

Pipeline Safety - A Shared Responsibility



LICO 2025 Drainage Conference January 22, 2025



What is truly important to us as a company

Our vision, to provide energy, in a more planet-friendly way, everywhere people need it—drives our mission to be the first-choice energy delivery company in North America and beyond.

Our values are key to our ongoing success.

- Safety
- Integrity
- Respect
- Inclusion
- High Performance

About us



Enbridge is a first-choice energy provider.



Liquids pipelines

- World's longest, most complex transportation system
- 29,104 km/18,085 mi. of pipe
- Moving ~5.8 million barrels/day

Transports **~30%**
of crude oil produced
in North America



Natural gas pipelines

- 116,761* km/72,552* mi. of pipe
- Moving 24.6 Bcf/day
- Enough natural gas for >170M people

Delivers **~20%**
of the natural gas
consumed in the U.S.



Natural gas utilities

- 178,002 km/110,606 mi. of pipe
- Delivering energy for 175 years
- Over 7,000 valued employees

Delivering to
7 million
customers in Canada and the U.S.



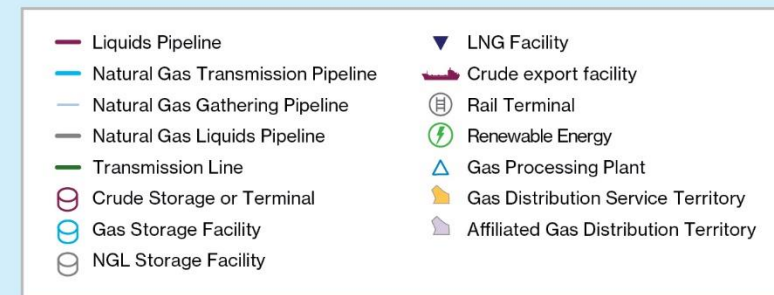
Renewable power

- 39 renewable power facilities
- 5,261 MW generating capacity
- Committed more than US\$7 billion (C\$10 billion) since 2002

1,137,227**
homes powered
by our assets

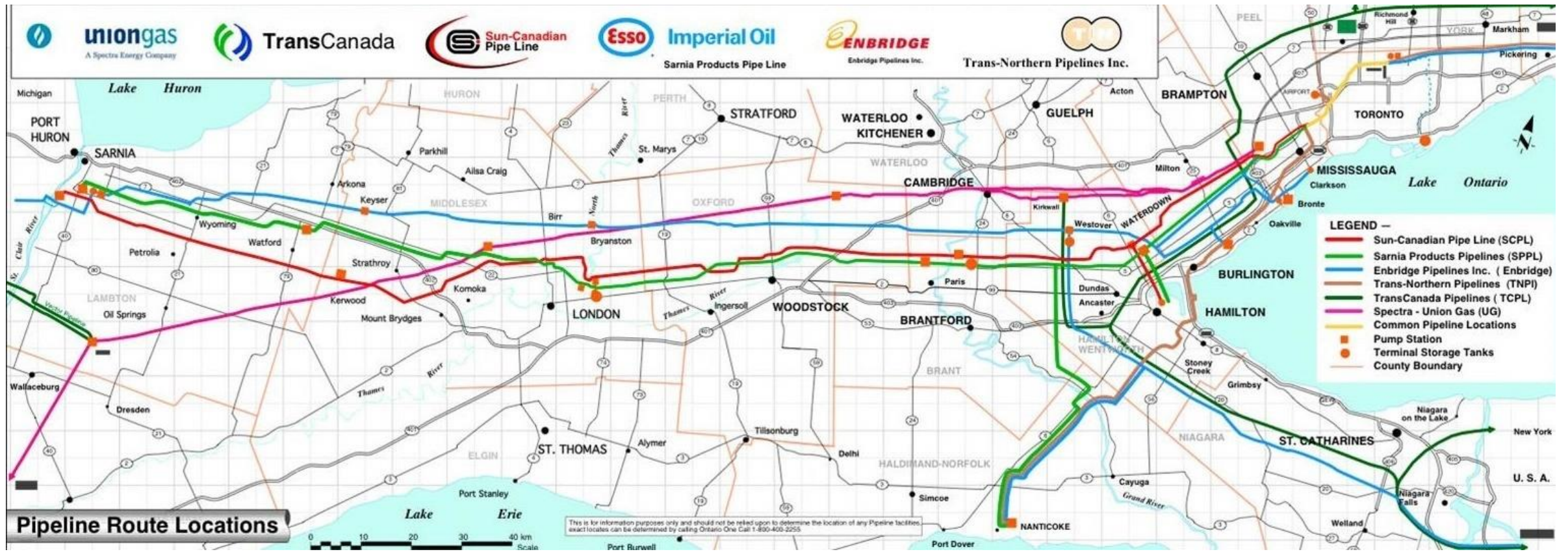
*Includes DCP Midstream assets

**Estimated numbers of households powered calculated using regional energy consumption data: [Energy Consumption – U.S. homes](#) and [Energy Consumption – Canadian homes](#).



Pipelines in Southwestern Ontario

High Pressure Transmission Petroleum & Natural Gas Pipelines



Safety is our #1 priority



We invested

US\$12B

from 2014 – 2023 to maintain the integrity of our system

We performed

42,530

pipeline integrity inspections in 2023

We monitor our lines

24-7

with people and computerized leak detection systems

We held/participated in

197

emergency exercises and drills in 2023



Above all else, we believe every incident can be prevented. We are always working to ensure the safety of our employees, neighbors, communities and the environment.

Why is Pipeline Safety Important?

Burnaby Pipeline Strike - July 25, 2007

Failure to properly locate buried facilities resulted in pipeline strike

- Result
 - Line strike
 - Oil Spill
 - Delayed construction
 - Extensive cleanup
 - Very costly \$\$\$



Why is Pipeline Safety Important?

3rd Party Construction Damage IS

Preventable!

Heavy Equipment Crossings and
Excavation over pipelines puts integrity of
pipelines at risk when not done safely.

Damaged coating can lead to external
corrosion.



Why is Pipeline Safety Important?

Damaged coating today leads to External Corrosion tomorrow

Pipeline Incident, 2008 (V.A, U.S.A)

The 30" (53 yrs old) natural gas pipeline ruptured and ignited explosion destroyed everything with 560 ft of the rupture.

Cause of rupture : Internal and External corrosion

Damage: \$5,416,000

Evacuations: 50 people evacuated



ATKINS

Why is Pipeline Safety Important?

Field locates allow for safe excavation and construction without delays.

It is LAW in Ontario to obtain field locates prior to excavating with mechanical equipment.

Fines up to \$10,000 for failing to obtain field locates



Pipeline Safety

A Shared Responsibility

Federally Regulated Pipelines (CER)



Provincially Regulated Pipelines (OEB)



Applicable Authorities



- **Canada Energy Regulator (CER)** – Federal Regulations governing Pipelines which cross Provincial & International Boundaries
- CER regulations state: 'No person can construct within 30 m of a Pipeline or operate mobile equipment over the Pipeline' without permission from the pipeline company



- **Technical Standards and Safety Authority (TSSA)** – Provincial Regulations governing pipelines operating within the Province of Ontario
- TSSA Reg 210 states: No person shall dig, bore, grade, excavate or break ground with mechanical equipment or explosives without first ascertaining from the license holder the location of any pipeline



Pipeline Types: Transmission Pipelines

In Ontario approx. 115,000 km of pipelines

Moves products and raw materials between industry and distribution

Ranges in size 4" – 48"

In easement on private lands – rural and urban

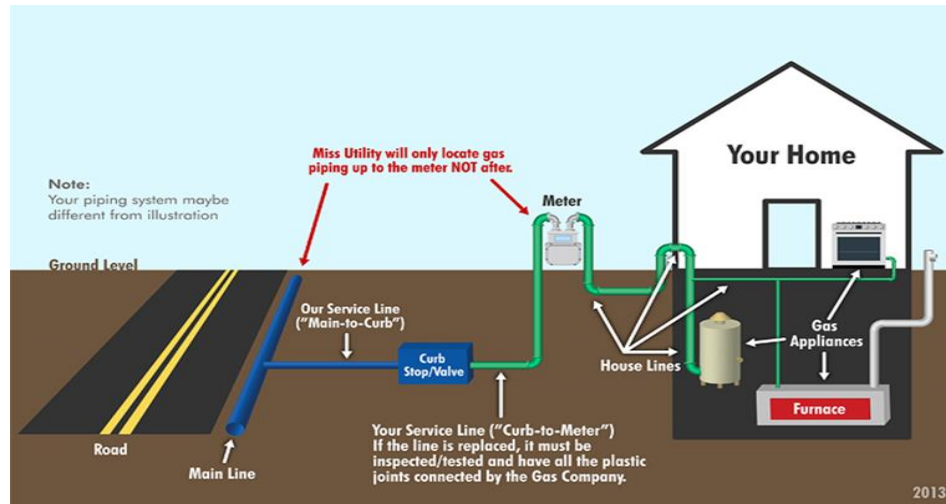
1-4 pipelines in 1 corridor

** natural gas is not always odorized



Pipeline Types: Distribution Pipeline

In Ontario approx. 450,000 km of pipelines
Delivers natural gas to homes & businesses
Ranges in size from 1/2" -6"
Typically placed in municipal road allowance
** delivers odorized natural gas



What to Look For? – Pipeline Markers

Pipeline signs are required at:

- Road crossings
- Water Crossings
- Rail Crossings

Additional signs may be found on rural fence lines.

Distribution gas pipelines will be identified in rural areas.



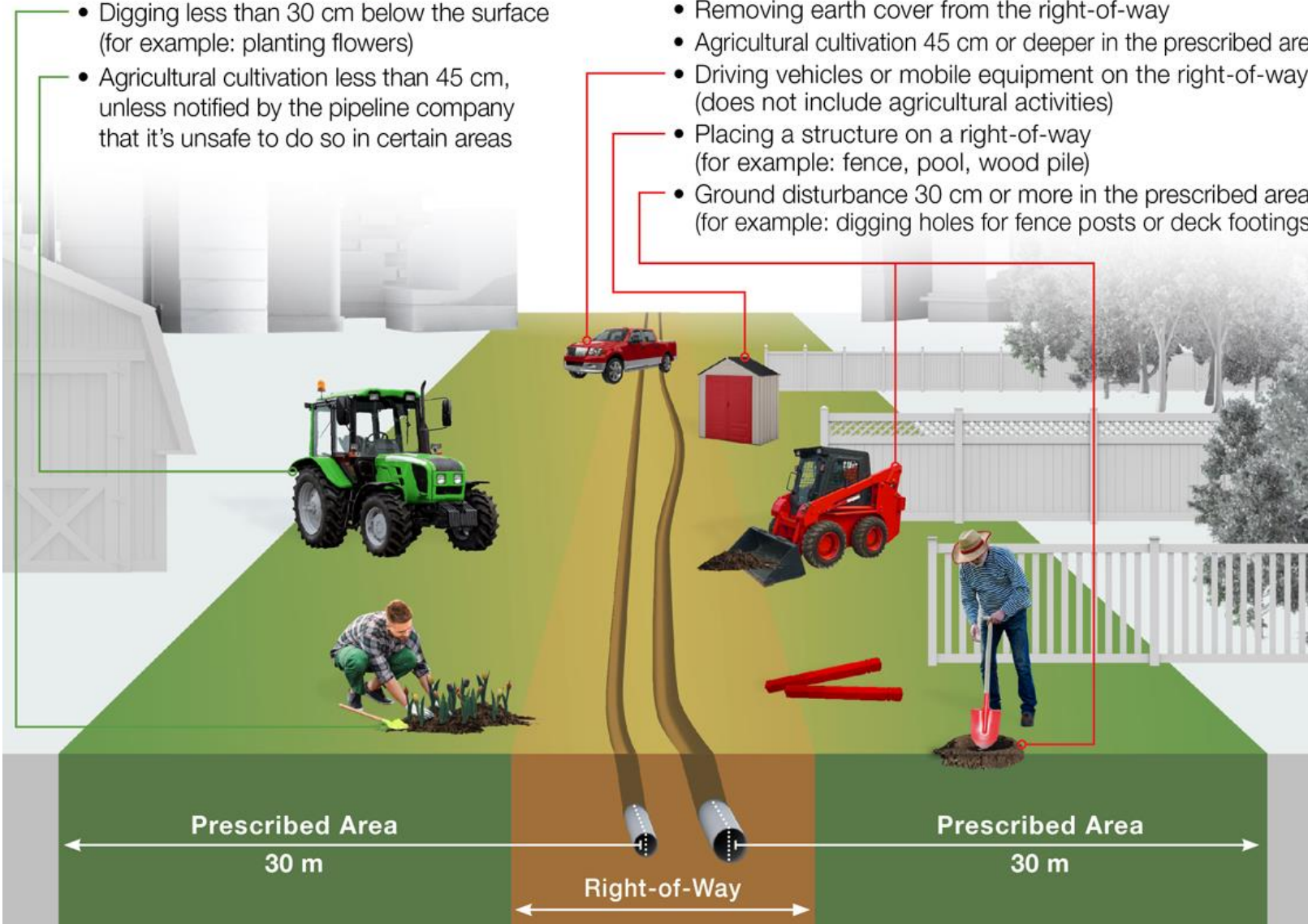
Regulatory Requirements – 30m Prescribed Area

Activities that Do Not Require Consent

- Digging less than 30 cm below the surface (for example: planting flowers)
- Agricultural cultivation less than 45 cm, unless notified by the pipeline company that it's unsafe to do so in certain areas

Activities that Require Consent

- Removing earth cover from the right-of-way
- Agricultural cultivation 45 cm or deeper in the prescribed area
- Driving vehicles or mobile equipment on the right-of-way (does not include agricultural activities)
- Placing a structure on a right-of-way (for example: fence, pool, wood pile)
- Ground disturbance 30 cm or more in the prescribed area (for example: digging holes for fence posts or deck footings)



Pipeline ROW:

- Width range 3-28 m
- 1 or more pipelines at minimum Depth + 0.6 m
- Clear ROW required to operate and maintain pipeline safely

**Before you dig, visit
clickbeforeyoudig.com or call
toll free 1-800-400-2255**

Construction & 3RD Party Standby

- Gas Distribution

[Third-Party Requirements in the Vicinity of Natural Gas Facilities Standard PDF \(enbridgegas.com\)](#)

- When is 3rd party observation required
- Surface Road Work
- Subgrade Road work



Mobile Equipment – Outside A Travelled Road

NEW – All equipment requires engineering assessment

- Pipelines were not designed for heavy equipment crossings outside a travelled road – depending on equipment loads and depth of the pipeline the integrity of the pipeline can be at risk – the pipeline may need added protection or for equipment to cross at another location (matting, air bridges)



Crossing Agreement

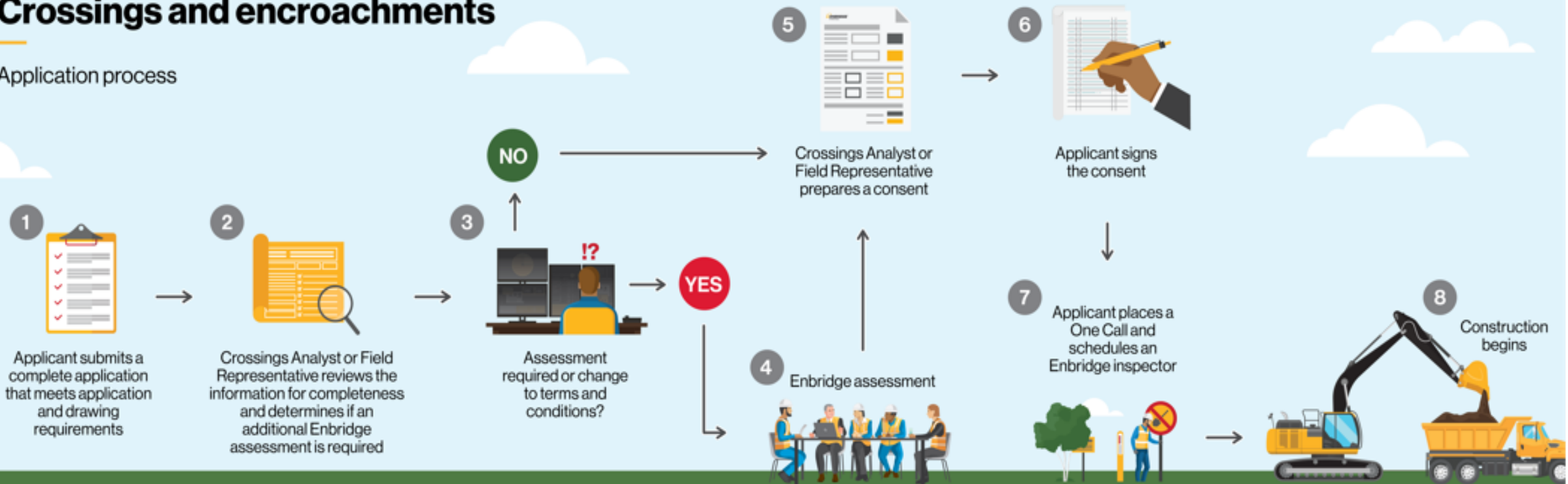
A formal agreement is required to construct a facility over or near the pipeline



Crossings Written Consent Process

Crossings and encroachments

Application process



Crossings and encroachments in Canada

Phone: 1-800-668-2951 (option #2)

Email: CrossingsCanada@enbridge.com (Liquid Pipelines)

STOCrossings@enbridge.com (Gas Transmission & Storage)

Markups@enbridge.com (Gas Distribution)

Drainage Act and Franchise Agreements

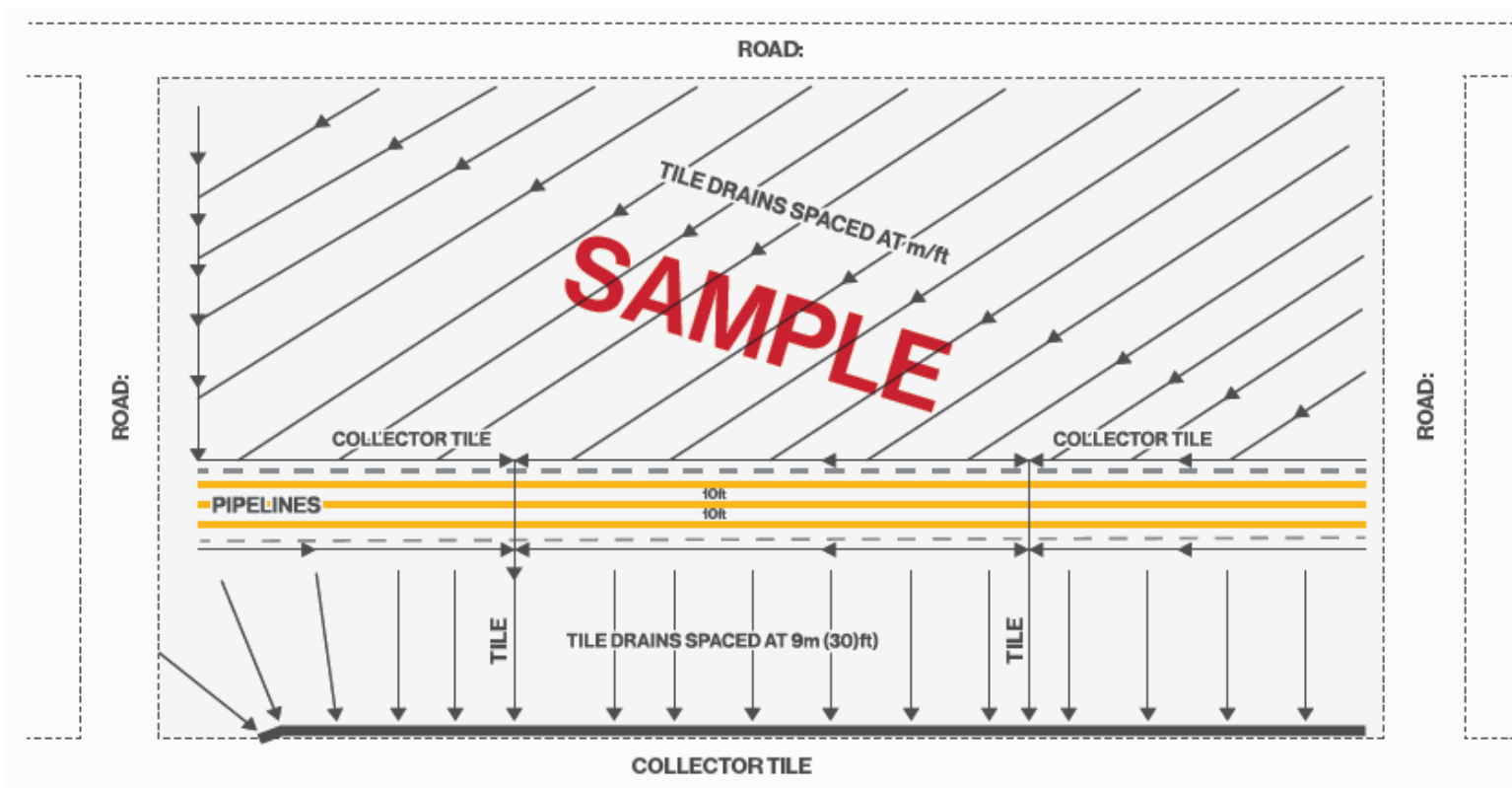
- The Drainage Act, administered by OMAFRA, defines a process whereby property owners can petition their local municipality to develop communal solutions to solve drainage problems. The end result is the construction of a “municipal drain”.
- Municipal drains allow for the collection of water and its transfer across the boundaries between properties, whether privately or publicly owned, in order to be safely discharged through a legal outlet.
- Under the *Drainage Act*, municipalities are responsible for construction and drain management using the user pay framework in the Drainage Act.
- Provincial legislation requires that there be a Franchise Agreement between the Municipal Corporation and the Gas Company serving that Municipality. In April 2001, the Ontario Energy Board issued the revised 2000 Model Franchise Agreement to serve as a model for such agreement.
- Cost sharing agreements for drainage works in proximity to Enbridge Gas pipeline assets are set out in Franchise Agreements executed with each Municipality receiving gas service when a pipe relocation is required.
- Planning notifications submitted to One Call one year or more in advance to determine potential pipeline conflicts. (E.g. special challenges, design changes)

Drainage Tile Work for Landowners

- Always obtain locates (Ontario OneCall)
- Landowner should obtain two cost estimates from contractors before start of work to be reviewed and approved by Enbridge
- No mechanical trenching within 3 metres of pipeline
- Enbridge inspector should be present to observe tile drain installation in proximity to pipelines
- Enbridge may cover any additional reasonable costs for tile work caused by the presence of the pipeline(s) with pre-approval of estimates



Drainage Tile Work Over Pipelines



In certain instances where systematic tiling is proposed, a header installation may be preferred in order to reduce the number of crossings and excavation activity within the pipeline ROW.

Enbridge may reimburse the landowner for reasonable extra costs incurred due to the presence of a pipeline, only if pre-approval is obtained from Enbridge. Costs are not normally charged to landowners or tile contractors for pipeline locates or inspections, if arranged in advance.

Plan ahead to avoid costly mistakes

KEY POINTS



- All drainage works within the prescribed area must obtain Enbridge approval. Any excavation near the pipeline ROW must be supervised by trained Enbridge staff, who can help maintain the safety of our pipelines.
- Contact us at least five (5) working days before beginning excavation or construction near the pipeline ROW. Early communication will help in the approval process required for installing drain tiles, ditching, grading or deep tillage exceeding 45 centimeters (18 inches) within the pipeline ROW.
- Consulting with us regarding your drainage proposal will allow us to assess your work and set safe work procedures while working across and along the pipeline ROW.
- Though pipelines are identified by above-ground markers, the markers should never be used as a reference for the exact location of the pipeline. Also, as the depth of pipelines and other underground utilities can change over the years due to erosion, previous digging projects or uneven surfaces, there are varying depths to underground systems. REACH OUT TO US, WE ARE HERE TO HELP.

Contact us, we are here to help!

Q&A

Tomorrow is on.SM



Pipeline Contact Details



1-888-982-7222



(Crude Oil) 1-800-668-2951 / email: notifications@enbridge.com



(Natural Gas) 1-866-763-5427 (gas emergency)
email: municipalplanning@enbridge.com or mark-ups@enbridge.com



1-877-969-0999 (gas emergency) / ** use Enbridge Gas email addresses



1-800-361-0608 / email: crossingrequests@tnpi.ca



1-866-875-2554



1-800-372-9597



1-800-263-6641