks & Conservation Reserves	Potential impacts to parks or Conservation Reserves.
Visual Appearance on Landscape	Appearance of transmission line on surrounding landscape (i.e., visually distracting and potential to be screened).

The following data sets were used to evaluate Socio-Economic Environment criteria:

- Statistics Canada census community profiles
- CLI
- Field data collection and GIS analysis and interpretation of ELC
- Municipal OPs and policies
- Ontario Provincial Policy Statement (2020)
- Publicly accessible LIO geographic datasets
- Aerial photography
- Hydro One's Archaeology Mapping Tool

6.3.3. Indigenous Culture, Values and Land Use Evaluation Category

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 is committed to continue to engage with the Indigenous communities to provide regular Project updates and actively identify and avoid geographically defined areas which support current or past traditional use for the harvesting of wildlife or fish, the harvesting of traditional plants, or use as sites of spiritual or cultural significance.

The Indigenous Culture, Values and Land Use evaluation category consists of one criterion, as shown in **Table 6-3**. As described in **Section 4.4**, Hydro One provided frequent opportunities for Indigenous communities to participate and to provide

[1] The comparative evaluation was conducted in 2022; accordingly, the analysis reflects alignment with the Provincial Policy Statement (2020).

comments and feedback in the route evaluation process and criteria. These opportunities included early notification and ongoing updates, invitations to attend information sessions or to host sessions in their respective community, participation in natural environment field studies, opportunities for early review and comment on relevant reports, and input into the decision matrix. Hydro One offered capacity funding to Indigenous communities to enable and support their participation in these opportunities, including the review of technical materials, attendance at meetings, and the preparation of community feedback.

Hydro One and Dillon Consulting have been working closely with interested communities and have included representatives from interested communities in environmental fieldwork. Indigenous communities will be provided opportunities to review the findings of future archaeological field surveys and AA reports. To date, AOO have been involved in environment field work, and representatives attended several fieldwork days along with project staff members. In addition, despite the pause of their field monitoring program, AOPFN was provided with all critical updates and field study reports to ensure they had the opportunity to review and comment. Indigenous communities will be invited to participate in future field studies including the Stage 2 AA.

No specific valued components or concerns were identified by Indigenous communities during the Class EA process.

Hydro One will continue to engage with communities to address expressed concerns throughout the lifecycle of the asset.

Table 6-3: Indigenous Culture, Values and Land Use Evaluation Category Criteria

Criteria	Measure
Traditional Land Use and Values	Potential impacts to cultural and traditional land use.

6.3.4. Technical and Cost Category

The technical and cost category consists of four criteria, as shown in **Table 6-4**. The criteria 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 6-4: Technical and Cost Category Criteria

Criteria	Measure
Line Length	Total length of each route or variation.
Crossings	Total number of crossings of watercourses, railways, and highways.
Constructability	Construction complexity including potential construction conflicts.
Impacted Property Parcels and Property Acquisition	Total number of property parcels traversed and the anticipated number of property acquisitions.

Data used to evaluate criteria in the Technical and Cost category included:

- Property parcel fabric
- Publicly accessible LIO geographic datasets
- Information provided by third parties including mapping data for gas pipeline and utility line information
- Engineering standards and best practices
- Preliminary engineering and system planning information on the route alternatives

6.4. Step 4: Evaluate and Select Preferred Route

Following identification of the evaluation criteria, the Project team completed a comparative evaluation matrix for the route alternatives. The analysis for each criterion included assigning preference rankings (least, moderately, or most preferred) to each alternative based on their estimated effects after standard mitigation. These rankings were then aggregated and analyzed looking at the advantages and disadvantages of each route to identify the preferred alternative. The results of the comparative evaluation are provided in **Table 6-5** through **Table 6-8**.

Rankings were defined as follows:

- Green – Most Advantageous or Fewest Potential Effects
- Yellow – Moderately Advantageous or Low to Moderate Potential Effects
- Orange – Minimally Advantageous or Moderate to High Potential Effects
- Red – Least Advantageous or Most Potential Effects

Table 6-5 – Natural Environment Comparative Evaluation Matrix (2022)

Evaluation Criteria	Measure	Evaluation Description			
		Route A	Route A - Alternative Start Point	Route B – East of Highway	Route B – Highway Crossing Deviation
Forest Resources	Potential impacts to forests, including footprint effects, potential removal, disturbance and/or destruction.	Affects approximately 18.31 ha of forest resources.	Affects approximately 13.92 ha of forest resources.	Affects approximately 50.37 ha of forest resources.	Affects approximately 46.18 ha of forest resources.
		Moderately Advantageous	Most Advantageous	Least Advantageous	Least Advantageous
Wetlands	Potential impacts to wetlands, including footprint effects, potential removal, disturbance and/or destruction.	Affects approximately 1.63 ha of unevaluated wetland.	Affects approximately 1.41 ha of unevaluated wetland.	Affects approximately 3.42 ha of unevaluated wetland.	Affects approximately 3.87 ha of unevaluated wetland.
		Moderately Advantageous	Most Advantageous	Least Advantageous	Least Advantageous
Wildlife and Wildlife Habitat	Potential impacts to wildlife and wildlife habitat including footprint effects, potential removal, disturbance and/ or destruction of habitat, potential disturbance to wildlife movement/habitat fragmentation.	Affects approximately 29.86 ha of habitat suitable for wildlife.	Affects approximately 30.73 ha of habitat suitable for wildlife.	Affects approximately 63.61 ha of habitat suitable for wildlife.	Affects approximately 58.76 ha of habitat suitable for wildlife.
		Most Advantageous	Most Advantageous	Least Advantageous	Least Advantageous
Fish and Aquatic Features	Potential impacts to fish and aquatic features (i.e. watercourses and waterbodies).	Crosses nine watercourses.	Crosses eight watercourses.	Crosses 10 watercourses.	Crosses eight watercourses.
		Moderately Advantageous	Most Advantageous	Least Advantageous	Most Advantageous
Species at Risk & Species of Conservation Concern	Potential impacts to SAR, SCC, and their habitats.	Affects approximately 29.86 ha of habitat suitable for SAR and SCC.	Affects approximately 30.65 ha of habitat suitable for SAR and SCC.	Affects approximately 63.45 ha of habitat suitable for SAR and SCC.	Affects approximately 58.93 ha of habitat suitable for SAR and SCC.
		Most Advantageous	Most Advantageous	Least Advantageous	Least Advantageous
Areas of Natural and Scientific Interest, Environmentally Sensitive Areas, or other Protected Areas	Potential impacts to ANSIs, Environmentally Sensitive Areas, or other Protected Areas, including footprint effects, potential removal, disturbance and/or destruction.	There are no Natural Heritage or ANSIs within the ROW of this route alternative. Impacts 7.20 ha PRF.	There are no Natural Heritage or ANSIs within the ROW of this route alternative. Impacts 7.19 ha PRF.	There are no Natural Heritage or ANSIs within the ROW of this route alternative.	There are no Natural Heritage or ANSIs within the ROW of this route alternative.
		Moderately Advantageous	Moderately Advantageous	Most Advantageous	Most Advantageous
Natural Hazards	Crossings of floodplains and wetlands.	Crosses nine watercourses with riparian natural hazards and crosses approximately 1.63 ha of wetlands.	Crosses eight watercourses with riparian natural hazards and approximately 1.41 ha of wetlands.	Crosses 10 watercourses with riparian natural hazards and approximately 3.42 ha of wetlands.	Crosses eight watercourses with riparian natural hazards and approximately 3.87 ha of wetlands.
		Moderately Advantageous	Most Advantageous	Least Advantageous	Least Advantageous
	Natural Environment Summary	Moderately Advantageous	Most Advantageous	Least Advantageous	Least Advantageous

Table 6-6 – Socio-Economic Comparative Evaluation Matrix (2022)

Evaluation Criteria	Measure	Evaluation Description			
		Route A	Route A - Alternative Start Point	Route B – East of Highway	Route B – Highway Crossing Deviation
Archaeological Resources	Potential impacts to areas of archaeological potential, or archaeological resources.	No archaeological sites are located within 300 m of the route. The nearest known archaeological site is approximately 1.1 km away. Approximately 4,500 m of the route crosses areas of high archaeological potential. The route parallels existing corridors but is partially located on previously undisturbed lands.	No archaeological sites are located within 300 m of the route. The nearest known archaeological site is approximately 1.2 km away. Approximately 4,100 m of the route crosses areas of high archaeological potential. Most of the route aligns with existing linear corridors that are previously disturbed.	No archaeological sites are located within 300 m the route. The nearest known archaeological site is approximately 1.2 km away. Approximately3,800 m of the route crosses areas of high archaeological potential. The route parallels existing corridors but is partially located on previously undisturbed lands.	No archaeological sites are located within 300 m of the route. The nearest known archaeological site is approximately 1.2 km away. Approximately 4,800 m of the route crosses areas of high archaeological potential. The route parallels existing corridors but is partially located on previously undisturbed lands.
		Minimally Advantageous	Moderately Advantageous	Minimally Advantageous	Least Advantageous
Built Heritage Resources and Cultural Heritage Landscapes	Potential impacts to known or potential built heritage resources or cultural heritage landscapes.	All routes are located in the Ottawa River Canadian Heritage River watershed. Route alternatives do not cross known properties or landscapes with cultural heritage resource potential. It is unknown if Indigenous knowledge indicates whether any structures or sites that are important in defining the character of the area are present.	All routes are located in the Ottawa River Canadian Heritage River watershed. Route alternatives do not cross known properties or landscapes with cultural heritage resource potential. It is unknown if Indigenous knowledge indicates whether any structures or sites that are important in defining the character of the area are present.	All routes are located in the Ottawa River Canadian Heritage River watershed. Route alternatives do not cross known properties or landscapes with cultural heritage resource potential. It is unknown if Indigenous knowledge indicates whether any structures or sites that are important in defining the character of the area are present.	All routes are located in the Ottawa River Canadian Heritage River watershed. Route alternatives do not cross known properties or landscapes with cultural heritage resource potential. It is unknown if Indigenous knowledge indicates whether any structures or sites that are important in defining the character of the area are present.
		Most Advantageous	Most Advantageous	Most Advantageous	Most Advantageous
Residential Buildings & Properties	Potential impacts to existing residential properties including proximity to existing homes or building effects.	Crosses approximately 6.47 ha of vacant properties and 0.11 ha of occupied parcels with residences.	Crosses approximately 6.85 ha of vacant properties and 0.27 ha of occupied parcels with residences.	Crosses approximately 6.76 ha of vacant properties and 8.22 ha of occupied parcels with residences.	Crosses approximately 6.10 ha of vacant properties and 0.11 ha of occupied parcels with residences.
		Moderately Advantageous	Minimally Advantageous	Least Advantageous	Most Advantageous
Commercial/Industrial Buildings & Properties	Potential impacts to existing commercial or industrial properties, including proximity to commercial/industrial properties.	Does not cross any existing commercial or industrial properties.	Does not cross any existing commercial or industrial properties.	Crosses approximately 0.64 ha of commercial or industrial properties.	Does not cross any existing commercial or industrial properties.
		Most Advantageous	Most Advantageous	Moderately Advantageous	Most Advantageous

Evaluation Criteria	Measure	Evaluation Description			
		Route A	Route A - Alternative Start Point	Route B – East of Highway	Route B – Highway Crossing Deviation
Institutional Buildings & Properties	Potential impacts to existing institutional buildings and properties (e.g., DND lands and AECL lands).	Affects approximately 1.6 ha of property for the Chalk River Laboratory Site owned and operated by AECL. Affects approximately 42.42 ha of DND lands. The route intersects with approximately 7.20 ha of the PRF.	Affects approximately 38.49 ha of DND lands. The route intersects with approximately 7.19 ha of the PRF.	Affects approximately 0.22 ha of property for the Chalk River Laboratory Site owned and operated by AECL. Affects approximately 51.56 ha of DND lands.	Affects approximately 0.22 ha of property for the Chalk River Laboratory Site owned and operated by AECL. Affects approximately 52.38 ha of DND lands.
		Moderately Advantageous	Most Advantageous	Minimally Advantageous	Least Advantageous
Future Development	Potential impacts to known planned developments.	No known planned developments are located along the route. An MTO cloverleaf interchange is planned at Murphy Road/Highway 17, adjacent to the route ROW.	No known planned developments are located along the route. Three lots near the south end of the route are planned for single residential housing in the future. An MTO cloverleaf interchange is planned at Murphy Road/Highway 17, adjacent to the route ROW.	The route is adjacent to or overlaps two planned housing subdivisions.	No known planned developments are located along the route. Three lots near the south end of the route are planned for single residential housing in the future. An MTO cloverleaf interchange is planned at Murphy Road/Highway 17, adjacent to the route ROW.
		Most Advantageous	Moderately Advantageous	Least Advantageous	Moderately Advantageous
Contaminated Sites	Potential impacts to existing contaminated sites (e.g., waste disposal sites).	The ROW crosses approximately 4.3 ha of a property formerly used for waste disposal.	No active or inactive waste disposal sites. Adjacent to Buchanan Landfill, an inactive waste disposal site.	No active or inactive waste disposal sites.	No active or inactive waste disposal sites.
		Least Advantageous	Moderately Advantageous	Most Advantageous	Moderately Advantageous

Evaluation Criteria	Measure	Evaluation Description			
		Route A	Route A - Alternative Start Point	Route B – East of Highway	Route B – Highway Crossing Deviation
Alignment with Provincial Policy Statement	Alignment with the Provincial Policy Statement.	Repurposes an existing transmission line corridor and co-locates with linear infrastructure (i.e., Highway 17 and natural gas line) for the majority of the proposed route. Deviates from linear infrastructure at its northern extent by approximately 2.9 km and at its southern extent by approximately 2.5 km.	Repurposes an existing transmission line corridor and co-locates with linear infrastructure (i.e., Highway 17) for the majority of the proposed route. Deviates from linear infrastructure at its northern extent by approximately 1.06 km and at its southern extent by approximately 2.05 km.	Co-locates with linear infrastructure (i.e., Highway 17, existing transmission line and natural gas line) for the majority of the proposed route. Deviates from linear infrastructure at its northern extent by approximately 3.67 km and at its southern extent by approximately 2.3 km.	Co-locates with linear infrastructure (i.e., Highway 17, existing transmission line and natural gas line) for the majority of the proposed route. Deviates from linear infrastructure at its northern extent by approximately 3.67 km and at its southern extent by approximately 2.05 km.
		Moderately Advantageous	Most Advantageous	Least Advantageous	Minimally Advantageous
Aggregate Resources	Potential impacts to Aggregate Extraction Areas.	Routing at the south end may affect the amount of aggregate that can be extracted from an existing licensed gravel pit.	Does not cross an active aggregate site.	Crosses approximately 0.84 ha of an active aggregate site and is adjacent to an active aggregate site.	Does not cross an active aggregate site.
		Moderately Advantageous	Most Advantageous	Least Advantageous	Most Advantageous
Recreational Resources & Operations	Potential impacts to Recreational Resources (e.g., proximity to trails and/or disturbance to trail operations).	There are several trails within the Study Area, including the PRF Trail, Ottawa Valley Recreation Trail, Algonquin Trail, the Ontario Federation of Snowmobile Club trails and Ontario Trail Network. The route affects approximately 0.097 km of trails.	There are several trails within the Study Area, including the PRF Trail, Ottawa Valley Recreation Trail, Algonquin Trail, the Ontario Federation of Snowmobile Club trails and Ontario Trail Network. The route affects approximately 1.69 km of trails.	There are several trails within the Study Area, including the PRF Trail, Ottawa Valley Recreation Trail, Algonquin Trail, the Ontario Federation of Snowmobile Club trails and Ontario Trail Network. The route affects approximately 0.096 km of trails. This route alternative does not affect the PRF Trail.	There are several trails within the Study Area, including the PRF Trail, Ottawa Valley Recreation Trail, Algonquin Trail, the Ontario Federation of Snowmobile Club trails and Ontario Trail Network. This route affects approximately 0.078 km of trails. This route alternative does not affect the PRF Trail.
		Most Advantageous	Least Advantageous	Most Advantageous	Most Advantageous
Parks & Conservation Reserves	Potential impacts to parks or Conservation Reserves.	No parks or conservation reserves within ROW.	No parks or conservation reserves within ROW.	No parks or conservation reserves within ROW.	No parks or conservation reserves within ROW.
		Most Advantageous	Most Advantageous	Most Advantageous	Most Advantageous
Visual Appearance on Landscape	Appearance of transmission line on surrounding landscape (i.e., visually distracting and potential to be screened).	Moderate-Low impact on surrounding landscape.	Moderate-High impact on surrounding landscape.	Highest impact on surrounding landscape.	Lowest impact on surrounding landscape.
		Moderately Advantageous	Minimally Advantageous	Least Advantageous	Most Advantageous
Socio-Economic Summary		Moderately Advantageous	Moderately Advantageous	Least Advantageous	Most Advantageous

Table 6-7 – Indigenous Culture, Values, and Land Use Comparative Evaluation Matrix (2022)

Evaluation Criteria	Measure	Evaluation Description			
		Route A	Route A - Alternative Start Point	Route B – East of Highway	Route B – Highway Crossing Deviation
Traditional Land Use and Values	Potential impacts to cultural and traditional land use.	No input from Indigenous communities on the evaluation criteria or route alternatives was received.	No input from Indigenous communities on the evaluation criteria or route alternatives was received.	No input from Indigenous communities on the evaluation criteria or route alternatives was received.	No input from Indigenous communities on the evaluation criteria or route alternatives was received.
		N/A	N/A	N/A	N/A
Indigenous Culture, Values, and Land Use Summary		N/A	N/A	N/A	N/A

Table 6-8 – Technical and Cost Comparative Evaluation Matrix (2022)

Evaluation Criteria	Measure	Evaluation Description			
		Route A	Route A - Alternative Start Point	Route B – East of Highway	Route B – Highway Crossing Deviation
Line Length	Total length of each route or variation.	21.1 km	20.1 km	22.3 km	20.2 km
		Moderately Advantageous	Most Advantageous	Least Advantageous	Most Advantageous
Crossings	Total number of crossings of watercourses, railways, and highways.	Crosses nine watercourses, roadways (16 times), Highway 17 (1 time), and abandoned railway track (1 time), and parallels the abandoned railway track.	Crosses eight watercourses, roadways (16 times), Highway 17 (1 time), and abandoned railway track (1 time), and parallels the abandoned railway track.	Crosses 10 watercourses, and roadways (10 times), and abandoned railway track (1 time). Does not cross Highway 17.	Crosses eight watercourses, roadways (11 times), and Highway 17 (1 time), and abandoned railway track (1 time).
		Least Advantageous	Least Advantageous	Most Advantageous	Minimally Advantageous
Constructability	Construction complexity including potential construction conflicts.	Transmission line alternatives are similarly constructable.	Transmission line alternatives are similarly constructable.	Transmission line alternatives are similarly constructable.	Transmission line alternatives are similarly constructable.
		Most Advantageous	Most Advantageous	Most Advantageous	Most Advantageous
Impacted Property Parcels and Property Acquisition	Total number of property parcels traversed and the anticipated number of property acquisitions.	Affects approximately six private property parcels.	Affects approximately 15 private property parcels.	Affects approximately 11 private property parcels and requires 2 property acquisitions.	Affects approximately 10 private property parcels and requires 2 property acquisitions.
		Most Advantageous	Least Advantageous	Minimally Advantageous	Minimally Advantageous
Technical and Cost Summary		Most Advantageous	Least Advantageous	Moderately Advantageous	Most Advantageous

6.4.1. Technically Preferred Route Alternative

The comparative evaluation results indicated that Route Alternative A was the Preferred Route alternative when considering all evaluation categories. It achieves the most balanced outcome by minimizing overall environmental impacts, particularly on wildlife and wildlife habitat and SAR. It traverses the fewest private property parcels and involves fewer potential disruptions to planned developments and DND lands. Route Alternative A does not cross any existing commercial or industrial properties and has low potential effects on residential buildings and properties. While Route A does involve a greater number of watercourse crossings and crosses Highway 17, its overall benefits in terms of environmental protection and socio-economic considerations make it the preferred option.

The Route Alternatives were presented at the first COH held in November 2021 and shared with Indigenous communities. Feedback from the first COH and communication with key agencies indicated that additional refinement of Route A was needed to avoid conflicts with future developments and the expansion of Highway 17, particularly planned interchanges. Hydro One worked closely with the DND and MTO on routing constraints and considerations. Following these engagement activities, Hydro One refined the proposed routing and reinitiated the Class EA process for the Project.

Refined Route Alternative A generally follows the same path as Route Alternative A, however, it begins approximately 550 m northeast of the start point of Route Alternative A and heads southwest and crosses Highway 17 approximately 775 m south of the Clouthier Road and Highway 17 intersection to join the Route Alternative A. Refined Route Alternative A has some eastward deviations at the intersection of Orange Road and Highway 17, as well as Veritable Road and Highway 17, with an alternate crossing of the Petawawa River approximately 100 m to the west. It then diverts southwest to Murphy Road, traveling south for 2.6 km, and then connects to the existing D6 transmission line south of Black Bay Road (**Figure 6-2**).

Hydro One carried out a constraint analysis to determine a viable route for approximately 3 km of the transmission line south of the Petawawa River, which considered the following:

- Highway setback and interchange requirements.

- Petawawa River crossing width, which is limited to 250 m or less due to technical considerations such as conductor size, maximum sag, and relative height of structures.
- Existing homes and known building lot locations, which were avoided to the extent possible.
- Parallelling lot lines and avoiding bisecting properties to maintain maximum usable area of properties.
- Avoidance of wetlands where possible.
- Avoidance of watercourse crossings where possible.
- Shorter overall line length.
- Less vegetation and natural habitat removal was preferred.

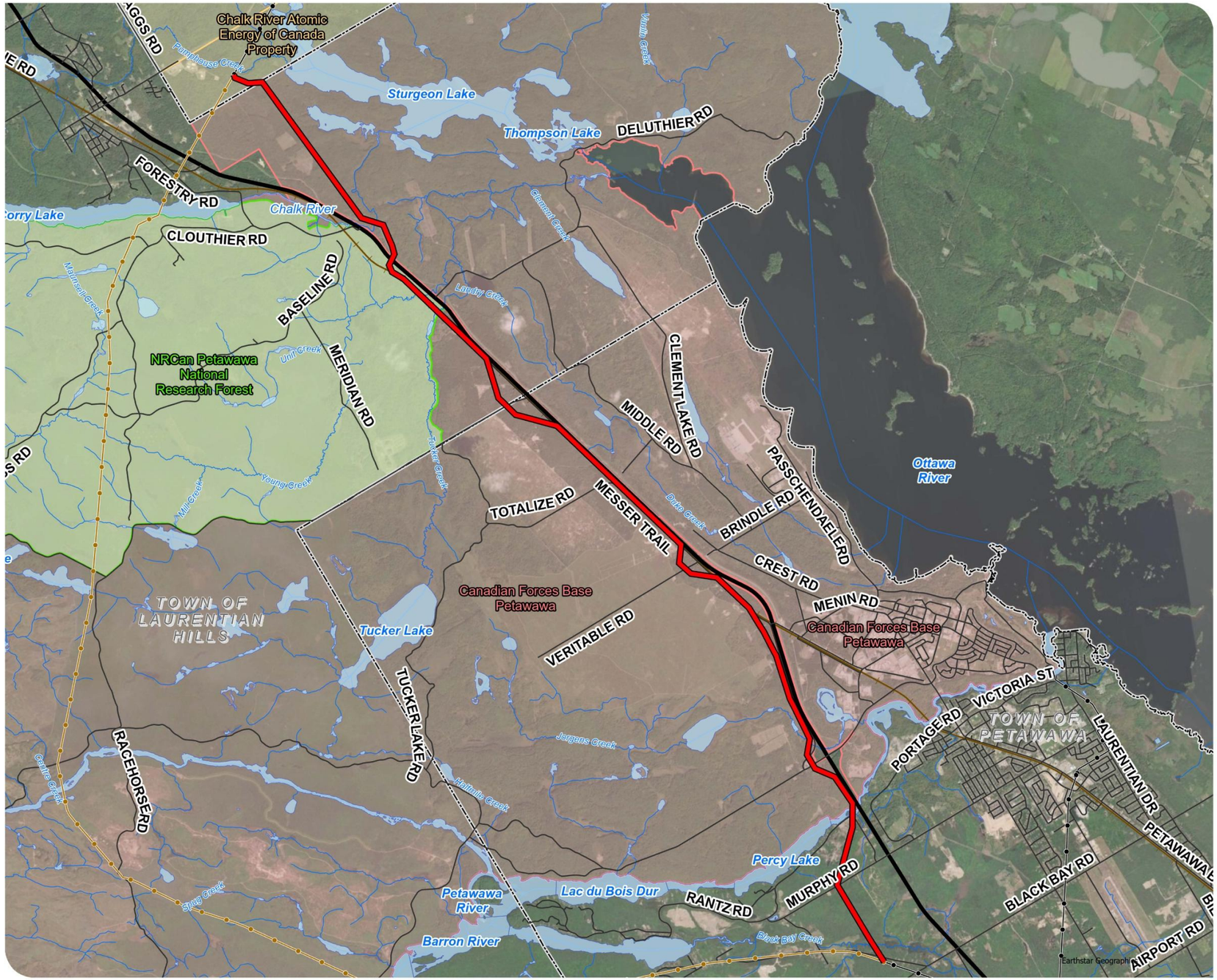
From the south side of the Petawawa River to Murphy Road, building a corridor which parallels Highway 17 south was not viable due to the limited space between Rantz Road and Highway 17, multiple private properties located between these two roadways, the location of the connecting point of Rantz Road and Murphy Road and MTO setback requirements.

South of Murphy Road to the existing corridor, notable constraints include a closed municipal waste site south of Murphy Road beside Highway 17, several existing residences, wetlands, the intersection of Black Bay Road and Highway 17, and Priebe Road.

Several iterations were explored to originate the route alternative presented at COH #2 on April 8, 2025. The route was chosen to avoid interactions with future highway development, existing homes and building lots that were known at the time, minimize interference with wetlands, and limit line length and vegetation removal.

Following COH #2, Hydro One received feedback from property owners and area residents on the location of Refined Route Alternative A south of the Petawawa River. A minor route amendment was proposed which Hydro One accepted after review and additional Light Detection and Ranging (LiDAR) surveys to ensure the proposal was constructible, met technical requirements, and was environmentally acceptable. The proposal was incorporated into the final Technically Preferred Route Alternative described in this report.

Figure 6-2: Technically Preferred Route Alternative



HYDRO ONE NETWORKS INC.

D6 TRANSMISSION LINE RELOCATION PROJECT

TECHNICALLY PREFERRED ROUTE ALTERNATIVE
FIGURE 6-2

- Refined Route Alternative A

Base Data

- Transmission Line Junction
- Existing Transmission Line to Be Decommissioned
- Existing Transmission Line
- Highway
- Road
- Municipal Boundary
- Waterbody
- Watercourse
- Abandoned Railway Track
- NRCan Petawawa National Research Forest
- Canadian Forces Base Petawawa
- Chalk River Atomic Energy of Canada Property

SCALE 1:65,000

0 1 2 Kilometers

MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR

MAP CREATED BY: -PR
MAP CHECKED BY: -LW
MAP PROJECTION: NAD 1983 CSRS UTM Zone 18N

DILLON CONSULTING

PROJECT: 21-2314
STATUS: DRAFT
DATE: 2026-02-03

FILE LOCATION: K:\2021\212314 HONI Petawawa\Product\Client\ESR\ESR.aprx

7.0 Potential Environmental Effects and Mitigation Measures

This section describes the potential environmental effects and mitigation measures associated with both the short-term (construction) and long-term (operation/maintenance) activities of the proposed Project. The assessment of potential environmental effects for the proposed Project considered the baseline information on the environmental features presented in **Section 5.0**.

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:

1. Avoidance of sensitive areas, where practical.
2. 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.
3. 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.
4. Proactive communication with landowners, businesses, and interested community members on the proposed Project timelines and construction areas.
5. Proactive communication with Indigenous communities, government agencies, stakeholders, and interest groups regarding the proposed Project.
6. Implementation of conventional, proven mitigation measures during construction consistent with the criteria set out in Appendix E of the Class EA for Transmission Facilities (Hydro One, 2024), and in accordance with applicable legislative requirements.

7. 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 remaining 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. Project Activities and Effect Pathways

This section provides an overview of physical activities associated with the proposed Project that are relevant to the identification of potential effects.

As outlined in **Section 2.2**, construction 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.
- Clean up and site restoration.

The pathways to potential effects on the environment are associated largely with site preparation (clearing and grading), earthworks (including construction of access roads and installation of structure foundations), and operation of vehicles and heavy equipment.

Maintenance activities will involve vegetation management within the transmission line ROW and regular maintenance of the transmission structures and lines. Pathways to effects during maintenance are associated with clearing, earthworks, and the operation of vehicles and heavy equipment.

7.1.1. Site Preparation

Site preparation, including activities such as removal of vegetation, daylighting of buried utilities, and construction of temporary access roads would be required in support of transmission tower installation.

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., watercourses, wetlands, woodlands) to the extent feasible.

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. Site preparation would also result in the temporary accumulation of cleared vegetation with the potential for mobilization of organic debris and its transport to sensitive features (e.g., watercourses, wetlands) during runoff events.

7.1.2. Earthworks

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 sensitive features (e.g., watercourses, wetlands). 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 soils 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.

7.1.3. Access Roads

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 sensitive features (e.g., watercourses, wetlands), or use existing crossings, where practical.

7.2. Agricultural Resources

The land base within the PSA does not contain any agricultural land uses and CLI soil types within the PSA are low capability (Class 4-7; OMAFA, 2023). As a result, no potential effects to agricultural resources have been identified for the proposed Project.

7.3. Forestry Resources

The PSA falls within the Ottawa Valley Forest Management Unit; however, the PSA is located within areas of federal and private tenure and outside of harvest operation areas (MNR, 2021a). Therefore, no potential effects to forestry resources have been identified for the proposed Project.

7.4. Cultural Heritage Resources

7.4.1. Built Heritage Resources and Cultural Heritage Landscapes

As noted in **Section 5.3.1**, the CHRECPIA identified one property of potential Cultural Heritage Value or Interest along the Preferred Route's LSA. The CHRECPIA for the Project indicated that a CHER only be undertaken if the barn and adjacent building fall within the vibration zone of influence for the Project, or if other destructive alterations are anticipated. The CHRECPIA stated that if the identified buildings are outside of the vibration zone of influence and no other destructive alterations are anticipated, no further reporting is required as this time (Matrix Heritage, 2025). Impacts to the property are not anticipated as the buildings are located approximately 135 m from the PSA and are not within the maximum anticipated vibration zone of influence of 50 m. As such, no potential effects on BHRs or CHLs are anticipated.

Should the potential for impacts to the property be identified during detailed design, any further required cultural heritage assessments will be completed, as necessary, prior to ground disturbing activities.

7.4.2. Archaeological Resources

As noted in **Section 5.3.1**, a Stage 1 AA was completed by Matrix Heritage (2026a; PIF #P378-0120-2025). The Stage 1 AA determined that the PSA for the Preferred Route contains land with potential to support archaeological resources.

A Stage 2 AA is required for the technically Preferred Route for all lands exhibiting archaeological potential that have not been previously assessed. If the Stage 2 AA identifies the need for further assessment on provincially regulated lands in the PSA, a Stage 3 or Stage 4 AA will occur as required and as outlined in the "Standards and Guidelines for Consultant Archaeologists" (MCM, 2011). Copies of all provincial archaeological assessment reports will be filed for acceptance with MCM. Areas of low-archaeological potential along the Preferred Route will need to be photo-documented as part of the Stage 2 assessment.

For federal lands within the PSA, an AOA was conducted by Matrix Heritage (2026b; Report:MH1372-REP.02.R1) which concluded that the lands contain both pre-contact Indigenous and historical Euro-Canadian archaeological potential and recommended an AIA be conducted by a consultant archaeologist. On DND lands with remaining archaeological potential, an AIA will be conducted where structure locations, access roads, and/or work pads are planned and there is no remaining danger of unexploded explosive ordinances.

Hydro One commits to completing a Stage 2 AA and AIA for these identified areas as early as possible during detailed design and prior to ground disturbing activities, or with acceptable avoidance and mitigation measures applied.

Should previously undocumented (i.e., unknown or deeply buried) archaeological resources be discovered on provincially regulated lands, 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.

7.5. Municipal Land Use Planning and Communities

The PSA of the Preferred Route is located within the County of Renfrew, Town of Laurentian Hills, Town of Deep River, and the Town of Petawawa. An overview of the applicable provincial and municipal land use policies is provided in **Section 4.4.1**. Generally, provincial policy and municipal OPs include support towards energy transmission and investment in 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 PSA crosses multiple land use designations including Special Purpose, Residential, Farm, Unassessed, and Vacant (see **Figure 5-2**).

7.5.1. Business Operations

Project activities are not located within any areas of existing commercial or industrial operations. Therefore, no potential effects to business operations have been identified for the proposed Project.

7.5.2. Existing and Future Land Use Designations and Potential Future Development

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 and the DND to consider means of accommodating potential future development during the design of the transmission line, within the property fabric traversed by the transmission line ROW.

Net effects to existing and future land use designations and potential future development are predicted to be not significant.

7.5.3. Roads, Traffic, and Transportation

The Project is located within a predominantly rural landscape, with local and county roads serving as potential access routes in the PSA. Highway 17, which is under the jurisdiction of MTO, passes through the PSA from north to south and serves as the primary access route. The Preferred Route runs parallel to Highway 17 for most of its length. 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 the construction of new access roads may require temporary road closures, rolling closures, land occupancy, and/or detours. 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, short-term effects on roads and traffic cannot be avoided. To mitigate potential impacts from construction activities, Hydro One will:

- 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 and the MTO 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, MTO, and the DND, as necessary.
- Construction haul routes and schedules will be shared with local municipalities, MTO, and the DND 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.
- 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.
- Traffic control officers or flag persons will be assigned to assist with construction entry/exit, as necessary.

The Preferred Route runs parallel to and crosses an abandoned rail corridor that was formerly used by CP Rail and is now owned by DND. Hydro One and/or the construction contractor will coordinate closely with the applicable authorities to complete any necessary permits, licenses and approvals.

As noted in **Section 4.4.2**, the Pembroke & Area Airport is located approximately 2 km east of the Preferred Route. Hydro One and/or the construction contractor will coordinate closely with Transport Canada to complete the necessary permits, licenses and approvals. Based on the scope of work, a Transport Canada Aeronautical Assessment is anticipated to be required. Potential disruption to airports and airstrips is not anticipated.

With the implementation of the mitigation measures described above, the proposed Project is not anticipated to have a long-term net effect on roads, traffic, and transportation. Net effects are predicted to be not significant.

7.5.4. Mud and Construction Debris

Construction activities may result in the accumulation of mud and construction debris on and adjacent to 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. Net effects are predicted to be not significant.

7.5.5. Electric and Magnetic Fields

EMFs 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. Hydro One looks to Health Canada, the World Health Organization, and the International Commission on Non-Ionizing Radiation Protection (ICNIRP) for guidance on EMF and Hydro One's 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 C**.

EMF values from the proposed Project are expected to remain significantly below the ICNIRP exposure guidelines and no net effects are anticipated.

7.5.6. CFB Petawawa

A large portion of the lands that the PSA encompasses are federal lands owned by the DND as part of CFB Petawawa. Construction activities have the potential to temporarily disrupt activities within active areas of CFB Petawawa. Specifically, as noted in **Section 7.5.3**, the stringing of conductors across roads and the construction of new access roads may require temporary road closures, rolling closures, land occupancy, and/or detours. The presence of heavy equipment may also impact access to certain areas of CFB Petawawa. Effects on active areas within CFB Petawawa are expected to be temporary and transient. Hydro One will work closely with the DND to ensure potential effects are minimized to the extent possible. No net effects on CFB Petawawa are anticipated.

7.6. First Nations Lands and Interests

As indicated in **Section 4.5**, there are no First Nation reserve lands within 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 is committed to continuing to engage with the Indigenous communities to provide regular Project updates and actively identify and avoid geographically defined areas that support current or past traditional use for the harvesting of wildlife or fish, the harvesting of traditional plants, or the use of sites of spiritual or cultural significance. Similarly, Indigenous communities will be provided opportunities to review the findings of archaeological field surveys and assessment reports. No potential effects on First Nations lands and interests are anticipated.

7.7. Mineral Resources

As discussed in **Section 4.6**, there are many aggregate extraction areas within the RSA. However, none of the active aggregate sites are within the PSA. Further, there are no petroleum wells, no abandoned mines, and no active mineral exploration areas

located in the PSA. Therefore, no potential effects to mineral resources have been identified for the proposed Project.

7.8. Natural Environment Resources

7.8.1. Physical Environment

7.8.1.1. Physiography and Geology

The existing physiography, topography, and geology is not expected to be affected by Project construction or operations. Therefore, no potential effects on physiography and geology have been identified for the proposed Project.

7.8.1.2. Spills

During construction and maintenance activities, there is the possibility for accidental spills to occur resulting in the release of hazardous materials, such as oil or fuel from construction/maintenance vehicles and equipment.

The probability of a spill affecting the environment is considered unlikely, as there are numerous preventative and mitigation measures that Hydro One will implement to reduce the risk of spills and to minimize adverse effects in the 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.
- 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., watercourses, wetlands) while utilizing emergency spill trays. Fuelling operations will require the operator to visually observe the fuelling process at all times. In the event refueling is required outside of designated areas, additional containment or other mitigation and spill prevention measures will be utilized.

Should a reportable spill occur, the MECP Spills Action Centre (SAC) will be notified of all reportable spills and containment and remediation measures undertaken.

With the implementation of the preventative and mitigation measures described above, as well a required remediation measures in the event a spill does occur, potential spills from the proposed Project are not anticipated to have a long-term net effect. Net effects are predicted to be not significant.

7.8.1.3. Waste Generation

Construction waste will be generated by the proposed Project and will 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) will 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 Spills [**Section 7.8.1.2**] above). Any temporary waste on-site will require the use of secured containers in designated locations away from sensitive areas and will be removed from the site on an ongoing basis.

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 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. Net effects are anticipated to be not significant.

7.8.1.4. 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 from 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.

No net effects related to excess materials have been identified for the proposed Project.

7.8.2. Atmospheric Environment

7.8.2.1. Climate Change

The proposed Project is not a power generation project, and its operation would not emit GHGs. 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 GHG emissions directly related to the construction and maintenance of the proposed Project would be minimal.

Hydro One has pledged to be net zero by 2050 with a target to reduce its operations driven GHG emissions by 30% by 2030. At the organizational level, Hydro One has committed to a 50% conversion rate of light duty vehicles to EV or hybrid by 2025, as well as modifying driving behaviors, including reducing non-productive idling.

Climate change could result in an increased risk of a range of hazards in the PSA, including increasing the frequency and intensity of extreme heat, heavy precipitation and flooding, winter precipitation, extreme wind, and wildfire. In the County of Renfrew, average temperatures, extreme heat, and precipitation are projected to increase through the mid-century (ClimateData.ca, 2025) while snow cover, seasonal snow accumulation, and ice cover on rivers and lakes are projected to decrease across Ontario (Bush and Lemmen, 2019). Further, in Canada, an increase in the frequency and intensity of extreme hot temperatures and greater regional dryness will increase conditions that could increase wildfire risk (Bush & Lemmen, 2019).

The climate hazards discussed above could impact the Project infrastructure and activities. Increasing extreme temperatures could cause many effects including damage to the transmission line, power outages, and health and safety hazards. Additionally, increased temperatures could impact the functioning and efficiency of transformers and transmission lines. Prolonged extreme heat could cause degradation of foundation structures, especially when paired with increasing precipitation and moisture. Impacts from extreme wind could include damage to transmission lines, leading to power outages. Extreme wind could be particularly impactful when coupled with a freezing rain event, due to ice loads. Winter precipitation, specifically freezing rain, can cause ice build up on transmission line infrastructure, causing damage to infrastructure, resulting in power outages. Increased wildfire conditions could increase exposure of transmission line infrastructure to wildfire related damage. Extreme heat from wildfires could damage and reduce efficiency of transformers and transmission lines and could damage transmission line infrastructure.

Hydro One operates vital infrastructure that must be resilient to the impacts of climate change. Hydro One, as a licensed transmitter, complies with North American Electric Reliability Corporation (NERC) Reliability Standards to ensure the reliability and security of the transmission system. While having inherent resiliency built into current design standards, Hydro One continues to improve the resilience of its operations by focusing on the planning, designing, constructing, operating and maintaining of its infrastructure considering the future climate projections, as well as the sensitivity and vulnerabilities discussed above. No net effects related to GHGs or climate change are anticipated.

7.8.2.2. 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 nearby 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.
- 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.

With the implementation of mitigation measures, net effects of the proposed Project on air quality are predicted to be not significant.

7.8.2.3. Noise and Vibration

Construction and maintenance activities have the potential to affect ambient noise and vibration levels. Further, the operation of the transmission line has the potential to affect noise levels during inclement weather events (i.e., wet weather, such as rain and snow). These effects, in turn, may create temporary nuisance or disturbance effects for nearby residents, land users, and wildlife.

All work is expected to be completed using common construction methods and in general accordance with the MECP's Publication NPC-115 "Construction Equipment", Publication NPC-118 "Motorized Conveyances," and Publication NPC-119 "Blasting". The noise and vibration associated with construction would most likely be a result of activities, such as general site grading, foundation work, construction traffic, tower assemblies and erection, stringing, and potentially implosive splicing. Each of the aforementioned activities requires the use of various pieces of heavy equipment, such as bulldozers, front-end loaders, 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 (e.g., homes, schools, places of worship, livestock operations, natural features, etc.) will be identified in the Project EMP, for consideration when planning work such as implosive splicing locations.
- Where geotechnical conditions and engineering requirements allow, foundation types (such as helical piles) that minimize vibrations during construction will be considered.
- 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.
- 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 conform to local noise control by-laws (Town of Petawawa By-Law No. 368/06). Noise By-Law exemptions will be sought if work is required outside of the hours specified in applicable noise bylaws (e.g., overnight).

Noise sources and vibration levels from maintenance activities after construction would be variable, are expected to be 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 may be elevated; however, the noise would be temporary and relatively minimal in the context of the natural, ambient sounds from the weather event itself.

With the implementation of mitigation measures, the proposed Project is not anticipated to have long-term net effects on noise and vibration. Net effects are predicted to be not significant.

7.8.3. Surface Water Resources

During construction and certain maintenance activities, the potential effects of the proposed Project on surface water may include changes in surface water quantity or quality conditions in nearby watercourses or waterbodies. These changes may be caused by site preparation, earthworks, discharge of construction water, and operation of vehicles and equipment.

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 pre-construction condition, to the extent feasible.

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 flow of surface water over the landscape, increase overland flow, and mobilization or transportation of organic debris and sediment loading in nearby watercourses.

To avoid or minimize the potential adverse effects of maintenance activities on surface water quality and quantity, the implementation of mitigation measures outlined below for construction-related activities (where applicable) would be implemented during maintenance activities.

7.8.3.1. Surface Water Quality

Vegetation removal, grading, earthworks, discharge of construction water, and operation of vehicles and equipment may result in erosion and sedimentation of nearby aquatic features (i.e., watercourses/waterbodies, wetlands) affecting surface water quality. Vegetation removal may also result in organic material entering nearby aquatic features and can affect water quality by increasing water temperature in instances where vegetation removal occurs in riparian areas or adjacent to aquatic features. Construction vehicles and equipment have the potential to create temporary rutting in soils which has the potential to result in localized ponding or channelization leading to erosion of soils and sedimentation of nearby aquatic features.

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 on nearby lands in relatively minor quantities. It is not expected that a

construction dewatering EASR approval would be required from the MECP, however, this will be confirmed during detailed design. The discharge of construction water from dewatering activities may result in an increase in sediment loads in nearby aquatic features.

To avoid or minimize the potential adverse effects of vegetation removal, earthworks, vehicle and equipment operation, and discharge of construction water on surface water quality, 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.
- 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 to reduce the potential for sedimentation from erosion and reduce the potential for changes in water temperature.
- 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., native seed mix) as required.
- Where erosion is a concern, exposed soils in previously vegetated areas will be re-vegetated as soon as practical or have other erosion or sedimentation measures applied, as necessary.
- Where applicable and possible, vegetative buffers will be maintained to protect water features.
- Temporary construction access and laydown areas will be restored following construction.

- Work will be staged to minimize the extent to 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.
- The limits of vegetation clearing will be clearly marked.
- Tree limbs will be disposed of by chipping or removal to designated areas – chipping is not permitted in or near watercourses.
- Skidding on steep slopes or through watercourses and wetlands will not be permitted.
- Brush will not be piled within 15 m of any watercourse.
- An Erosion and Sediment Control (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 in sensitive environmental areas will be restored as soon as practical.
- ESC measures will be regularly inspected, including after each significant (>10 mm) rainfall event, and repaired where necessary to maintain functionality.
- Where practical, discharge of construction water is to occur at least 30 m away from sensitive receptors (e.g., watercourses, wetlands). If the discharge of construction water must occur within 30 m of a watercourse or wetland, additional ESC measures will be utilized.

See the Spills section (**Section 7.8.1.2**) for measures related to the prevention and mitigation of accidental spills that may impact surface water quality.

With the implementation of mitigation measures, the proposed Project is not anticipated to have a long-term net effect on surface water quality and net effects are predicted to be not significant.

7.8.3.2. Surface Water Quantity

Vegetation removals and discharge of construction water may result in an increase in overland flow of water to nearby aquatic features (i.e., watercourses/waterbodies, wetlands) affecting surface water quantity. 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 vegetated areas. In addition, in the event the proposed Project requires the construction of new access roads, their construction has the potential to disrupt the flow of water over the landscape.

To avoid or minimize the potential adverse effects of vegetation removal, construction water discharge, and access road construction on surface water quantity, the following mitigation measures would be implemented:

- Vegetation removals will be minimized to the extent practical. Compatible vegetation will be retained within riparian areas adjacent to watercourses.
- ESC measures (e.g., erosion blankets/coir mats, silt socks) will be utilized, where necessary.

- Construction water will be discharged in compliance with permits and/or approvals from the applicable agencies and/or municipalities.
- 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.
- Existing watercourse crossings and access roads will be utilized to the extent practical.
- 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.

With the implementation of mitigation measures, the proposed Project is not anticipated to have a long-term net effect on surface water quantity and net effects are predicted to be not significant.

7.8.4. 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, 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 lines are 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. Where geotechnical conditions and engineering requirements allow, foundation types (such as helical piles) that minimize dewatering during construction may be used.

7.8.4.1. Groundwater Quality

If pre-existing contaminated groundwater is encountered during construction, it would be contained and disposed of in accordance with applicable regulations.

As noted in **Section 5.7.1** the quaternary geology of the PSA consists mainly of glaciofluvial outwash deposits (gravel and sand), fluvial deposits (gravel, sand, silt, and clay), and till (predominantly sand to silty sand matrix) (MEM, 2025a). The overburden thickness in the PSA is generally low, ranging between 1.23 m and 6.22 m in the northern and central portions of the PSA, and between 0 m and 16.29 m in the southern end of the PSA.

The Project will require single pole structures, three pole structures, H frame pole structures, and steel monopole structures to facilitate crossing of Highway 17 and allowances for future interchanges. Pole structures will generally be set into augured holes in the soil. Steel monopole structures will require a helical pile or augured concrete footing. It is considered very unlikely that the installation of structures will impact water wells, even if wells are located relatively close to the structure foundations. Transmission line structure footings generally do not adversely affect the quality of water resources, as effects of construction are often shallow relative to deeper aquifers, temporary in duration, and less intrusive than other methodologies (e.g., excavations for building foundations or driven pile footings).

As noted in **Section 5.7.4.2**, the PSA is considered an area of high infiltration due to the presence of the sand plain (Golder et al., 2003). There are likely overburden aquifers in the PSA that are unconfined and more susceptible to contamination at the surface. Spills during Project construction are unlikely to occur due to the rigorous preventative measures that would be in place to avoid such incidents. Preventative and mitigation measures for spills are detailed in **Section 7.8.1.2**.

If changes in groundwater quality were to occur as a result of disturbance to pre-existing contaminated soils or water, it is anticipated that groundwater quality would return to baseline conditions following the implementation of remedial measures. Net effects are predicted to be not significant.

7.8.4.2. Groundwater Quantity

The effects on groundwater quantity associated with construction of transmission structures 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 effects on groundwater levels and quantity as a result of construction activities.

Construction will occur predominantly on wooded lands. It is anticipated that excavation water would be discharged to nearby well vegetated areas. 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 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, an 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 noticeably affected as a result of dewatering activities. If necessary, a hydrogeological assessment will be conducted to inform construction planning, permitting, and management.

The effects of 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. Should there be effects on groundwater quantity, it is expected that groundwater levels would recover to pre-disturbance conditions in short period of time due to the surficial geology (i.e., sand plains with high infiltration) and the small zone of influence expected from construction dewatering. Net effects are predicted to be not significant.

7.8.5. Designated or Special Natural Areas

As noted under **Section 5.7.6** there are no Provincial Parks, Conservation Reserves, or ANSIs within the PSA. Therefore, no potential effects have been identified for the proposed Project.

7.8.6. Natural Heritage Features

As mentioned in **Section 5.7.6**, the majority of the PSA consists of woodlands and woodland plantations. The PSA of the Preferred Route also contains wetlands, wildlife and SAR habitat, as well as direct fish habitat.

Construction of the proposed Project may cause temporary and permanent disturbance to natural heritage features. Permanent adverse effects include the removal of approximately 42.39 ha of incompatible vegetation and associated wildlife habitat to accommodate the transmission line. With the exception of the removal of incompatible vegetation, it is anticipated that the long-term adverse effects on natural heritage features can be avoided through Project design (i.e., locating access and temporary workspace outside of sensitive areas, tower placement) or effectively mitigated. 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 applicable permitting agencies will be consulted.

Other measures that will be implemented to reduce adverse effects on natural heritage features during 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 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 outside of the bat active season (i.e., April 1 to September 30), to the extent practical.
- Using construction access (mats, or geotextile and gravel), to avoid or minimize effects to soils (compaction, rutting, etc.).
- Restoring compacted areas, as required.
- 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 and return after construction completion. Displacement of wildlife during construction is anticipated to be minimal as construction disturbance will be localized and temporary.

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. The nesting cavities of some species, such as Pileated Woodpecker (*Dryocopus pileatus*), have year-round protection under the Migratory Bird Regulations, 2022. 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. If vegetation removal must occur during the migratory bird breeding season, due diligence nest sweeps should be completed by biologists. If nests are found, a species-specific buffer should be demarcated as a ‘no-go zone’ until the nest is deemed by a biologist to be no longer active. Active migratory bird nests are protected under the *MBCA* even if encountered outside of the breeding season.

7.8.6.1. Wetlands

There are no PSWs within the PSA of the Preferred Route, based on MNR mapping. Therefore, no effects to PSWs as a result of the proposed Project are anticipated.

The proposed Project intersects with several MNR-mapped unevaluated wetlands and the ROW crosses approximately 3.80 ha of wetland communities (G128TI, G131TI,

G133T, G134S, G148N). Avoidance of wetlands and establishing construction setbacks to wetland areas will be considered during Project planning as a mechanism to minimize Project impacts.

Wetlands are important to 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 wetland vegetation proposed for removal is considered minor in magnitude and will not result in a significant change to vegetation cover within the local 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 sited to 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 7.8.3** 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 measures (i.e., rip-rap, filter cloth, and silt fencing) should be readily available in case they are needed promptly for erosion and sediment control.

No maintenance or fueling of machinery and vehicles will be permitted to occur within 30 m of wetlands to prevent potential spills (e.g., fuel, oil, lubricant) from migrating and entering aquatic habitats. If such work must occur within 30 m of a wetland 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. Wetland areas impacted during construction (directly or indirectly) will be restored to pre-construction drainage patterns.

An ESC Plan will be developed, identifying mitigation for wetlands, including locations for protective fencing (if required).

With the implementation of mitigation measures, the proposed Project is not anticipated to have long-term net effects on wetlands and net effects are predicted to be not significant.

7.8.6.2. Fish and Aquatic Habitat

The proposed Project crosses several watercourses identified as direct fish habitat (see **Section 5.7.3**). Although transmission towers will be sited 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 that 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).

The removal of trees within riparian areas has the potential to affect fish habitat as it may reduce the amount of potential shade provided, thereby influencing potential changes in water temperature. In instances where trees within riparian areas require removal, their root structure will remain intact (i.e., grubbing will not be conducted in riparian areas) as a mechanism to maintain their current soil stabilization characteristics. With the use of existing access routes, temporary watercourse crossings are anticipated to be avoided for the Project.

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 refueling of vehicles and 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 sited to avoid impacts to fish and aquatic habitat, the potential short-term effects on fish and aquatic habitat can be avoided or mitigated through the application of mitigation measures outlined in **Section 7.8.3**. 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.

With the implementation of mitigation measures, the proposed Project is not anticipated to have long-term net effects on fish and aquatic habitat and net effects are predicted to be not significant.

7.8.6.3. Woodlands

The majority of the PSA of the Preferred Route consists of woodlands.

Vegetation clearing will be required within the new transmission line ROW to ensure the safe and reliable operation of the transmission line. The Project will result in the removal of approximately 40.94 ha of woodland communities within the ROW of the Preferred Route. These removals will be limited to the extent practical and will not represent an overall loss of vegetation cover across the landscape, but rather a transition from vegetation that is incompatible with overhead transmission line corridors (e.g., trees, tall shrubs), to compatible vegetation cover (e.g., short to mid-sized shrubs, meadow species).

There are several mitigation measures that may be implemented to reduce the proposed Project's impact on 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.
- 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) and the bat active season (i.e., April 1 through September 30), where practical.
- Where vegetation clearing is required during the migratory bird breeding season, due diligence nest searches will be conducted by a qualified professional. In the event an active migratory bird nest is identified, a qualified professional will demarcate a protective buffer zone around 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.
- 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).

Woodlands are important to 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.

With the implementation of mitigation measures, the net effects of the proposed Project on woodlands are predicted to be not significant.

7.8.6.4. 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:

- Utilizing native plant species during construction restoration.
- Implementing the Clean Equipment Protocol for Industry (Halloran et. al, 2013) to reduce the spread of invasive species.
- Abiding by the *Invasive Species Act* regulations.
- Proper handling, containment and disposal of invasive plant material, where required.
- Inspecting and cleaning equipment and vehicles as necessary to reduce potential for spreading invasive species propagules.
- Tracking special treatment areas (e.g., large established populations of invasive species within the ROW) for consideration when planning future maintenance works.

With the implementation of mitigation measures, no long-term net effects of the proposed Project are anticipated, and net effects are predicted to be not significant.

7.8.6.5. Wildlife and Wildlife Habitat

Based on the results of the background review, ELC mapping, and results of the 2021, 2022, and 2025 field investigations (see **Section 5.7.6**), the following confirmed and candidate SWH types were identified within the PSA for the Preferred Route:

- Confirmed Amphibian Breeding Habitat (woodland).
- Confirmed Deer Yarding Areas.
- Candidate Raptor Wintering Areas.
- Candidate Bat Maternity Colonies.
- Candidate Turtle Wintering Areas.
- Candidate Reptile Hibernaculum.
- Candidate Turtle and Lizard Nesting Areas.
- Candidate Special Concern and Rare Wildlife Species:
    - Uhler's Sundragon (*Helocordulia uhleri*)
    - Broad-tailed Shadowdragon (*Neurocordulia michaeli*)
    - Extra-striped Snaketail (*Ophiogomphus anomalus*).

During Project construction activities, the following measures 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.

- Snags and cavity trees with the potential to support bats will be retained, to the extent practical.
- Trees containing stick nests and areas where active animal dens or burrows are encountered will be left undisturbed until unoccupied, as determined by a qualified professional.
- Stick nests on transmission structures will be left undisturbed if eggs or young are in the nest until the young have fledged unless there is an immediate safety concern addressed. If no eggs or young are observed, the nest will be removed.
- 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).
        - 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 approved by the applicable authority.
- 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, where 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.
- Construction personnel will be educated on the potential for wildlife species that may be encountered within the general work areas.

With the implementation of mitigation measures, the proposed Project is not anticipated to have long-term net effects on wildlife and wildlife habitat and net effects are predicted to be not significant.

7.8.6.6. Species at Risk

For the purposes of this report, SAR include species that are federally listed under *SARA* as Extirpated, Endangered, Threatened, and Special Concern, as well as SAR that are provincially listed under the *SCA* as Extirpated, Endangered or Threatened. As noted in **Section 5.7.6.9**, species designated as either Endangered or Threatened under the *SCA* and/or *SARA* are provided species and habitat protection.

Generally, impacts to SAR habitat will be avoided through Project design, where possible. Where encroachment to potential SAR habitat, or impacts to SAR may occur, consultation and required permitting, authorizations, or registrations under the *SCA* and/or *SARA* will be obtained prior to construction and site alteration activities. Training on the identification of SAR relevant to the Project area, and protocols for incidental observations of SAR, will be provided to construction crews.

No long-term net effects on SAR are anticipated from the proposed Project and net effects are predicted to be not significant.

The PSA of the Preferred Route was determined to provide confirmed habitat for:

- Eastern Whip-poor-will
- Common Nighthawk
- Monarch

The PSA of the Preferred Route was determined to provide potential habitat for:

- SAR turtles
- SAR snakes
- SAR bats

- Lake Sturgeon
- River Redhorse
- Hickorynut
- Yellow-banded Bumblebee
- Transverse Ladybird Beetle

SAR Birds (confirmed habitat)

As habitat for SAR birds (Eastern Whip-poor-will, Common Nighthawk) has been confirmed to be present in the PSA, the ECCC will be consulted to determine if the identified mitigation measures are sufficient or if permits are required under the *SARA*.

Schedule clearing of trees and vegetation outside of the breeding bird season (April 1 to August 31). Should any active nests be found within the PSA outside of the breeding bird season, a species-specific setback from the nest should be established by a qualified professional until the nest is no longer occupied. Confirmation of nest inactivity should be confirmed by a qualified professional prior to encroachment into the buffer. If no nests are identified by a qualified professional, clearing may commence.

Monarch (confirmed habitat)

Monarch was recorded incidentally during ELC surveys completed September 27 and 28, 2021. No details on the location, life stage (adult, caterpillar), or abundance were recorded. Based on the time of the year, it is likely that this record represents a migrating individual. Since no breeding or foraging habitat has been confirmed, no species-specific mitigation is proposed.

SAR Turtles (potential habitat)

As potential habitat for SAR turtles (Wood Turtle, Eastern Musk Turtle, Midland Painted Turtle, Northern Map Turtle) has been identified in the PSA, the ECCC will be consulted to determine if the identified mitigation measures are sufficient or if permits are required under the *SARA*. Activities impacting the habitat of SAR turtles can be registered under the *SCA*.

Proposed mitigation measures for SAR turtles include:

- Avoidance of watercourses and wetlands to the extent possible.
- Prior to the alteration of wetlands and watercourses/waterbodies or vegetation removal within these habitats, wildlife sweeps should be conducted during the active season for turtle species (April 1 to October 31). Wildlife sweeps for turtles

migrating to overwintering sites should be conducted until exclusion fencing is in place at the start and end of the overwintering period (October 1 to March 31).

- Schedule clearing in habitat for turtles outside of the active window for turtles (March 15 to October 20). If a turtle is encountered on site, stop work and allow the individual to leave the area. Prior to the timing windows for the nesting season, flag or fence off identified habitat features, if possible.
- If wildlife are found within the work area and cannot leave the site on their own accord, they will be relocated by a qualified professional to an area outside of the active work area into an area of appropriate habitat, as necessary. Should the relocated wildlife be listed as an Endangered or Threatened species under Schedule 1 of the *SARA*, a *SARA* permit will be required to handle and relocate the individual. Should the relocated wildlife be listed as Endangered or Threatened under the *SCA*, a Registration would cover handling of the species as part of the activity.
- If an injured or deceased SAR turtle is found, the individual must be placed in a non-airtight container that is maintained at an appropriate temperature and an Authorized Wildlife Custodian (authorized under the *Fish and Wildlife Conservation Act*) in the area should be contacted as soon as reasonably possible.

SAR Snakes (potential habitat)

Habitat (e.g., immediate dwelling or resting place) with the potential to support SAR snakes (Eastern Ribbonsnake, Milksnake) should be flagged and protected (where practical) prior to construction. In instances where incompatible vegetation with the potential to support SAR snakes requires removal, the vegetation will be removed/trimmed to the extent that it no longer impedes construction works or poses a risk to the operation of the overhead transmission lines while still maintaining its potential SAR habitat characteristics to the extent practical.

Proposed mitigation measures for SAR snakes include:

- Should SAR snake habitat be confirmed in the proposed Project ROW, ECCC will be consulted to determine if the identified mitigation measures are sufficient or if permits are required through *SARA*.
- Daily sweeps of work areas within/directly adjacent to SAR snake habitat during the active season (generally March 15 to October 30).

- If a suspected SAR snake is observed, a qualified professional will be contacted for assistance immediately and the ECCC will be informed, if necessary.
- If SAR snakes are found, they will be allowed to leave on their own accord.
- The design of exclusion fencing for SAR snakes may include measures to prevent entry into work areas by climbing the fencing (e.g., increased height, an outward-facing lip, or similar).
- Netting type erosion control measures will be avoided over or adjacent to drains and watercourses. As a substitute for netting type erosion control, alternative products and/or rip rap over geotextile fabric should be considered in an effort to prevent entanglement of snakes.
- Vehicles and equipment left idle overnight at work areas will be inspected for SAR snakes prior to use.
- Training on the identification of SAR relevant to the Project area, and protocols for incidental observations of SAR, will be provided to construction crews.

SAR Bats (potential habitat)

Habitat with the potential to support SAR bats (Eastern Red Bat, Eastern Small-footed Myotis, Hoary Bat, Little Brown Myotis, Northern Myotis, Silver-haired Bat, and Tri-coloured Bat) will be assessed for the presence of habitat trees (snags, cavities) prior to construction to assess the quality of habitat and determine habitat retention, where possible. As it is anticipated that SAR bat habitat will be present in association with the PSA, ECCC will be consulted to determine the approach for confirmation of habitat, and if the mitigation measures identified below are sufficient or if permits are required under *SARA*. Activities impacting the habitat of bats can be registered under the *SCA*.

Where 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 may 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). If the removal of isolated trees with potential bat habitat is necessary during the active bat season, exit surveys will be completed in accordance with agency-approved protocols. Trees confirmed to have no

bat activity may then be removed, while those with confirmed habitat use will be retained until removal can occur safely between December 1 and March 31.

Additionally, snags (dead standing trees) and cavity trees that do not pose a risk to the construction or operation of the transmission lines will be identified and retained, to the extent practical. Contractors will be educated on the potential for bats/bat habitat which may be encountered within the general work areas. Construction of bat nesting boxes in certain areas may be considered to offset the loss of bat roosting habitat, where practical.

Yellow-banded Bumblebee (potential habitat)

This species is a habitat generalist. No habitat critical to the species is present. No species-specific mitigation is proposed.

Transverse Ladybird Beetle (potential habitat)

This species is a habitat generalist. No habitat critical to the species is present. There has only been one record of this species in Ontario since 1990 (near Sault Ste Marie). Given the general habitat requirements, and extremely low likelihood of presence, no species-specific mitigation is proposed.

Aquatic SAR (potential habitat)

The same impacts and associated mitigation measures outlined in **Section 7.8.6.2** would be employed with respect to potential impacts to aquatic SAR (potential habitat for Lake Sturgeon, River Redhorse, and Hickorynut). In the event the construction of watercourse crossings has the potential to impact habitat of aquatic SAR, ECCC and DFO will be consulted, and necessary permits and approvals would be obtained in advance of construction.

7.9. Recreational Resources

There is potential that some recreational resources (e.g., walking, cycling, and 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 presence of construction crew members and traffic. Potential effects during the operations phase are not anticipated.

While there may be some temporary effects 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, 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.

With the implementation of mitigation measures, no net effects of the proposed Project are anticipated.

7.10. Visual and Aesthetic Resources

The proposed Project is located within a gently rolling or flat topography through wooded areas, with a large portion of the PSA on DND lands and adjacent to Highway 17. Views are not typically open and expansive.

The location of the transmission structures is one of the largest factors influencing the visual effect on specific receptors. The transmission line and structure locations will be visible to residents and land users in the PSA.

The Project will parallel existing infrastructure corridors (mainly Highway 17), where practical which will reduce the net visual change for a large portion of the proposed Project's length.

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.

With construction of the proposed Project along existing linear corridors to the extent feasible, net effects on visual and aesthetic resources are predicted to be not significant.

7.11. Technical Considerations

7.11.1. Infrastructure Crossings

Construction of the proposed Project will require crossings of existing linear infrastructure including Highway 17, a railway line, major watercourses (e.g., Petawawa

River), as well as running parallel to Highway 17 and existing roadways and along and over several municipal roads. Through engagement with provincial agencies and local municipalities, 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 Highway 17 is anticipated to be temporary and short in duration. Use of temporary closures of Highway 17 may be required to facilitate stringing activities. Where the proposed transmission line crosses Highway 17, setback distances provided by MTO will be respected and adhered to. Work within MTO's highway ROW or permit control area will require an Encroachment Permit and Building and Land Use Permit, as well as consultation with MTO during detailed design. The placement of a structure on MTO lands south of the Petawawa River will require an easement from MTO. Hydro One's Contractor will obtain all necessary permits from MTO before start of construction in the vicinity of Highway 17. To facilitate the construction of the aerial crossings associated with the railway line, crossing permits and temporary flagging operations may be required.

No potential effects of the proposed Project on infrastructure crossings are anticipated, as all required permits and approvals will be acquired, and conditions of approvals will be followed.

7.12. Summary of Potential Environmental Effects, Mitigation Measures, and Net Effects

Table 7-1 provides a summary of potential effects, associated mitigation, and net effects identified for the proposed Project, during the construction, operation, and maintenance phases.

Table 7-1: Summary of Potential Effects, Mitigation Measures, and Net Effects

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Characterization of Net Effects and Determination of Significance
Agricultural Resources	No forestry operations have been identified within the PSA; therefore, the Project is not anticipated to have adverse effects on agricultural resources.	N/A	N/A
Forestry Resources	No forestry operations have been identified within the PSA; therefore, the Project is not anticipated to have adverse effects on forestry resources.	N/A	N/A
Cultural Heritage Resources: Built Heritage Resources and Cultural Heritage Landscapes	No impacts to potential BHRs are anticipated. The nearest BHR is approximately 135 m from the PSA, which is outside the anticipated maximum vibration zone of influence of 50 m. No CHLs have been identified within the PSA.	N/A	N/A
Cultural Heritage Resources: Archaeological Resources	**Construction:** Potential impacts to areas of archaeological potential or archaeological resources.	• A Stage 2 AA will be completed as early as possible during detailed design and prior to ground disturbing activities within the areas recommended by the Stage 1 AA in accordance with MCM requirements. In the event the Stage 2 AA identifies the need for further assessment, Stage 3 / Stage 4 AA(s) will be completed as early as possible during detailed design and prior to ground disturbing activities as required in accordance with the MCM *Standards and Guidelines for Consultant Archaeologists, 2011*. • Should archaeological resources be 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*. Likewise, should any human remains be encountered during construction, work in the vicinity will cease and the police and coroner notified immediately as well as the Registrar, Ontario Ministry of Business Service Delivery and Procurement to ensure compliance with the *Funeral, Burial and Cremation Services Act*. • An AOA was prepared for the portion of the Project on federal lands. Areas retaining archaeological potential on federal lands will be subject to an AIA prior to construction. The archaeological assessments on federal land will satisfy the requirements of the *Parks Canada Guidelines for the Management of Archaeological Resources* (2008) and the *Reference Guide for Archaeological Work on Federal Lands and Lands Underwater* (n.d.), as applicable.	**No net effects are predicted.**
Municipal Land Use Planning and Communities: Business Operations	Project activities are not located within any areas of existing commercial or industrial operations. Therefore, the Project is not anticipated to have adverse effects on business operations.	N/A	N/A
Municipal Land Use Planning and Communities: Existing and Future Land Use	**Operation:** The Project will result in some restrictions to future uses	• 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	**Net effects are predicted to be not significant.** While there will be restrictions to future

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Designations and Potential Future Development	within the lands occupied by the transmission line ROW.	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 the municipalities and the DND to consider potential future development during design of the transmission line within the property fabric traversed by the line.	development within 2 m of the transmission line ROW, Hydro One will work with the municipalities and the DND to consider future development during the design phase of the Project. With the implementation of mitigation measures, net effects to existing and future land use designations and potential future development are anticipated to be long-term in duration, continuous in frequency, reversible, and negligible in magnitude.
Municipal Land Use Planning and Communities: Roads, Traffic, and Transportation	**Construction:** Potential for increased traffic, including heavy equipment, on local and regional roads. In addition, stringing of conductors across roadways, including Highway 17, may require temporary road closures and detours.	• Obtain required permits from the MTO and obtain approval for any necessary lane closures prior to construction activities within and adjacent to the Highway 17 ROW. • Obtain required permits from the municipalities for any necessary work within municipal road rights-of-way or when moving oversized loads (e.g., temporary construction related encroachment, entrance permit, over dimensional vehicle permit). • Adhere to seasonal load restrictions. • Where required, a Traffic Control Plan will be developed and shared with the municipalities and MTO, as necessary. • Construction haul routes and schedules will be shared with the 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. • In an effort 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 Hydro One will coordinate closely with the appropriate road authority (i.e., MTO, local municipalities) to provide proper notice, required signage, and traffic controls. 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, etc.) 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.	**Net effects are predicted to be not significant.** With the implementation of mitigation measures the net effects are anticipated to be short-term in duration, isolated to construction, reversible, and low in magnitude.
Municipal Land Use Planning 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.	• Roads will be cleaned/scraped to remove mud on an as needed basis. • Mud mats will be installed (on an as need basis) as a 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 to 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 on a regular basis. • General clean site policies will be implemented requiring pick-up and disposal of refuse and construction waste on a regular basis.	**Net effects are predicted to be not significant.** With the implementation of mitigation measures, the net effects are anticipated to be immediate in duration, isolated to construction, reversible, and low in magnitude.

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Municipal Land Use Planning and Communities: EMF	**Operation:** Potential exposure to increased EMF once the transmission line is energized.	• 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 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.
Municipal Land Use Planning and Communities: CFB Petawawa	**Construction:** Potential to temporarily disrupt activities within active areas of CFB Petawawa.	• Hydro One will work closely with the DND to ensure potential effects are minimized to the extent possible.	**No net effects are predicted.**
First Nations Lands and Interests	**All Phases:** Potential effects on Indigenous community interests.	• Indigenous communities have expressed interest in being involved with future archaeological and natural environment fieldwork. Hydro One and its consulting archaeologists and biologists will work with interested communities to include Indigenous representatives in Project-related fieldwork. • Indigenous communities will be provided opportunities to review the findings of archaeological field surveys and AA reports. • Discovery of undocumented archaeological resources and/or human remains will follow the provisions of the *Ontario Heritage Act* and the *Funeral, Burial and Cremation Services Act*. • If archaeological artifacts 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.*	**No net effects are predicted.** Indigenous communities will be consulted throughout the life of the Project to proactively avoid or mitigate adverse effects on Indigenous interests.
Mineral Resources	No areas have been identified within the PSA that are used for the extraction of aggregate. Similarly, no active petroleum wells have been identified within the PSA. Therefore, the Project is not anticipated to have adverse effects on mineral and petroleum resources.	N/A	N/A
Natural Environment Resources – Physical Environment: Physiography and Geology	The existing physiography, topography, and geology is not expected to be affected by Project construction or operations. Therefore, no potential effects on physiography and geology have been identified for the proposed Project.	N/A	N/A
Natural Environment Resources - Physical Environment: Spills	**Construction & Maintenance:** There is potential for accidental spills from the use of vehicles and heavy equipment during construction and maintenance.	• 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.	**Net effects are predicted to be not significant.** With the implementation of mitigation measures, net effects from spills are anticipated to be immediate to short-term in

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		• 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 outside of designated source water protection areas.	duration, rare, reversible, and low to medium in magnitude.
Natural Environment Resources - Physical Environment: Waste Generation	**Construction:** Construction activities will generate waste including non-hazardous and potentially hazardous waste requiring proper containment and disposal.	• Hazardous waste (solid and liquid) will be transported by MECP license waste haulers to MECP registered disposal sites. • Temporary waste on-site will be placed in secured containers in designated sites away from sensitive areas and removed from the site on an ongoing basis. • All water from concrete chute washing will be contained in leak-proof containers or in 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.	**Net effects are predicted to be not significant.** With the implementation of mitigation measures, net effects from waste generation are anticipated to be short-term in duration, periodic in frequency, reversible, and negligible to low in magnitude.
Natural Environment Resources - Physical Environment: Excess Materials Management	**Construction & Maintenance:** Project activities have the potential to produce excess materials during the construction and maintenance phases.	• 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 from 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.	**No net effects are predicted.**
Natural Environment Resources – Atmospheric Environment: Climate Change	**Construction & Maintenance:** Emissions will be generated from vehicles and equipment which will contribute to GHGs responsible for climate change. **Operation:** The transmission line may be susceptible to effects of climate change such as increased frequency and severity of storms, including high winds, lightning, heavy precipitation, etc.	• 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. • Hydro One complies with NERC Reliability Standards to ensure the reliability and security of the transmission system. • The transmission line will be designed to withstand the effects of climate change to the extent feasible.	**No 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 above for climate change, 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.	**Net effects are predicted to be not significant.** With the implementation of mitigation measures, net effects to air quality from the Project are anticipated to be immediate in duration, periodic, reversible, and negligible to low in magnitude.

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		• 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.	
Natural Environment Resources – Atmospheric Environment: Noise and Vibration	**Construction & Maintenance:** Temporary increase in noise and vibration from the operation of vehicles and heavy equipment. **Operation:** Potential for nuisance noise from transmission lines during inclement weather events.	• Construction will be completed in accordance with applicable noise control by-laws (Town of Petawawa By-Law No. 368/06) or exemptions. • Where geotechnical conditions and engineering requirements allow, foundation types (e.g., holes for pole structures) that minimize vibrations during construction will be used. • Equipment and machinery used on site will be maintained in good working condition. • Use of compression hardware instead of implosive connectors for splicing conductors to limit noise and vibration.	**Net effects are predicted to be not significant.** With the implementation of mitigation measures, net effects from Project noise and vibration during construction and maintenance activities are anticipated to be short-term, isolated to the activity period, reversible, and low in magnitude. No mitigation measures have been identified for Project noise during operation of the transmission line; however, the net effects are anticipated to be negligible in magnitude and would only occur sporadically during inclement weather events.
Natural Environment Resources - Surface Water Resources: Surface Water Quality	**Construction:** Potential for construction activities (vegetation removal, operation of vehicles and equipment, discharge of construction water) to result in increased organic and sediment loads in nearby aquatic features (i.e., watercourses, waterbodies, wetlands) affecting surface water quality.	• 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. • 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 to reduce the potential for sedimentation from erosion and reduce the potential for changes in water temperature. • 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 soon as practical or have other erosion or sedimentation measures applied, as necessary. • Where applicable and possible, vegetative buffers will be maintained to protect water features. • Temporary construction access and laydown areas will be restored following construction. • Work will be staged to minimize the extent of exposed soils (i.e., bare soils without vegetative cover or ESC 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 ESC 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.	**Net effects are predicted to be not significant.** With the implementation of mitigation measures, net effects are anticipated to be immediate to short-term in duration, isolated to construction, reversible, and low in magnitude.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Characterization of Net Effects and Determination of Significance
		• 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. • The limits of vegetation clearing will be clearly marked. • Tree limbs will be disposed of by chipping or removal to designated areas - chipping is not permitted in or near watercourses. • Skidding on steep slopes or through watercourses and wetlands will not be permitted. • Brush will not be piled within 15 m of any watercourse. • 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. • Mechanical or vegetation erosion control measures will be employed as required, such as buffer strips, erosion control blankets, and sedimentation fences in an effort to reduce potential erosion. • Equipment operation on slopes adjacent to streams will be minimized to the extent practical. • Disturbed areas near watercourses and wetlands in sensitive environmental areas will be restored as soon as practical. • ESC measures will be regularly inspected, including after each significant (>10 mm) rainfall event, and repaired where necessary to maintain functionality. • Where practical, discharge of construction water is to occur at least 30 m away from sensitive receptors (e.g., watercourses, wetlands). If the discharge of construction water must occur within 30 m of a watercourse or wetland, additional ESC measures will be utilized.	
Natural Environment Resources - Surface Water Resources: Surface Water Quantity	**Construction:** Potential for construction activities (vegetation removal, access road construction, discharge of construction water) to result in an increase in overland flow of water to nearby aquatic features (i.e., watercourses, waterbodies, wetlands) affecting surface water quantity.	• Vegetation removals will be minimized to the extent practical. Compatible vegetation will be retained within riparian areas adjacent to watercourses. • ESC measures (e.g., erosion blankets/coir mats, silt socks, etc.) will be used where necessary. • Construction water will be discharged in compliance with permits and/or approvals from the applicable agencies and/or municipalities. • 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. • Existing watercourse crossings and access roads will be utilized 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.	**Net effects are predicted to be not significant.** With the implementation of mitigation measures, net effects are anticipated to be immediate to short-term in duration, isolated to construction, reversible, and low in magnitude.
Natural Environment Resources - Groundwater Resources: Groundwater Quality	**Construction:** Disturbance of pre-existing contaminated soil has the potential to contribute to groundwater contamination.	Refer to the mitigation recommended for Spills and Waste Management under Physical Environment.	**Net effects are predicted to be not significant.** With the implementation of mitigation measures, net effects are anticipated to be

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Characterization of Net Effects and Determination of Significance
			immediate to short-term in duration, rare, reversible, and low in magnitude.
Natural Environment Resources - Groundwater Resources: Groundwater Quantity	**Construction:** Dewatering activities have the potential to result in changes to groundwater levels. In addition, disturbance and compaction of soil at the surface has the potential to inhibit surface water infiltration and affect groundwater recharge.	Refer to mitigation recommended under Surface Water Resources. Additional recommended mitigation includes: • Construction water will be discharged in compliance with permits and/or approvals from MECP, DND, and the relevant municipalities, as required. • A construction water management plan will be developed prior to 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, etc.), as required. • Where possible, opportunities to maximize retention times and reduce surface flow velocities will be executed. • Where geotechnical conditions and engineering requirements allow, foundation types (such as helical piles) that minimize the amount of construction dewatering required will be utilized. • Where practical, discharge of construction water is to occur at least 30 m away from sensitive receptors (e.g., watercourses, wetlands, etc.). If discharge of construction water must occur within 30 m of a watercourse or wetland, additional ESC will be utilized. • If deemed necessary, a hydrogeological assessment will be conducted to inform construction planning, permitting and management. • Equipment with low bearing capacity will be used, where practical. • Existing access roads will be used, where practical. • Temporary access roads and work pads will be built using measures such as mats or geotextile and gravel, or equivalent means, which can be easily removed when construction is complete.	**Net effects are predicted to be not significant.** With the implementation of mitigation measures, net effects are anticipated to be immediate to short-term in duration, isolated to construction, reversible, and negligible to low in magnitude.
Natural Environment Resources - Natural Heritage Features: Designated or Special Natural Areas	There are no Provincial Parks, Conservation Reserves, or ANSIs within the PSA. Therefore, no potential effects have been identified for the proposed Project.	N/A	N/A
Natural Environment Resources - Natural Heritage Features: Wetlands	**Construction:** Potential loss or alteration of wetland function due to disturbance of approximately 3.80 ha of wetlands. Effects may occur as a result of vegetation loss, change in vegetation composition, accidental spills, soil erosion, and sedimentation.	Refer to mitigation recommended for Spills under Physical Environment, and for Surface Water Quality and Surface Water Quantity under Surface Water Resources. 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. • 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 wetlands 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 permitted within 30 m of a wetland. If such work must occur within 30 m of a wetland due to unforeseen circumstances, additional spill protection measures (e.g., portable containment) will be utilized.	**Net effects are predicted to be not significant.** With the implementation of mitigation measures, net effects are anticipated to be short-term in duration, isolated to construction, reversible, and low in magnitude.

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Natural Environment Resources - **Natural Heritage Features:** Fish and Aquatic Habitat	**Construction:** Potential loss or alteration of fish and aquatic habitat where riparian disturbance is required. Effects may occur as a result of vegetation loss, accidental spills, soil erosion, and sedimentation.	Refer to the mitigation recommended for Spills under Physical Environment, and for Surface Water Quality and Surface Water Quantity under Surface Water Resources.	**Net effects are predicted to be not significant.** With the implementation of mitigation measures, net effects are anticipated to be short-term in duration, rare or isolated in frequency, reversible, and low in magnitude.
Natural Environment Resources – **Natural Heritage Features:** Woodlands	**Construction:** Construction of the transmission line ROW will require removal of 40.94 ha of woodland vegetation communities. Incompatible woodland vegetation communities include the following: • Red Pine – White Pine Conifer (Closed Canopy) (G033cT) – 2.68 ha • Red Pine – White Pine Conifer (Plantation) (Closed Canopy) (G033cT - Plantation) – 9.73 ha • Red Pine – White Pine Conifer (Sparse Treed) (G033sT) – 0.15 ha • Maple Hardwood (Closed Canopy) (G042cT) – 22.34 ha • Mixedwood (Sparse Treed) (G043sT) – 0.39 ha • Mixedwood (G043T) – 1.04 ha **Maintenance:** Incompatible vegetation will be managed within the ROW to allow for the safe and reliable operation of the transmission line.	Refer to mitigation related to vegetation removal recommended under Surface Water Resources. Additional recommended mitigation includes: • 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. • Prior to construction, the MECP and ECCC will be consulted regarding permitting/approvals next steps under the applicable provincial and federal SAR legislation in effect at that time. • Tree removals and other vegetation clearing will be completed outside of the migratory bird breeding season (i.e., April 5 through August 31, nesting zone C5) (ECCC, 2025e) and the bat active season (i.e., April 1 through September 30), where practical. • Where vegetation clearing is required during the breeding bird season, nest searches will be conducted by a qualified professional in accordance with applicable provincial and federal requirements. • Where vegetation clearing is required during the migratory bird breeding season, due diligence nest searches will be conducted by a qualified professional. In the event an active migratory bird nest is identified, a qualified professional should demarcate a protective buffer zone around the nest, which will remain until the nest can be confirmed as inactive by the qualified professional. • In the event woodlands with the potential to support bats require tree removals, bat acoustic surveys may be completed during the month of June in accordance with agency approved protocols to determine SAR bat habitat use (or lack thereof). Where acoustic surveys confirm SAR bat habitat use, the MECP and/or ECCC will be consulted prior to construction regarding permitting/approvals next steps under the applicable provincial or federal SAR legislation in effect at that time. • 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. • The transmission line ROW will be restored following completion of construction with compatible native species (e.g., native seed mix).	**Net effects are predicted to be not significant.** Incompatible vegetation removal will not represent a net loss of vegetation on the landscape, but rather a transition from vegetation that is incompatible with transmission line corridors to vegetation that is compatible. With the implementation of mitigation measures, net effects from Project construction and maintenance activities are anticipated to be medium to long-term in duration, continuous, reversible, and medium in magnitude.
Natural Environment Resources - **Natural Heritage Features:** Invasive Species	**Construction:** Potential spread of invasive species.	Refer to mitigation related to vegetation removal recommended under Surface Water Resources. Additional recommended mitigation includes: • Utilizing native plant species during construction restoration. • Implementing the Clean Equipment Protocol for Industry (Halloran et. al, 2013) to reduce the spread of invasive species. • 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. • Abiding by the *Invasive Species Act* regulations. • Proper handling, containment and disposal of invasive plant material, where required.	**Net effects are predicted to be not significant.** With the implementation of mitigation measures, net effects are anticipated to be short to medium-term, rare, reversible, and low in magnitude.

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		• Inspecting and cleaning equipment and vehicles as necessary to reduce potential for spreading invasive species propagules. • Tracking special treatment areas (e.g., large established populations of invasive species within the ROW) for consideration when planning future maintenance works.	
Natural Environment Resources - Natural Heritage Features: Wildlife and Wildlife Habitat	**Construction & Maintenance:** Alteration or loss of wildlife habitat, including habitat fragmentation, due to effects on woodlands, wetlands, and fish and aquatic habitat. Alteration of wildlife movement due to sensory disturbances (e.g., noise and vibration, light) from the operation of heavy vehicles and equipment.	Refer to mitigation related to vegetation removal recommended under Surface Water Resources, as well as mitigation recommended under Woodlands, and Noise and Vibration. Additional recommended mitigation includes: • Boundaries of important wildlife habitats will be identified, and the ROW boundaries flagged prior to clearing. • Retention of snags and cavity trees with potential to support bats, to the extent practical. • Trees containing stick nests and areas where active animal dens or burrows are encountered will be left undisturbed until unoccupied, as determined by a qualified professional. • Stick nests on transmission structures will be left undisturbed if eggs or young are in the nest until the young have fledged unless there is an immediate safety concern addressed. If no eggs or young are observed, the nest will be removed. • 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). ▪ 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 clearing is required, some of the cleared vegetative material may be used to create brush piles along the ROW edges to promote wildlife habitat where appropriate. • 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. • Construction personnel will be educated on the potential for wildlife which may be encountered within the general work areas.	**Net effects are predicted to be not significant.** With the implementation of mitigation measures, net effects on wildlife and wildlife habitat are anticipated to be short to medium-term in duration, isolated to continuous, reversible, and low to medium in magnitude.
Natural Environment Resources - Natural Heritage Features: SAR	**Construction & Maintenance:** Alteration or loss of SAR habitat and alteration of SAR movement.	Refer to mitigation related to vegetation removal recommended under Surface Water Resources, as well as mitigation recommended under Woodlands, Noise and Vibration, and Wildlife and Wildlife Habitat. Additional recommended mitigation includes: • Impacts to potential SAR habitat will be avoided, where possible. In the event impacts cannot be avoided, MECP and/or ECCC will be consulted regarding permitting/approval requirements during detailed design. • Boundaries of SAR habitats will be identified and flagged off.	**Net effects are predicted to be not significant.** With the implementation of mitigation measures, net effects are anticipated to be short to medium-term in duration, isolated to continuous, reversible, and medium in magnitude.

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		• 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. • Training on the identification of SAR relevant to the Project area, and protocols for incidental observations of SAR, will be provided to construction crews. • 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, ECCC will be consulted in advance of construction to discuss detailed mitigation measures and/or assess the need for permitting/approvals under *SARA*. • If a SAR is harmed or killed as a result of work activities, the MECP and/or ECCC 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 and/or ECCC, as required.	
Natural Environment Resources – Natural Heritage Features: SAR Birds	**Construction & Maintenance:** Alteration or loss of SAR bird habitat and alteration of SAR bird movement.	In addition to the mitigation outlined under SAR above, the following additional mitigation is recommended: • Schedule clearing of trees and vegetation outside of the breeding bird season (April 1 to August 31). Should any active nests be found within the PSA outside of the breeding bird season, a species-specific setback from the nest should be established by a qualified professional, until the nest is no longer occupied. Confirmation of nest inactivity should be confirmed by a qualified professional, prior to encroachment into the buffer. If no nests are identified by a qualified professional, clearing may commence.	**Net effects are predicted to be not significant.** With the implementation of mitigation measures, net effects are anticipated to be short to medium-term in duration, isolated to continuous, reversible, and medium in magnitude.
Natural Environment Resources – Natural Heritage Features: SAR Turtles	**Construction & Maintenance:** Alteration or loss of SAR turtle habitat and alteration of SAR turtle movement.	In addition to the mitigation outlined under SAR above, the following additional mitigation is recommended: • Avoid disturbance in watercourses and wetlands to the extent possible. • Prior to the alteration of wetlands and watercourses/waterbodies or vegetation removal within these habitats, wildlife sweeps should be conducted during the active season for turtle species (April 1 to October 31). Wildlife sweeps for turtles migrating to overwintering sites should be conducted until exclusion fencing is in place at the start and end of the overwintering period (October 1 to March 31). • Schedule clearing in habitat for turtles outside of the active window for turtles (March 15 to October 20). If a turtle is encountered on site, stop work and allow the individual to leave the area. Prior to the timing windows for the nesting season, flag or fence off identified habitat features, if possible. • If wildlife are found within the work area and cannot leave the site on their own accord, they will be relocated by a qualified professional to an area outside of the active work area into an area of appropriate habitat, as necessary. Should the relocated wildlife be listed as an Endangered or Threatened species under Schedule 1 of the *SARA*, a *SARA* permit will be required to handle and relocate the individual. Should the relocated wildlife be listed as Endangered or Threatened handling of the species would be covered under the *SCA* registration. • If an injured or deceased SAR turtle is found, the individual must be placed in a non-airtight container that is maintained at an appropriate temperature and an Authorized Wildlife Custodian	**Net effects are predicted to be not significant.** With the implementation of mitigation measures, net effects are anticipated to be short to medium-term in duration, isolated to occasional, reversible, and low in magnitude.

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Characterization of Net Effects and Determination of Significance
		(authorized under the *Fish and Wildlife Conservation Act*) in the area should be contacted as soon as reasonably possible.	
Natural Environment Resources – Natural Heritage Features: SAR Snakes	**Construction & Maintenance:** Alteration or loss of SAR snake habitat and alteration of SAR snake movement.	In addition to the mitigation outlined under SAR above, the following additional mitigation is recommended: • Should SAR snake habitat be confirmed in the ROW, ECCC will be consulted to determine if the identified mitigation measures are sufficient or if permits are required under *SARA*. • Daily sweeps of work areas should be conducted within/directly adjacent to SAR snake habitat during the active season (generally March 15 to October 30). • If a suspected SAR snake is observed, a qualified professional will be contacted for assistance immediately and the MECP and/or ECCC will be informed if deemed necessary. • If SAR snakes are found, they will be allowed to leave on their own accord. • Netting type erosion control measures will be avoided over or adjacent to drains, watercourses and waterbodies. As a substitute for netting type erosion control, alternative products and/or rip rap or geotextile fabric should be considered in an effort to prevent entanglement of snakes. • Vehicles and equipment left idle overnight at work areas will be inspected for SAR snakes prior to use.	**Net effects are predicted to be not significant.** With the implementation of mitigation measures, net effects are anticipated to be short to medium-term in duration, isolated to occasional, reversible, and low in magnitude.
Natural Environment Resources – Natural Heritage Features: SAR Bats	**Construction & Maintenance:** Alteration or loss of SAR bat habitat and alteration of SAR bat movement.	In addition to the mitigation outlined under SAR above, the following additional mitigation is recommended: • Should SAR bat habitat be confirmed in the ROW, ECCC will be consulted to determine if the identified mitigation measures are sufficient or if permits are required under *SARA*. • Snags (dead standing trees) and cavity trees with the potential to provide SAR bat habitat that do not pose a risk to the operation of the transmission line will be identified by a qualified professional and retained to the extent practical. • Habitat removal during the bat active period (April 1 to September 30) will be avoided to the extent feasible. Tree removals should take place during the non-active bat period (October 1 to March 31). • The potential to impact SAR bats would be restricted to maternity sites or day-roosts. • Assess for maternity roosts along the Preferred Route 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. • In the event potential SAR bat habitat (including trees with a 10 cm or greater diameter at breast height) requires removal in support of the 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).	**Net effects are predicted to be not significant.** With the implementation of mitigation measures, net effects are anticipated to be short to medium-term, isolated to occasional, reversible, and low in magnitude.
Natural Environment Resources – Natural Heritage Features: Aquatic SAR	**Construction & Maintenance:** Alteration of aquatic SAR habitat.	Refer to mitigation outlined under SAR above and mitigation recommended under Aquatic and Fish Habitat.	**Net effects are predicted to be not significant.** With the implementation of mitigation measures, net effects are anticipated to be short-term in duration, rare or isolated in frequency, reversible, and low in magnitude.
Recreational Resources	**Construction & Maintenance:** Temporary disturbance to recreational trails.	• 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.	**No net effects are predicted.**

Environmental Concern	Project Phase & Potential Effects	Mitigation Measures	Characterization of Net Effects and Determination of Significance
		• 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.	
Visual & Aesthetic Resources	**All Phases:** Potential visual impacts to sensitive receptors with views of the Project.	• Design of the transmission line (e.g., placement of structure locations) will consider visibility to nearby receptors, following prior consideration given to engineering and technical factors, environmental features (e.g., watercourses), and discussions with directly impacted landowners.	**Net effects are predicted to be not significant.** The Project will parallel existing infrastructure corridors (e.g., Highway 17) to the extent practical, which will reduce the net visual change for the majority of the proposed Project's length. With the implementation of mitigation measures, including consultation with local municipalities and landowners, net effects to visual and aesthetic resources are anticipated to be long-term, continuous, reversible, and low magnitude.
Technical Considerations: Infrastructure Crossings	No potential effects of the proposed Project on infrastructure crossings are anticipated.	N/A	N/A

7.13. Cumulative Effects Assessment

The Cumulative Effects Assessment (CEA) for the Project has been completed in accordance with the Class EA for Transmission Facilities (Hydro One, 2024) 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. Identification and Assessment of Cumulative Effects

If an environmental and socio-economic element evaluated in the effects assessment does not have any predicted net effects, then no further analysis of that element is required in the cumulative effects assessment. Therefore, the cumulative effects assessment is limited to elements with net effects that could act cumulatively with net effects from other projects or activities in the Project’s LSA.

The depth of analysis of potential cumulative effects depends upon the relative contribution of the applied-for project to the predicted cumulative effects. The Project’s contribution to potential cumulative effects depends on various factors, such as:

- The source of the disturbance.
- The resilience of the receiving environment.
- The way in which disturbances interact in time and space.

The level of detail provided in the cumulative effects assessment reflects the extent to which a cumulative effect on an environmental or socio-economic element is probable, the likely scale or magnitude of effect, as well as the extent to which these effects can be accurately and reasonably described relative to the receiving environment.

The same criteria that were used to characterize and evaluate the significance of net effects were used for the cumulative effects assessment (see **Section 3.4**).

A qualitative assessment was considered the most appropriate method to evaluate the significance of predicted cumulative effects in consideration of the nature and context of

the Project activities. The assessment of cumulative effects relied on available literature, baseline data and information, and the professional judgement of the assessment team.

The significance of the Project's contribution to cumulative effects is determined in a manner similar to that employed in determining the significance of net effects as previously outlined in **Section 3.5**.

7.13.2. 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. Hydro One is proposing to move the D6 transmission line to address the DND's request to relocate the existing transmission line corridor outside of active areas of CFB Petawawa and to replace infrastructure that has reached the end of its life.

7.13.3. Project Inclusion List

The Technical Guidance for Assessing Cumulative Environmental Effects under the *Canadian Environmental Assessment Act, 2012* (CEA Agency, 2018), and the best practices approach described in the Cumulative Effects Assessment Practitioner's Guide (Hegmann et al., 1999) advise the inclusion of certain and reasonably foreseeable activities for cumulative effects assessment. The certain and reasonably foreseeable developments and activities identified for this assessment adopt this approach, using the following criteria:

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

The assessment includes certain and reasonably foreseeable activities and developments identified for the Project-specific LSA as of November 27, 2025. The sources reviewed to identify projects or activities that could have cumulative interactions with the Project include:

- NRCan Major Projects (NRCan, 2025b).
- Canadian Impact Assessment Registry (Impact Assessment Agency of Canada [IAAC], 2025).
- Infrastructure Canada Housing and Infrastructure Project Map (Infrastructure Canada, 2025).
- Environmental Registry of Ontario (MECP, 2025d);
- Environmental Assessment Projects by Category, list of approved individual EAs by industry sector (Government of Ontario, 2025c).
- Access Environment – Environmental Approvals and Registrations Interactive Map (Government of Ontario, 2025d).
- Ontario's Infrastructure Plan Interactive Map (Government of Ontario, 2025e);
- Infrastructure Ontario Projects (Infrastructure Ontario, 2025).
- Ontario's Highways Program Interactive Map (MTO, 2025).
- Hydro One Major Projects (Hydro One, 2025).
- Town of Petawawa Construction Projects (Town of Petawawa, 2025).
- County of Renfrew 2025 Transportation Infrastructure Projects (County of Renfrew, 2025).

Some reasonably foreseeable developments are expected to have been completed prior to, or are scheduled to commence after, Project construction. Where construction schedules for reasonably foreseeable developments were not known, it was conservatively assumed that construction schedules are concurrent and overlap with Project construction activities. **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 7-1**, 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 EAs.
2. Known current, and future Hydro One projects where the EA (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.
3. Other future projects where an EA or planning study has not yet been initiated, completed, or is otherwise not publicly available. In these instances, there is insufficient information to meaningfully assess potential interactions with the

Project. It is noted that for these 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 7-1: Projects Included in the Cumulative Effects Assessment

Project Name	Proponent	Interaction with the Project
Tier 1 Projects: Effects Assessment Documentation Publicly Available		
No projects identified.		
Tier 2 Projects: Hydro One Planned Future Undertakings with Owner Predicted High-Level Effect Knowledge		
No projects identified.		
Tier 3 Projects: Future Projects in Area where Assessment of Effects are Not Yet Known		
Construction of Communications Tower – Garrison Petawawa (IAAC, 2025)	DND	Located within the LSA at the intersection of Highway 17 and Orange Road.
Rehabilitation of Algonquin Trail/Ottawa Valley Recreational Trail (IAAC, 2025; Infrastructure Canada, 2025)	DND and Infrastructure Canada	Located within the LSA running adjacent to the abandoned rail corridor.
MTO Highway 17 Road Rehabilitation (MTO, 2025)	MTO	The Preferred Route runs adjacent to Highway 17 where road rehabilitation and resurfacing is proposed.

Figure 7-1: Cumulative Effects Assessment



HYDRO ONE NETWORKS INC.

D6 TRANSMISSION LINE RELOCATION PROJECT

CUMULATIVE EFFECTS ASSESSMENT
FIGURE 7-1

- Refined Route Alternative A
- Local Study Area (500 m)

Base Data

- Transmission Line Junction
- Existing Transmission Line to Be Decommissioned
- Existing Transmission Line
- Highway
- Road
- Municipal Boundary
- Waterbody
- Watercourse
- Abandoned Railway Track
- NRCan Petawawa National Research Forest
- Canadian Forces Base Petawawa
- Chalk River Atomic Energy of Canada Property

Tier 3

- MTO Highway 17 Road Rehabilitation
- Construction of Communications Tower - Garrison Petawawa
- Rehabilitation of Algonquin Trail/ Ottawa Valley Recreational Trail

SCALE 1:90,000

0 1 2 4 Kilometers

MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR

MAP CREATED BY: -AEE
MAP CHECKED BY: -LW
MAP PROJECTION: NAD 1983 CSRS UTM Zone 18N

DILLON CONSULTING

PROJECT: 21-2314
STATUS: DRAFT
DATE: 2026-02-03

FILE LOCATION: K:\2021\212314 HONI Petawawa\Product\Client\ESR\ESR.aprx

7.13.4. Summary of Cumulative Effects

As no Tier 1 or Tier 2 projects were identified within the spatial and temporal boundaries and there is insufficient information to meaningfully assess potential interactions with the Project for Tier 3 projects, a cumulative effects assessment was not conducted.

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 2.2**, a Project-specific EMP will be prepared following the completion of the Class EA process and before the start of construction. The EMP 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.
- 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 *EA Act* to construct a new single circuit 115 kV transmission line to replace the existing transmission line being retired on DND property. The undertaking consists of the relocation of approximately 25 km of the D6 transmission line between Chalk River JCT in the Township of Laurentian Hills and the Petawawa JCT in the Town of Petawawa.

Following identification of the need for the Project, Hydro One identified viable route alternatives for the single circuit transmission line. At the outset of the EA, Hydro One identified four viable route alternatives to study for the Project. Based on information obtained during the early stages of the Class EA process, and through consultation with DND, Indigenous communities, and local stakeholders, Hydro One made additional refinements to Route Alternative A (Preferred Route) in September 2025.

Since the Notice of Commencement of Class EA in July 2021, municipal, provincial, and federal government officials, staff, and agencies, Indigenous communities, potentially affected and interested persons, and interest groups were consulted. Two COHs were held during the Project, the first was held on November 17, 2021, at the Petawawa Legion from 6:00 pm to 8:00 pm. The second COH was held on April 8, 2025, at the Petawawa Legion from 3:00 pm to 7:00 pm. Both COHs were drop-in formats and included display panels and tabletop mapping. Project team members were also available to answer questions. Additionally, the Project web page was available from the outset of the Class EA process, with regular updates to reflect the progress of the Project and Class EA.

Potential environmental effects were identified for the proposed Project and corresponding mitigation measures were developed to address these effects. Based on the information collected, Project design, and the planned implementation of the proposed mitigation measures, no significant net effects are predicted as a result of the Project.

The draft ESR was made available for public review and comment for 30 days, from February 13 to March 15, 2026. Hydro One has made best efforts to respond to and resolve issues raised by concerned parties during the comment period. Comments

received during this period and Hydro One's responses are documented in this final ESR.

Upon filing this final ESR with the MECP, the proposed Project will be implemented in full compliance with 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.

10.0 References

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