hydro one

St. Thomas Line project

Final Environmental Study Report highlights | October 2025

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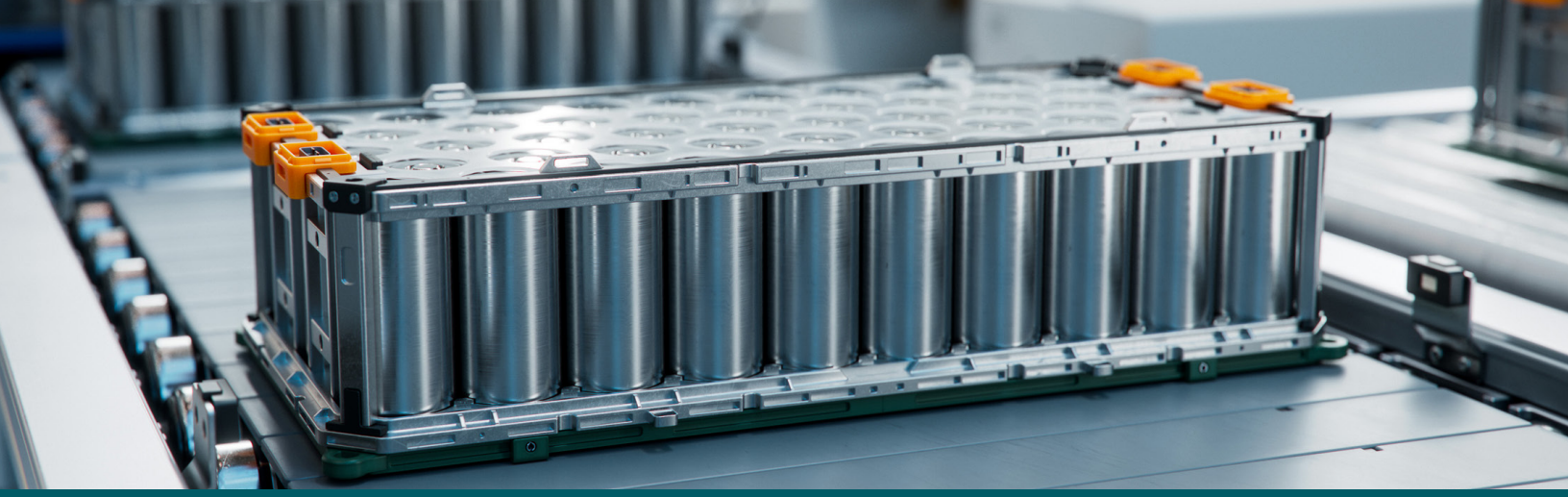
Introduction

Hydro One is pleased to share the highlights of the final Environmental Study Report (ESR) for the St. Thomas Line project. This important milestone in the Class Environmental Assessment (EA) process was completed through engagement with Indigenous communities and project partners, such as government agencies, interest groups, community members and elected officials.

This document is a summary of the final ESR. It includes an overview of the project and the process to select the preferred route for the proposed project. It also includes information about the studies undertaken to consider its potential effects on Indigenous culture, values and resources, the natural environment, agricultural land and more.



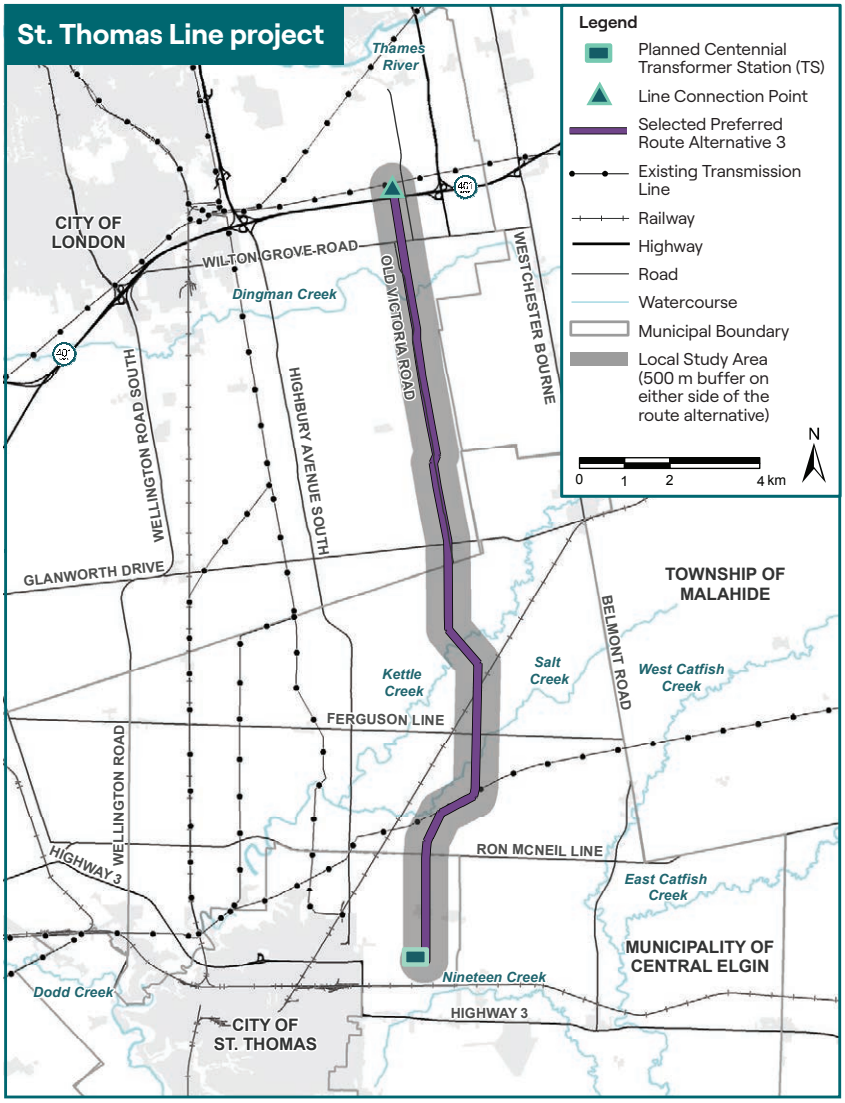
About the St. Thomas Line project

Hydro One's proposed St. Thomas Line will connect the planned PowerCo Canada Inc.'s electric vehicle (EV) battery cell manufacturing facility to Ontario's electricity grid.

Located in St. Thomas, the planned EV battery cell manufacturing facility is anticipated to be the largest EV manufacturing facility in North America and the largest manufacturing facility in Canada of any kind.

To energize this planned facility, Hydro One is proposing to construct a 230-kilovolt (kV), double circuit transmission line extending approximately 20 kilometres (km) from existing Hydro One 230-kV transmission lines to the east of Hydro One's Buchanan Transformer Station (TS) in London, to the new Hydro One Centennial TS in St. Thomas.

As part of the Class EA for the project, Hydro One evaluated several route alternatives to identify the route that best balances the impacts across four criteria categories: Indigenous culture, values and land use, natural environment, socio-economic environment and technical and cost considerations.

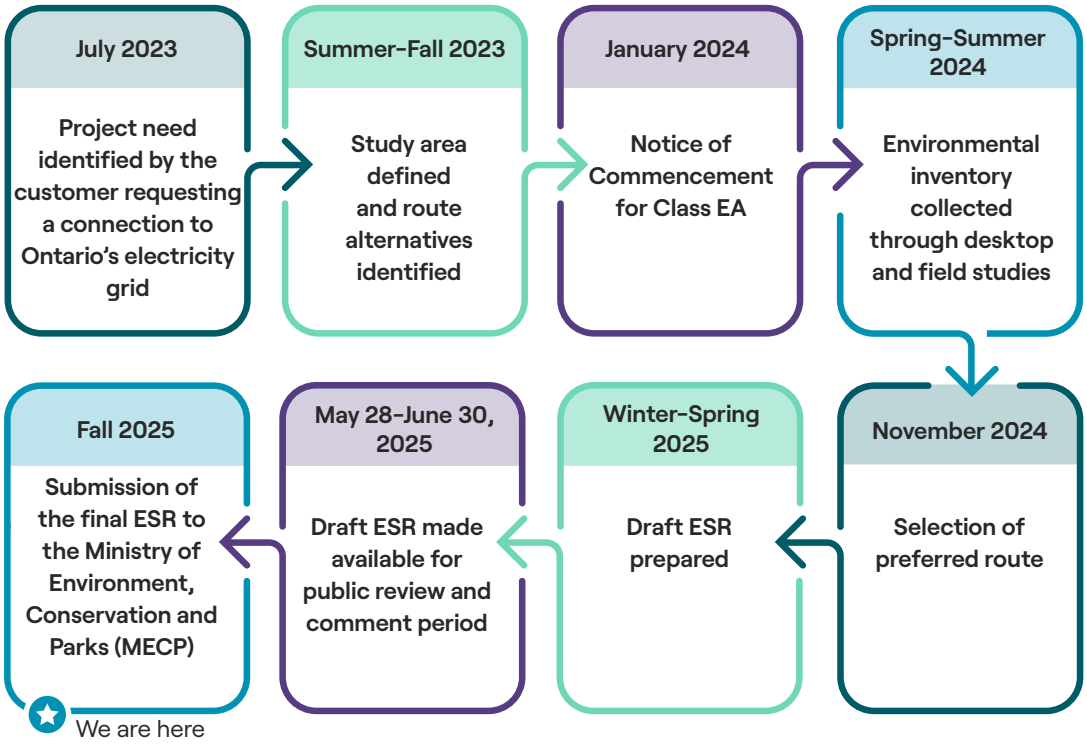


About the Class Environmental Assessment

The proposed project is subject to the *Class Environmental Assessment for Minor Transmission Facilities (Hydro One, July 2022)*, an approved planning process under the *Environmental Assessment Act* (EA Act) designed for proponents like Hydro One to evaluate the existing environment, assess potential environmental effects and mitigation, identify and evaluate alternatives, conduct consultation and engagement and document study findings.

The final ESR has been prepared in accordance with the requirements of the EA Act and describes the Class EA process undertaken for the proposed project.

How the Class EA process works



The final ESR describes:

- The existing conditions in the area surrounding the project
- The engagement with Indigenous communities and consultation with government agencies, elected officials, interest groups and the community
- The process to evaluate route alternatives and select the preferred route
- Potential environmental effects
- The actions we will take to minimize and avoid potential negative project effects

Identification of route alternatives

Hydro One received the connection request to energize the new facility by 2027, and worked with the Independent Electricity System Operator to evaluate how the additional power demand would connect to the province's electricity network. It was determined that a new 230-kV, double-circuit transmission line would need to be built to accommodate the customer's needs.

Hydro One then conducted an internal preliminary assessment to identify viable routes (route alternatives) for the new proposed transmission line and identified three viable route alternatives with variations.

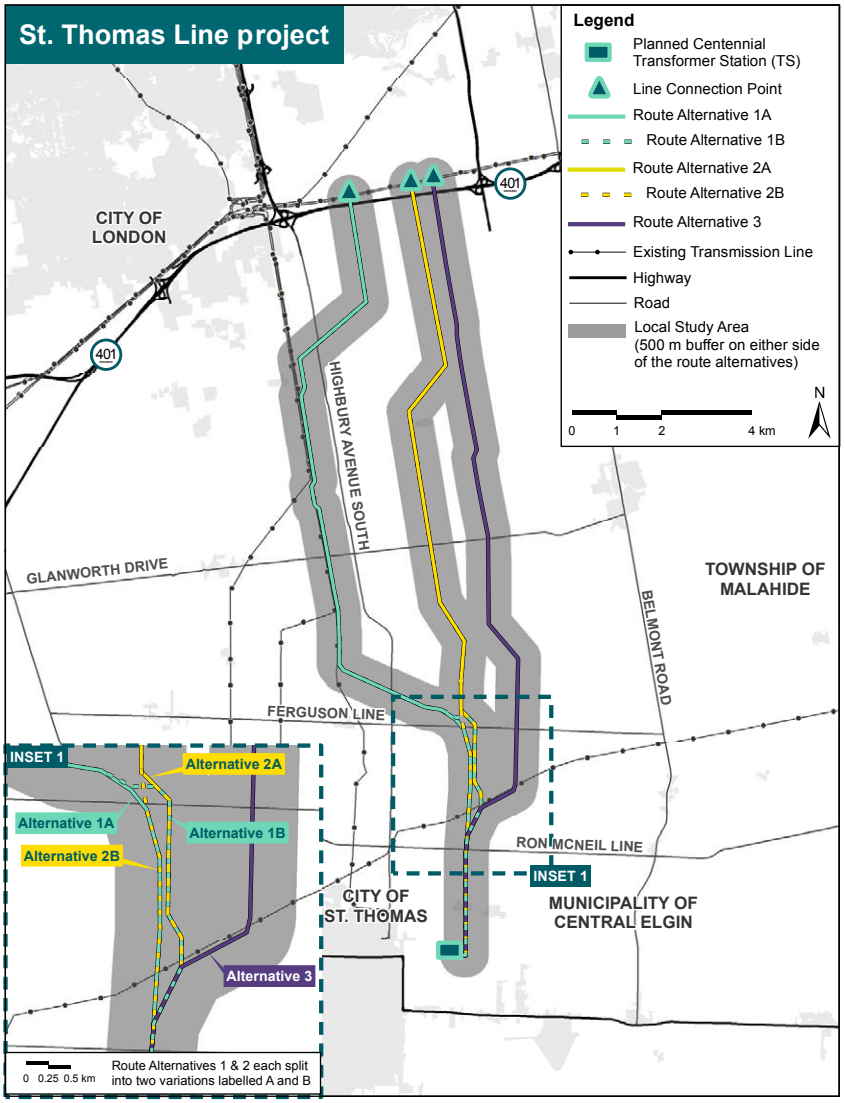
Route Alternative 1, shown in green, separates into two variations:

- Route Alternative 1A
- Route Alternative 1B

Route Alternative 2, shown in yellow, separates into two variations:

- Route Alternative 2A
- Route Alternative 2B

Route Alternative 3, shown in purple



Evaluation and selection of a preferred route

To select a preferred route, a weighted decision-making approach was undertaken based on four criteria categories:

- **Indigenous culture, values and land use**
- **Natural environment**
- **Socio-economic environment**
- **Technical and cost considerations**

We collected information on existing conditions associated with each category and used data obtained from literature reviews, reports and technical memos commissioned by Hydro One, online databases, mapping, consultation and field surveys. We received this information and studied each route alternative to assess the potential impact of the proposed transmission line. The preferred route was found to have the least potential impact on the four criteria categories.

Indigenous culture, values and resources

What we found

The project study area is located within the traditional territory of several Indigenous communities. Indigenous communities and Hydro One engaged early in the planning process, and they continued to provide important feedback to ensure their perspectives are reflected in the draft and final ESR. Route Alternative 3 affects the fewest hectares of lands that support hunting, trapping and harvesting grounds, as well as the fewest rare habitats and species at risk.

What we'll do

- Minimize impacts on natural environment with the potential to support hunting, trapping and/or harvesting grounds
- Minimize effects on rare, undisturbed native habitats and ecosystems
- Minimize effects on rare and sensitive species' regeneration potential
- Continue to identify opportunities for Indigenous communities to monitor all archaeological field surveys and review reports
- Continue to engage with Indigenous communities throughout the project to ensure their feedback is understood and solutions are collaborative

Key takeaway

Hydro One is a trusted operator of transmission lines across the province. We will continue to engage in ongoing, open communication with Indigenous communities throughout the project and identify opportunities for Indigenous communities to monitor all archaeological field surveys and review reports.

To read the final ESR in full, please visit HydroOne.com/StThomasLine or scan the QR code.

For more information on First Nation lands and interests, please refer to Section 4.4.3 of the final ESR.

For more information on proposed mitigation measures, please refer to Section 7.8 of the final ESR.

Natural environment

What we found

Route Alternative 3 was found to have the least amount of potential species at risk habitats in the right-of-way, and it avoids the Westminster Wetland Complex and the Tenants Pond Environmentally Sensitive Area. It also purposely turns to avoid crossing directly over the Pitcher Plant Fen in Central Elgin.

What we'll do

- Minimize vegetation removal
- Minimize effects on species at risk habitats, including limiting the removal of woodlands within the right-of-way that are potential habitats for species at risk bats
- Minimize effects on significant wildlife habitat
- Minimize impact on designated natural areas including significant woodlands and wetlands

Key takeaway

Hydro One builds projects in an environmentally responsible way with local interests in mind. Route Alternative 3 has the least potential impact to vegetation, wildlife and wildlife habitats and species at risk and their habitats. It also has the least potential effects on designated natural areas, including significant valley lands, significant woodlands and environmentally sensitive areas.

For more information on the physical and biological features identified within the project study area, please refer to Section 4.6 of the final ESR.

For more information on proposed mitigation measures, please refer to Section 7.7 of the final ESR.

Socio-economic environment

What we found

Route Alternative 3 crosses the fewest residential properties and has the least impact to source water resources. It also has the fewest effects on built heritage resources, cultural heritage landscapes and archaeological resources. The majority of impacts to agricultural operations will be temporary.

What we'll do

- Minimize effects to agricultural operations and residential properties
- Minimize effects on source water resources including significant groundwater recharge areas and highly vulnerable aquifers located in the Upper Thames River source protection area, and private water wells located in the Kettle Creek source protection area
- Minimize effects on built heritage resources and cultural heritage landscape in proximity to the right-of-way
- Invite Indigenous communities to attend archaeological field surveys to observe the work and any findings
- Cease all activities and engage a licensed archaeologist in the event archaeological material is encountered during construction

Key takeaway

In this category, all route alternatives had no buildings in the rights-of-way and a similar impact on agricultural operations. Route Alternative 3 has the fewest effects on residential properties.

The majority of impacts to agricultural operations with Route Alternative 3 will be temporary. Transmission infrastructure and equipment are considered compatible with farming and agriculture operations. Hydro One will continue to identify opportunities to mitigate and protect potential damage to environmental features, including concerns related to soil compaction and drainage, to every extent possible and, where necessary, make appropriate repairs.

Hydro One has retained licensed archaeologists to conduct archaeological assessments for the new proposed transmission line. We continue to conduct archaeological field surveys on areas with identified archaeological potential to ensure that any archaeological resources found are appropriately managed and protected.

For more information on the potential effects to agricultural operations and Hydro One's proposed mitigation measures, please refer to Section 7.1 of the final ESR.

Technical and cost

What we found

Route Alternative 3 is the preferred route from both a technical and cost perspective. It crosses the fewest pipelines and does not require planned service interruptions, changes or outages. It also avoids major water infrastructure including the Huron and Lake Erie Primary Water Supply System Pipeline and provides the best location for crossing Kettle Creek.

What we'll do

- Avoid major water infrastructure, where practical
- Impact the fewest properties
- Avoid requiring project bypasses, circuit modifications or planned outages
- Parallel existing infrastructure such as roads and transmission lines, where practical

Key takeaway

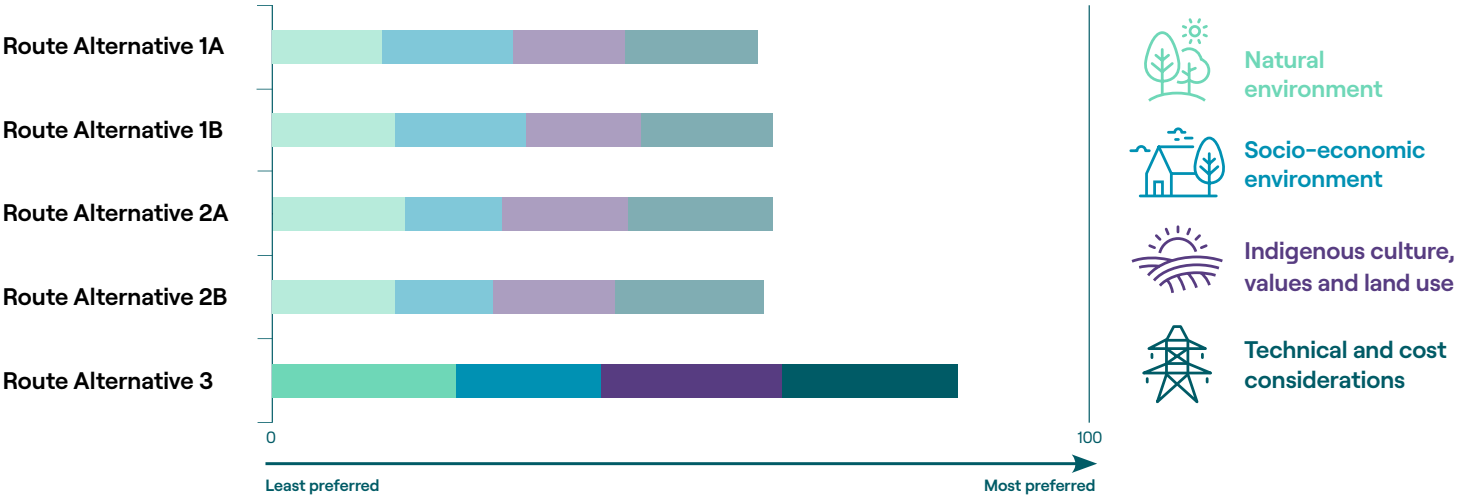
Overall, Route Alternative 3 is the preferred route from both a technical and cost perspective. It impacts the fewest properties, parallels a section of existing transmission line where practical and avoids major water infrastructure. It also does not require any planned outages to customers during construction.

For more information on technical considerations, please refer to Section 7.11 of the final ESR.

Preferred route

Overall, Route Alternative 3 was selected as the preferred route because it minimizes overall environmental impacts, particularly on wildlife, vegetation and significant natural areas.

- Compared to all route alternatives, the preferred route impacts the fewest number of residential properties
- The preferred route affects the least amount of lands that support Indigenous hunting, trapping and harvesting grounds
- It has the fewest effects on source water resources including significant groundwater recharge areas and highly vulnerable aquifers
- It affects the fewest amount of rare habitats and species at risk
- The preferred route won't require planned network outages during construction, and minimizes the need for complex changes to any existing transmission lines



More information about the process undertaken to select the preferred route is available in Section 5.5 of the final ESR.

Continued engagement

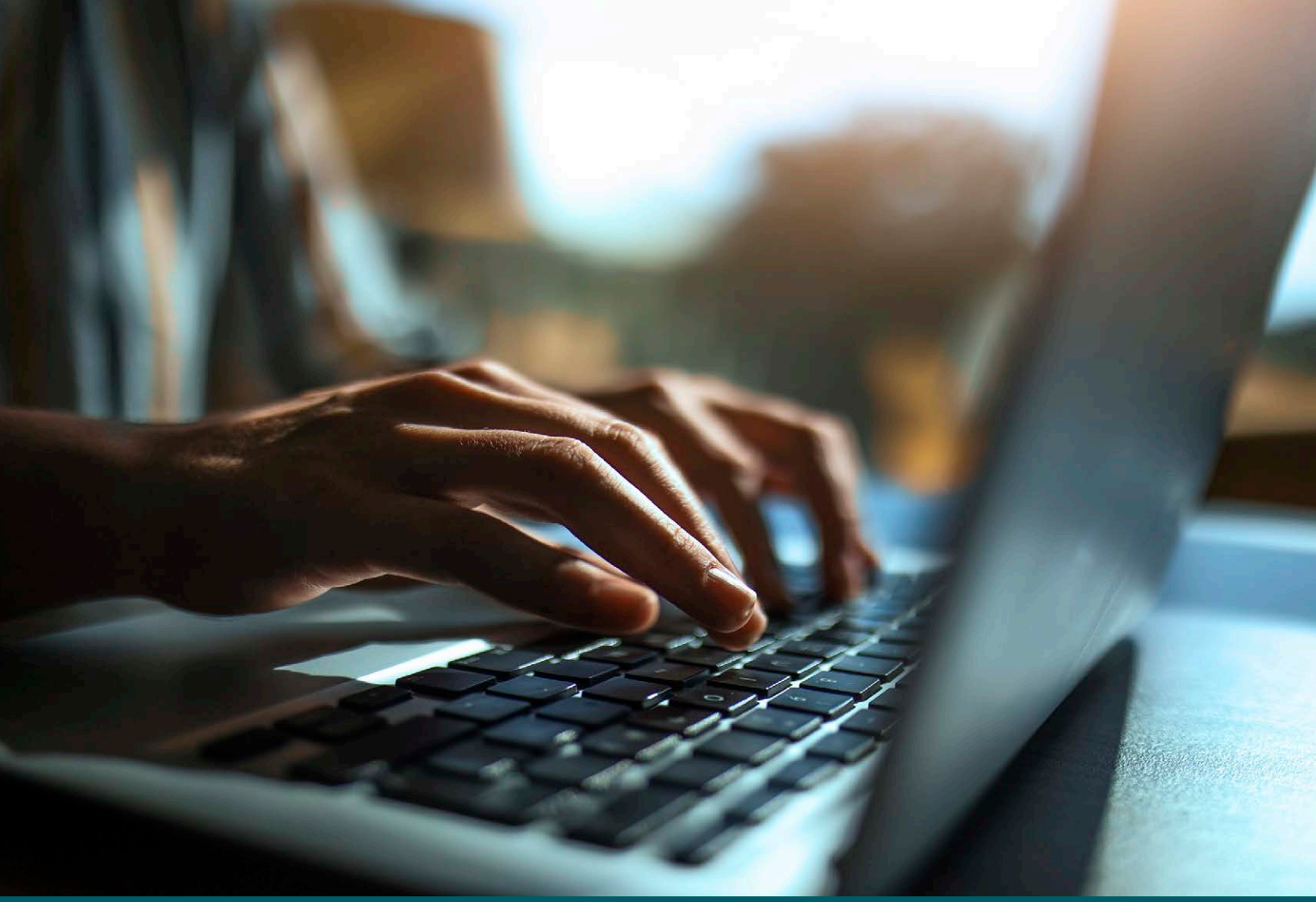
Consultation and engagement are an important part of the Class EA process and Hydro One projects. To date, Hydro One engaged with Indigenous communities, municipalities, government agencies, residents and stakeholders by creating opportunities to share input, questions and concerns. This includes:

- Early engagement with Indigenous communities, including an in-person community open house hosted at Chippewas of the Thames First Nation. Indigenous communities were also invited to participate as monitors during all field studies and review the draft assessment reports.
- Door knocking, registered mail sent directly to affected property owners, newspaper ads, radio ads, social media ads and phone calls
- In-person meetings with directly affected property owners
- In-person community open houses hosted in February 2024 and November 2024
- A local Hydro One community office in St. Thomas from May to August 2024
- A website with regular updates about the project and Class EA
- An interactive online mapping platform hosted on the project website to gather feedback
- The establishment of a technical advisory committee to help inform the comparative evaluation process used to select the preferred route
  - Workshops were held in May 2024 and November 2024 to provide a platform for Hydro One to present information, hold discussions and draw upon the experience and knowledge of representatives from Indigenous communities, government agencies, municipalities and interest groups.
  - The draft ESR was available for a public review and comment period from May 28, 2025 to June 30, 2025. Comments received during the draft ESR review and comment period have been included in Section 3 of the final ESR. The final ESR has also been updated to reflect these comments.

What we've heard

- Consider and take action to minimize the impact on agriculture and agricultural operations
- Minimize effects on the natural environment, including impacts on woodlands, wetlands and wildlife
- Maximize the use of existing infrastructure corridors
- Take action to minimize impact to residents during construction period
- Minimize effects on homes

We will continue to engage with Indigenous communities, directly impacted property owners, local residents, interest groups including the Ontario Federation of Agriculture and local elected officials.



More information

For more information about the St. Thomas Line project, please visit:
HydroOne.com/StThomasLine

If you have any questions or need further information about this project, contact **Community.Relations@HydroOne.com** or **1.877.345.6799**

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