Leaside to Main Infrastructure Refurbishment Project

Strengthening the transmission system in your neighbourhood

Partners in Powerful Communities

Purpose of this Public Information Centre

- Provide you with an update on Hydro One's infrastructure project in your community
- Review Class EA consultation activities and field studies completed to date
- Present the preferred underground cable route selected between Leaside Transformer Station (TS) and Todmorden Junction (JCT)
- Provide information on construction methods and techniques
- Outline next steps in the planning and approvals process and additional opportunities for your participation
- Solicit your input and address comments or concerns you may have

Proposed Project

To ensure a continued, reliable supply of electricity to the area, Hydro One will:

1. Replace two sections of existing underground 115 kilovolt (kV) cable located between:
   - Leaside Transformer Station (TS) and Todmorden Junction (JCT) and;
   - Lumsden JCT and Main TS
2. Replace existing overhead shield wire, used to protect the line from lightning, located between:
   - Todmorden JCT and Lumsden JCT

Need for Leaside to Main Project

- Hydro One must refurbish aging transmission infrastructure to ensure a continued safe and reliable supply of power to Toronto Hydro customers in the area and minimize the risk of future power interruptions
- The existing underground cables were installed in the1950s and are approaching their end of life
- Replacing the existing overhead shield wire with new fibre optic wire will enhance Hydro One's ability to monitor and control the transmission network
- This project will strengthen and modernize the electricity grid that powers your city every day

Project Infrastructure

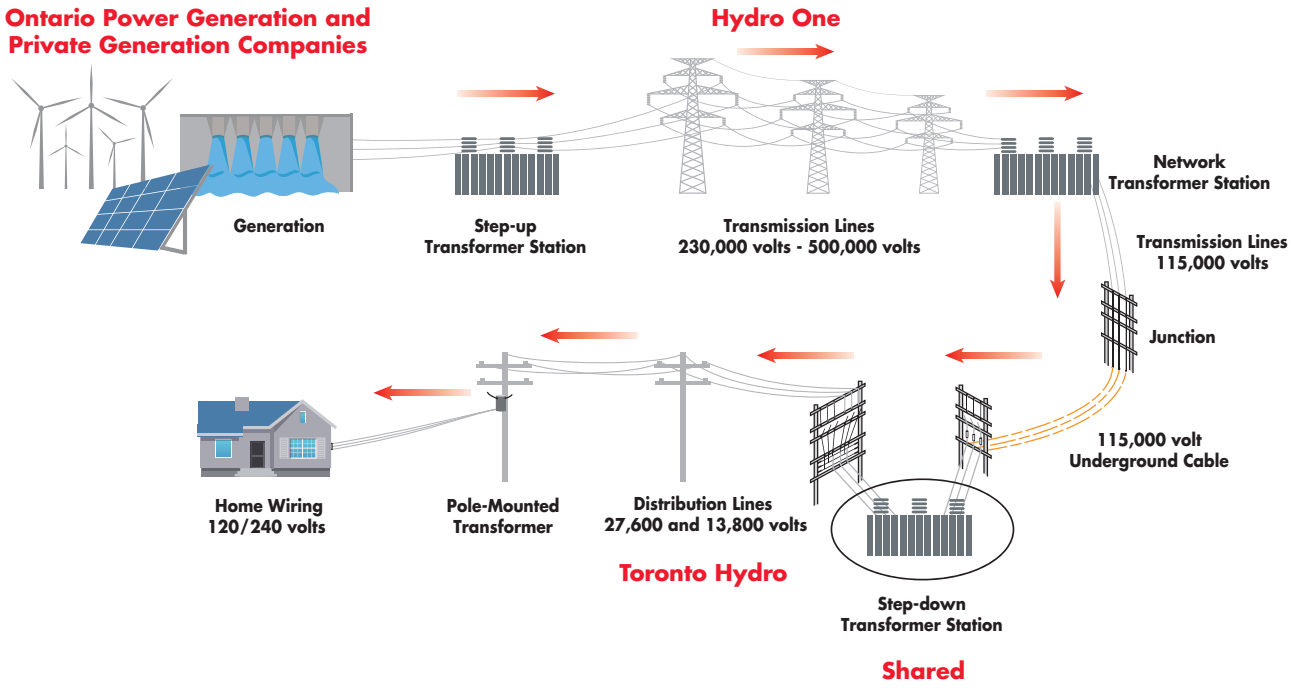
Lumsden Junction

Junction:
The point where a transmission line switches from overhead infrastructure to underground cables

Leaside Transformer Station

Transformer Station:
A station with power transformers and other electrical equipment arranged to transfer power from one voltage level to another

Hydro One's Role in Delivering Electricity to Your Community



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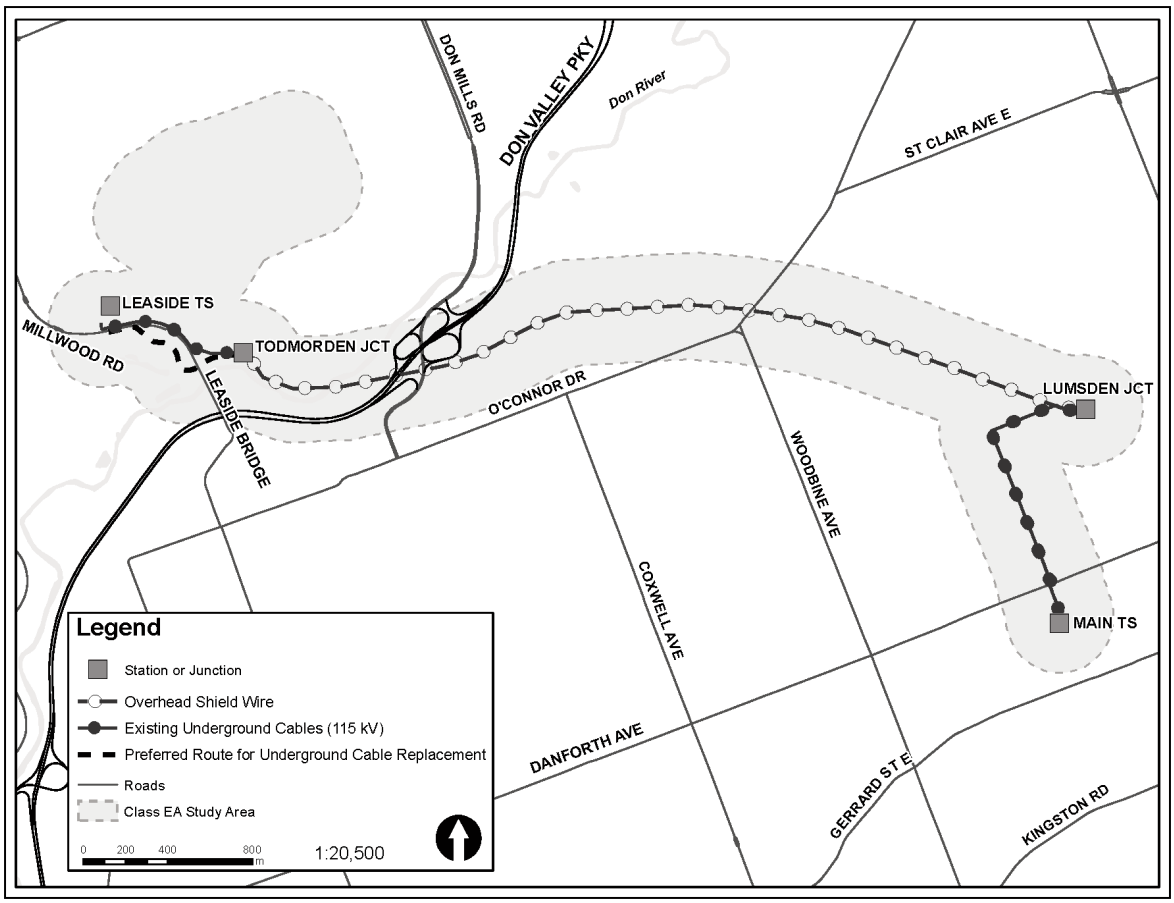
Class EA Study Area



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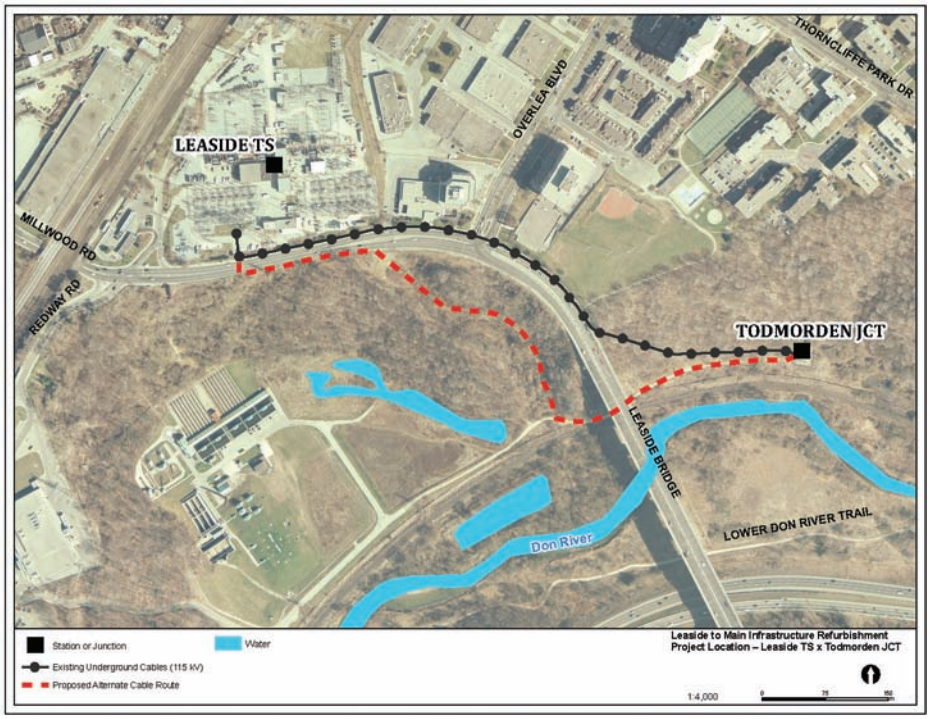
Leaside TS to Todmorden JCT Underground Cable Routes Evaluated



- Two feasible options were identified and evaluated for replacing the underground cable between Leaside TS and Todmorden JCT
- **Option 1**: Follow existing route
  - Directional drilling and micro-tunneling were construction methods explored where surface trenching was not possible (steep slope, east of Leaside Bridge)
- **Option 2**: Cross Millwood Road, follow existing overhead Right-of-Way (ROW), run along existing access road east to Todmorden JCT

Leaside TS to Todmorden JCT Route Selection Criteria

Each route was evaluated and scored on the following criteria:

Natural Environment • Area of natural vegetation, particularly woodland, that requires clearing • Number of trees requiring removal • Crossings of environmentally significant and sensitive areas • Proximity to, and crossings of, watercourses • Presence of Species at Risk • Natural hazards (eg. erosion concerns, slope stability)	**Socio-economic Environment** • Proximity to residences, schools, hospitals, businesses and other facilities • Length of road closures required during construction • Disruption to street infrastructure • Disruption to traffic and transit
Technical & Cost • Duration of construction • Number of significant obstacles • Complexity of construction method • Adequacy of construction workspace	**First Nations** • Cultural/traditional/historical land or resources identified • Conservation interests identified • Potential effects on fish, wildlife and botanical species of interest

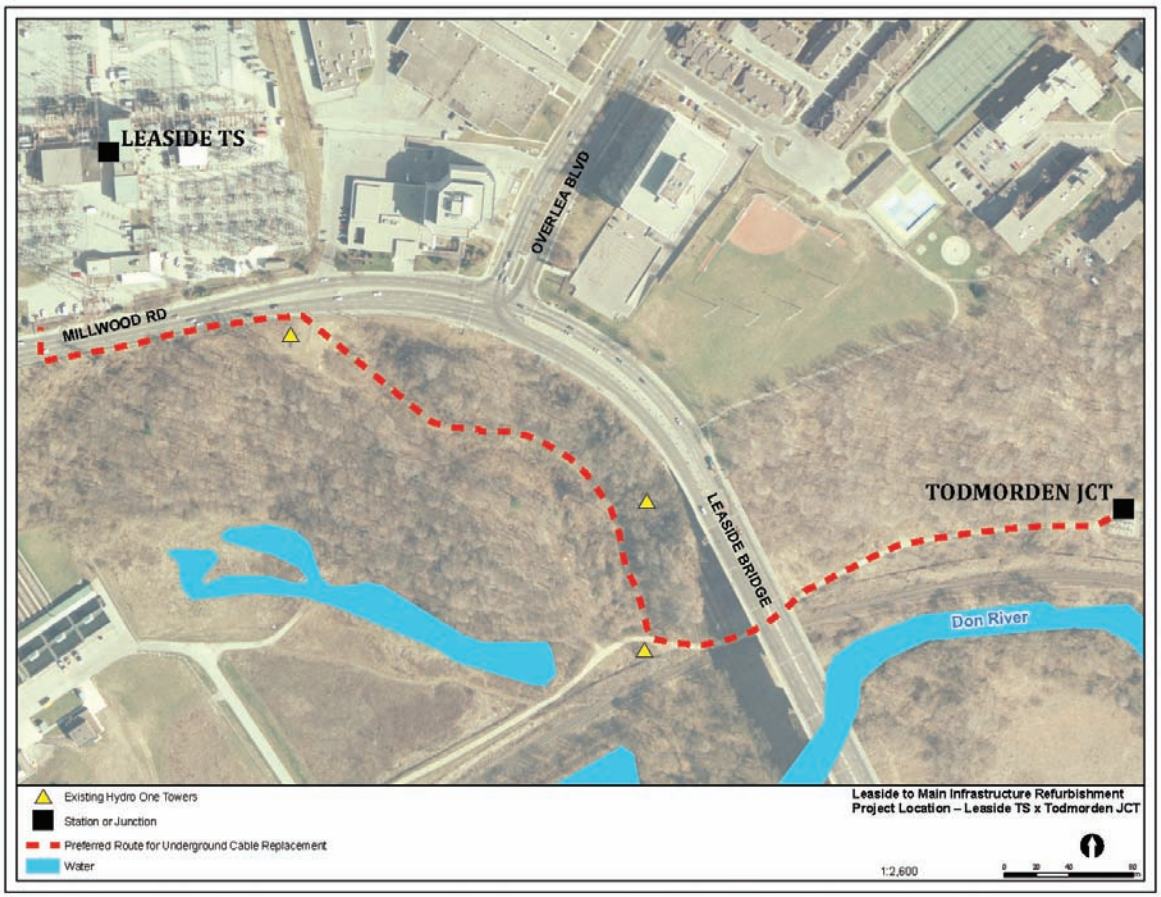
Route Evaluation Results

Options 1 and 2 scored similarly on many of the criteria evaluated with the exception of the following:

Option 1	Option 2
This route is favorable with respect to: • Potential to maintain slope stability • Lesser effects on Species at Risk	This route is favorable with respect to: • Less complex construction methods required • Less disruption to transit • Less disruption to pedestrians • Lesser effects to recreational resources • Lesser effects to residential/ commercial properties

Based on the evaluation and input received through consultation, **Option 2** has been selected as the preferred route.

Leaside TS to Todmorden JCT Preferred Route – Option 2



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Lumsden JCT to Main TS Underground Cable Route

It is proposed that the new cables be installed in the same location as the existing cables:

- Makes best use of existing underground ROW
- Alternative routes would increase construction complexity; at least one additional 90° turn would be required
- Area is heavily congested with other underground utility infrastructure

Environmental Mitigation Measures

Measures to reduce, prevent or mitigate potentially adverse environmental effects during design, construction and operation could include:

- Controlling noise, mud, dust, traffic disturbances and other nuisance effects during construction
- Protecting cultural heritage resources
- Minimizing soil erosion and compaction
- Minimizing effects on terrestrial and aquatic resources
- Environmental management during construction and operation

Please share your comments and feedback with us!

Underground Cable Replacement Construction Methods

Examples of surface trenching

Cross linked polyethylene (XLPE) cable

The new underground cables will be encased within a duct bank rather than directly buried in the ground. This will allow for ease of future maintenance, as required.

The construction process for replacing these cables will involve:

- Surface trenching (approximately 2 m x 2 m) and constructing a concrete duct bank
- Installing modernized XLPE cables, which do not contain insulating oil

What Can Local Residents and Businesses Expect?

Leaside TS – Todmorden JCT

- One or two lanes on Millwood Road will be restricted for short durations. Hydro One is working with Toronto Hydro to coordinate planned work and avoid multiple disruptions. Traffic control measures will be in place as required.
- Hydro One will install a double gate system to allow access to the existing trails that cross the ROW when construction vehicles are not present. Signage will be in place on other trails that require temporary closure.
- As consultation planning progresses, additional details will be determined. These will be presented at the pre-construction PIC.

What Can Local Residents and Businesses Expect?

Main TS – Lumsden JCT

- Entrances to businesses will remain accessible during construction.
- Small sections of Main Street and Lumsden Avenue will be restricted to one lane as construction progresses along each street. Traffic control measures will be implemented as necessary.

- Bus routes along Main Street may require re-routing. Hydro One is working with the TTC to minimize disruption.
- Driveway entrances to homes along Main Street may be restricted during work hours for a short duration. Driveway access will be restored after working hours using metal plates.
- As consultation planning progresses, additional details will be determined. These will be presented at the pre-construction PIC.

Tree Protection and Preservation

- Construction of this project will require the selective removal and/or trimming of some vegetation in various locations

- Hydro One is working closely with City of Toronto Urban Forestry Services and Toronto Region Conservation Authority to identify vegetation that requires removal and develop appropriate restoration and mitigation plans

Biodiversity Initiative

- Hydro One will be inviting interested parties to participate in biodiversity workshops to collectively identify and select initiatives to compensate for potential project effects to the natural environment
- Biodiversity initiatives will be selected based on a set of evaluation criteria (eg. initiatives in closer proximity to the project area will be considered more favourable)
- Examples of biodiversity initiatives that may be considered include:
  - Planting of native species
  - Habitat creation for pollinator species (eg. bees)
  - Removal/control of invasive species
- We anticipate the first workshop will be held in 2017, with implementation planned for 2018
- Join our project contact list to receive future updates on this initiative

Natural Environment Data Collected

Hydro One retained Golder Associates Ltd. to conduct natural environment surveys within the study area (i.e. within 120 m of the proposed project) as part of the Class EA. Surveys included:

- Ecological Land Classification
  - 27 vegetation communities identified
- Botanical inventory
  - 83 plant species/species groups observed, including one Species at Risk (butternut)
- Wildlife inventory
  - 72 wildlife species observed, including six Species at Risk (eg. barn swallow)

Butternut observed during field surveys

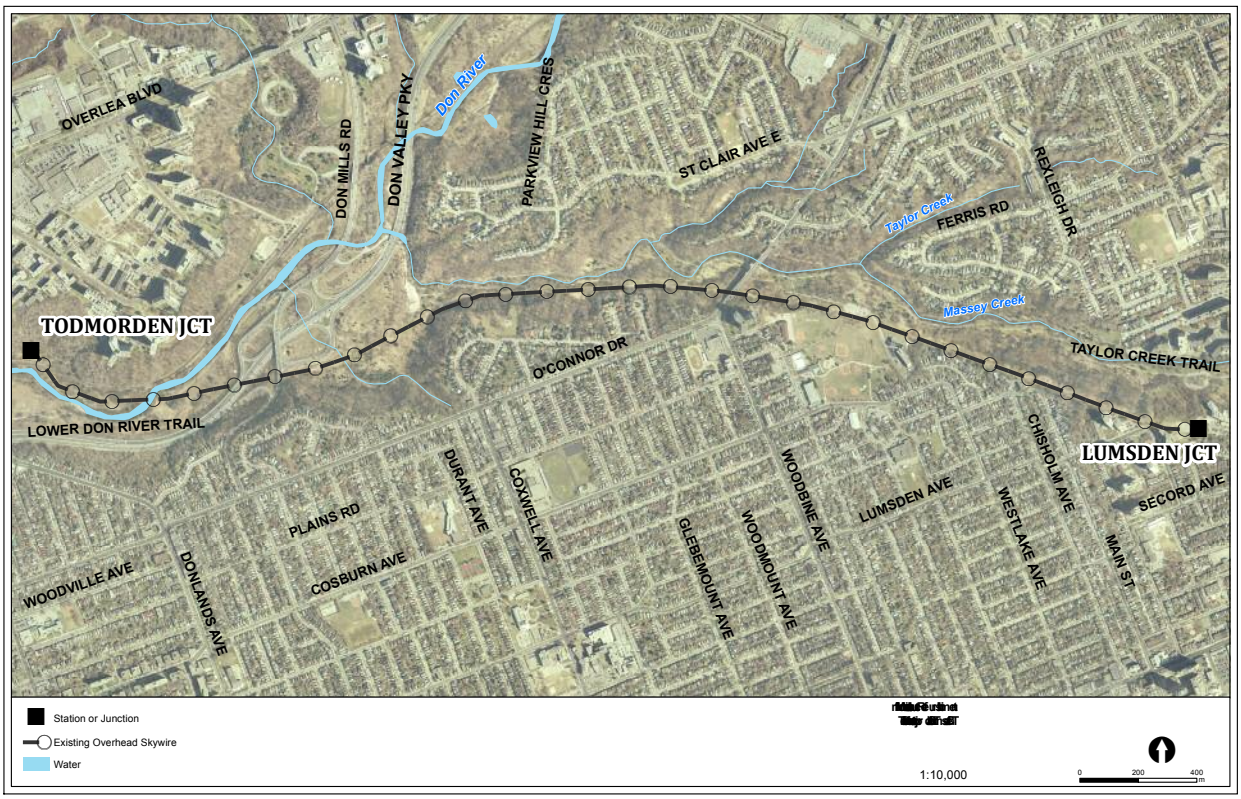
Natural Environment Data Collected

- Breeding bird surveys
  - 50 bird species observed
- Frog and toad call count surveys
  - American toads, green frogs and gray tree frogs observed
- Bat acoustic monitoring
  - Big brown bats and hoary bats recorded using acoustic monitors

Golder staff conducting evening amphibian and turtle nesting field surveys, May 2016

Survey station for basking turtles and evening amphibians

Todmorden JCT to Lumsden JCT Shield Wire Replacement



- Existing shield wire will be replaced with fibre optic wire, capable of monitoring and controlling high voltage equipment
- Shield wire replacement is not subject to the *Environmental Assessment Act*, but is included in the scope of this project

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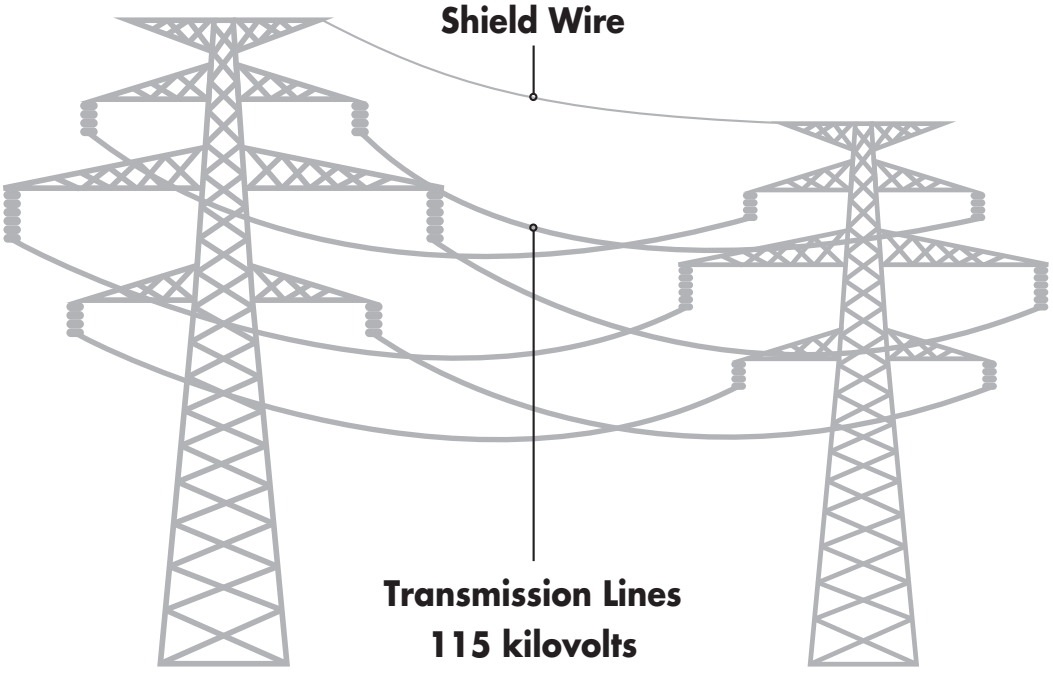
Replacing the Shield Wire



- Shield wire, also referred to as skywire, is used to protect our equipment from lightning and does not carry electricity
- To replace this wire, crews will manually climb towers to pull new shield wire between existing equipment
- Temporary roads may be required for small vehicle access to tower structures
- Access to trails along Taylor Creek Park may be restricted for short durations

Timeline

PUBLIC AND STAKEHOLDER CONSULTATION

Briefing for City of Toronto elected officials	December 2015
Class Environmental Assessment initiated	January 2016
Public Information Centre #1 Introduction to project	February 8 & 10, 2016
Community Walks in the project areas	Spring 2016
Field Studies completed	Spring 2016
Public Information Centre #2	August 9, 10 & 17, 2016
	Current Stage
Notice of Completion & Draft Environmental Study Report available for a 45-day review period	September 2016
Final Environmental Study Report filed with the Ministry of the Environment and Climate Change	Fall 2016
Anticipated Start of Construction. Prior to this, a Pre-Construction PIC will be held. Hydro One will also obtain other non-EA permits & approvals required.	Early 2017, contingent on the outcome of the Class EA process

Your input is important to us

Thank you for joining us at this Public Information Centre.

Please join our project mailing list and complete a comment form before you go.

To share concerns or request information call or email us at:

Telephone: 416-345-6799

Email: Community.Relations@HydroOne.com

www.HydroOne.com/Projects/LeasidetoMain



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