

Ontario Line

# Moss Park Virtual Information Session on Piling Construction

March 20, 2024

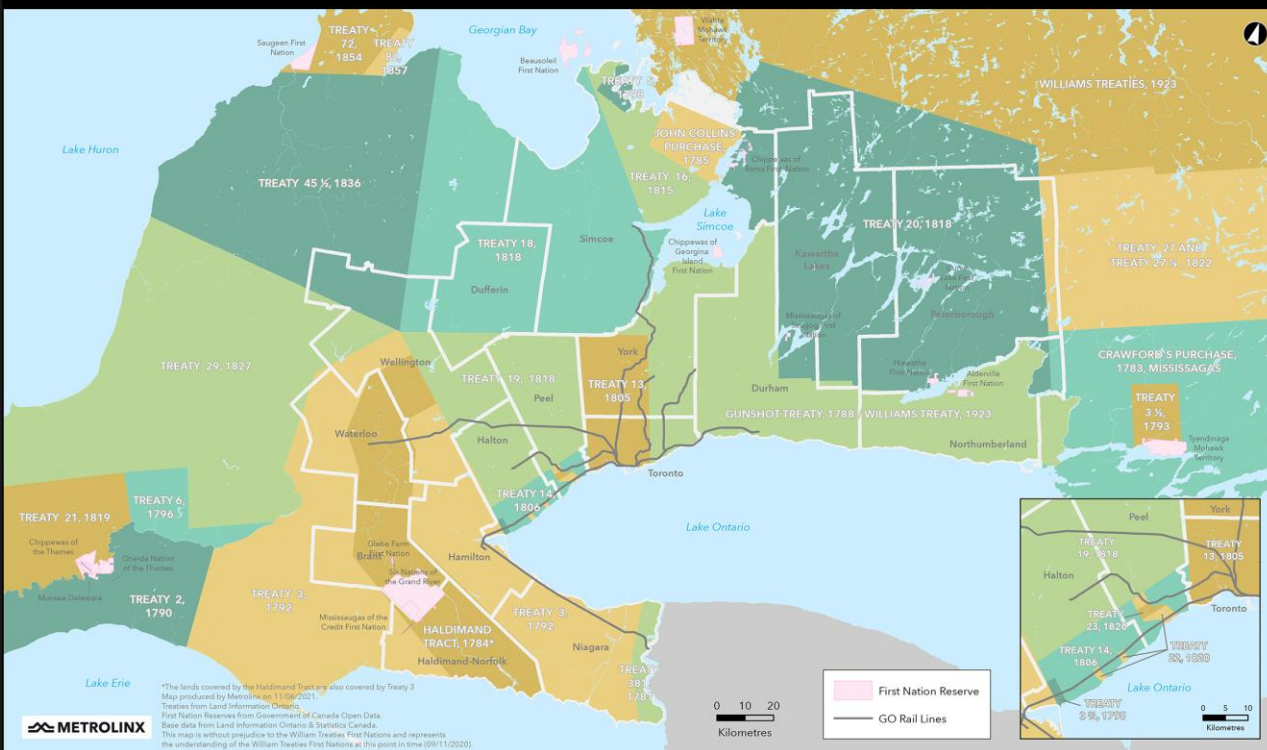
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Subject to change.

# LAND ACKNOWLEDGEMENT

Treaties and Reserves in the Greater Golden Horseshoe



Let us take a moment to acknowledge we are on lands that have been, and continue to be, home to many Indigenous Peoples including the Anishnabeg, the Haudenosaunee and the Huron-Wendat peoples.

We are all Treaty people. Many of us have come here as settlers, as immigrants or involuntarily as part of the trans-Atlantic slave trade, in this generation, or generations past.

We acknowledge the historic and continued impacts of colonization and the need to work towards meaningful reconciliation with the original caretakers of this land.

We acknowledge that Metrolinx operates on territories and lands covered by many treaties that affirm and value the rights of Indigenous communities, Nations and Peoples.

We understand the importance of working towards reconciliation with the original caretakers of this land. At Metrolinx, we will conduct business in a manner that is built on a foundation of trust, respect and collaboration.

# Safety Moment

## Commute on Transit

Whether you're taking the subway or the GO Train, safety is paramount. Here are quick tips for a safer rail commute:

- 1. Mind the Gap:** Watch your step and be mindful of the gap between the platform and the train.
- 2. Hold On:** Always grip handrails or grab bars while the train is moving to prevent falls.
- 3. Stay Alert:** Be aware of your surroundings and report any suspicious activity or items to transit staff.
- 4. Respect Personal Space:** Avoid crowding fellow passengers and keep bags clear of walkways to prevent accidents.
- 5. Watch Your Step:** Be cautious when boarding or exiting, especially in adverse weather or low-light conditions.
- 6. Know Your Route:** Familiarize yourself with the rail system's map and schedule to navigate confidently and avoid delays.



# Introductions

## Speakers

### Contracting Authority



#### **Sean Major**

Senior Advisor, Community Engagement  
Metrolinx

#### **Daniel Cicero**

Senior Manager, Subways Sponsor  
Metrolinx

### Constructor



#### **Eric Devera**

Deputy Station Manager, Moss Park  
Ontario Transit Group

#### **Francisco Metcalf /**

#### **Aga Szczotka**

Environmental Management  
Ontario Transit Group

# Agenda

## Welcome Introduction

## Presentation

- Ontario Line overview
- Progress to date
- Construction look-ahead
- About piling construction
- Reducing impacts

## Q/A and Discussion

# Meeting Guidelines

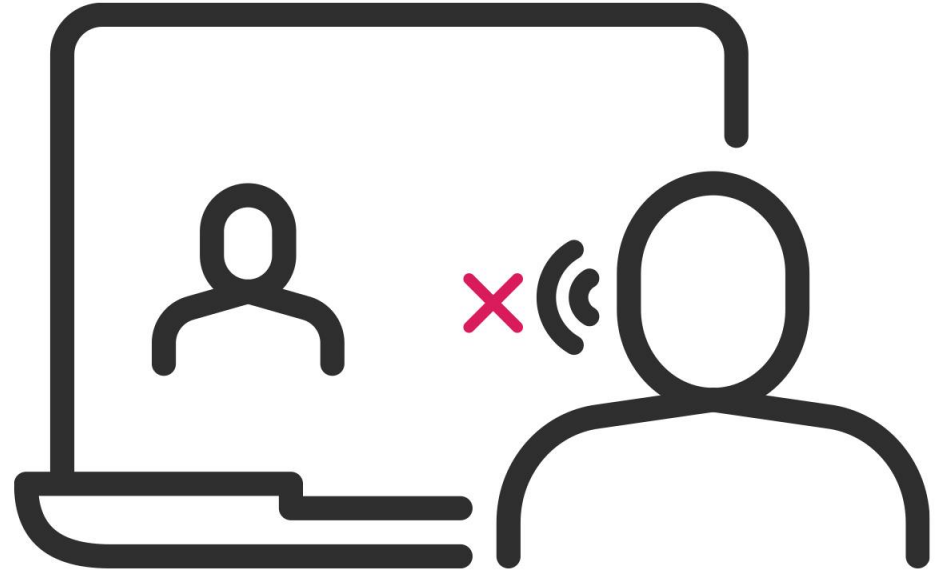
- Please help us create a **respectful space** for both panelists and fellow participants.
- We want to answer as many questions as possible, so **please keep your question brief.**
- Please ask **one question at a time**; if you have a second question, we will loop back to you.
- We'll have **dedicated time for questions**, so please note them down and we'll have an opportunity for you to raise your questions after the presentation.
- Today's meeting will be focused primarily on construction impacts in the Moss Park area, including **piling**. As such, for other topics, we may connect with you by phone or email after the meeting or speak to those topics at the Moss Park CLC.

**Having audio issues?**

**Please dial in by phone;**

**Tel: 437-703-4197**

**Code: 771575632#**



## How to join Slido to Ask Questions through text



Ask your questions through Slido and we'll be answering some of the questions that were submitted previously through Slido.

### Two ways to submit your questions:

Join Slido now by visiting **slido.com** and entering **code #1314749**

OR

**scan** this QR code to join on your phone.



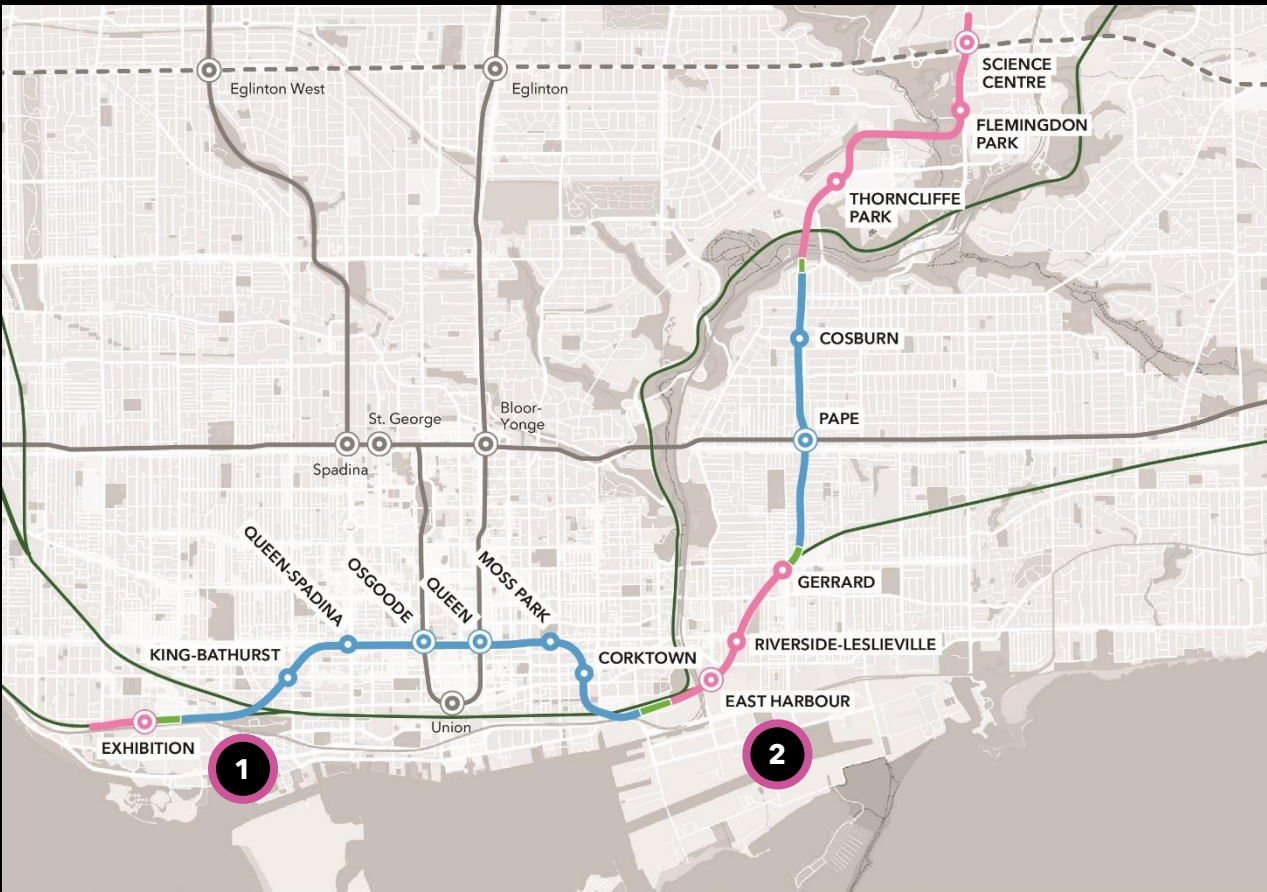
\*Please note that it will take a moment for your question to become live on the system.

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# About the Ontario Line



# Ontario Line Subway



— At Grade / Elevated   
 ● Station   
 — Existing GO Rail   
 - - - Future Line 5 Eglinton   
   
   

— Tunnelled   
 ● Interchange Station   
— Tunnel Portal   
— Existing Subway

1 **South Alignment of Ontario Line**  
 (Exhibition to Corktown/Don Yard)

2 **North Alignment of Ontario Line**  
 (East Harbour to Science Centre)



15.6 kilometres long



15 stations



As frequent as every 90 seconds during rush hour



227,500 more people within walking distance to transit



388,000 daily boardings



40+ connections to other transit options



Up to 47,000 more jobs accessible in 45 minutes or less, on average



28,000 fewer cars off the road each day

## About Ontario Transit Group (OTG)

**Ontario Transit Group (OTG)** is a joint venture between **Ferrovial Construction** and **Vinci Construction Grands Projets** to design, build and deliver the **southern portion of Ontario Line Subway** - Southern Civil, Stations and Tunnel work. The contract was awarded in November 2022.

### Stations:

- **One above-ground station** to be integrated with the existing GO Transit Exhibition Station.
- **Two underground stations** to be integrated with the existing TTC Osgoode and Queen subway stations.
- **Four new underground stations** (King/Bathurst, Queen/Spadina, Moss Park, Corktown).

### Tunnel:

- **6-kilometre tunnel** and associated tunnelling works from Exhibition to Don Yard portal.



*Ontario Line South Civil spans Exhibition to Don Yard portal (west of the Don River), shown in yellow.*

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# **Moss Park Station construction look-ahead**

## Moss Park Station 2024 construction look-ahead

### Major construction milestones to propel the Ontario Line subway forward.

Time	Activity	Details & Purpose
Winter/ Spring	Hoarding and signage installed	Structures to define the long-term construction zone during tunnel and station works will be installed to assist with site safety, noise mitigation and site protection.
	Piling	Piling work around the perimeter of the future station ensures structural support before heavy digging begins.
Summer	Excavation	Soils will be excavated to create shafts from the street level to the station level 30m underground.
Fall/ Winter 2025	Station site entry preparation	Excavation of the station cavern to connect the station shaft and the tunnels.



Future home of the Ontario Line station for Moss Park. Futur emplacement d'une station de la ligne Ontario pour Moss Park.

15.6 km of new subway service. 15 stations. 15,6 km de nouveau service de métro. 15 stations.

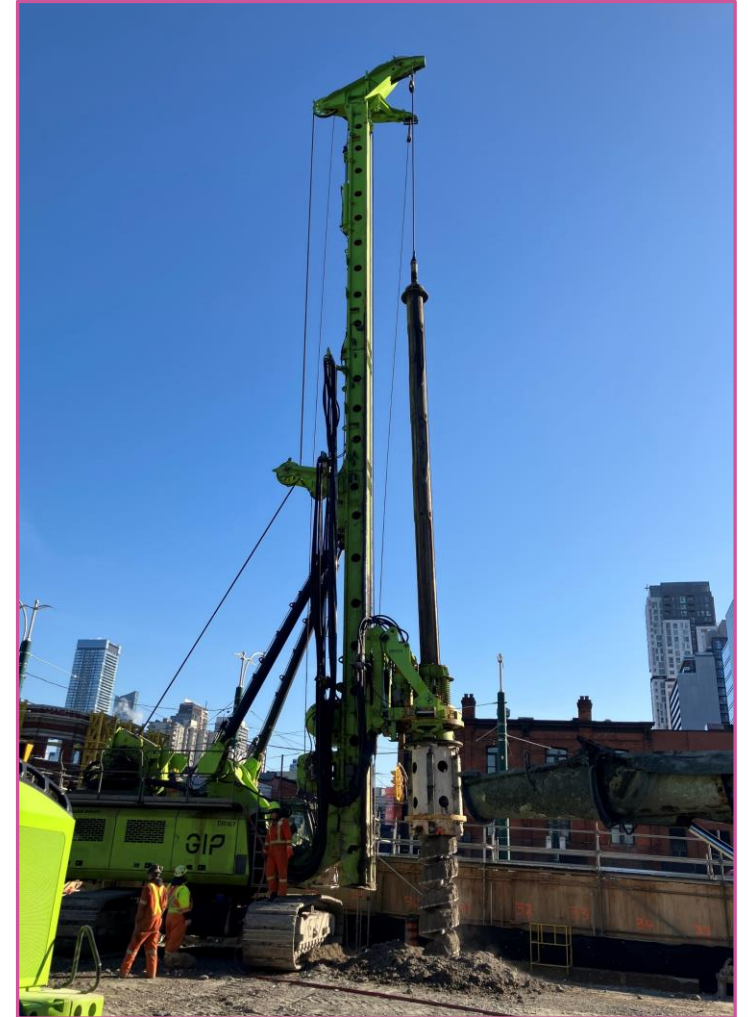
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**Focus on:  
Pile drilling**

## How does piling work?

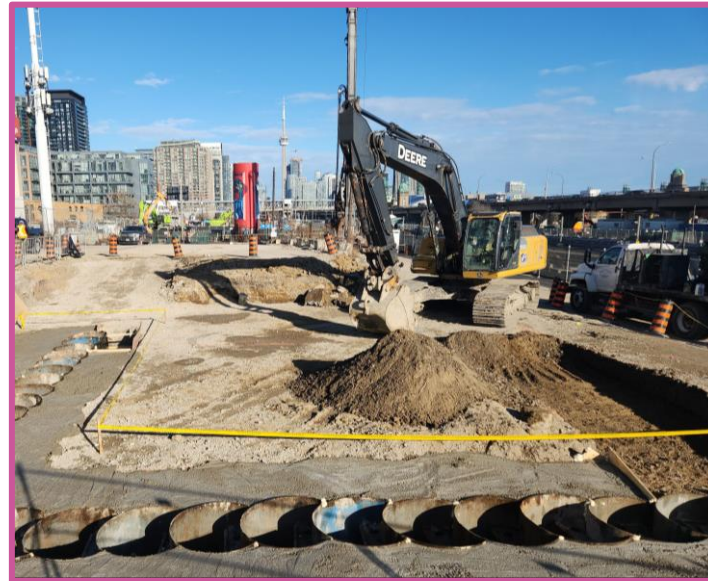
- Piling is a foundational technique used to construct underground structural support systems.
- Piling ensures stability and support for the surrounding infrastructures and buildings during the construction of stations and other subway structures, until the permanent concrete structure of the station is completed. Pile walls will be installed around the perimeter of the future station footprints.
- A pile wall consists of overlapping (secant) piles to form structural walls and achieve the required water tightness. Some of the piles are reinforced with steel beams. This activity is performed before excavation of the station shaft.



Drilling machine used in pile construction

## How does piling work?

- To install the pile walls, a drilling machine will create holes of 10m and 14m in depth, at 1m in diameter, around the perimeter of the north and south sites, respectively.
- Piles will be constructed alternating primary (filler piles) and secondary (reinforced piles).
- A drilling rig machine will install the casing (a hollow tube) by rotating into the ground until it reaches the bedrock, section by section. Excavated material will then be removed from the casing using the auger.
- Once the drilling process is completed, reinforcements to the pile walls will be added using a crawler crane and concrete will be poured to ensure no gaps in solid materials, reinforcing the ground.



Typical example of guide wall installation to properly align the secant piles for installation.



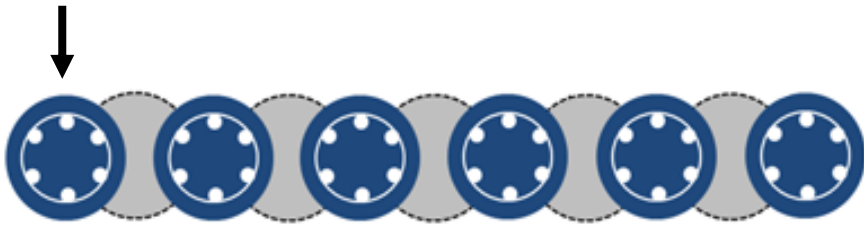
## How does piling work? (continued)

### Secant piled wall

Visualization of what a secant pile system provides upon excavation.

The concrete secant piles can be seen supported by struts (white steel), in the open excavation.

Reinforced pile



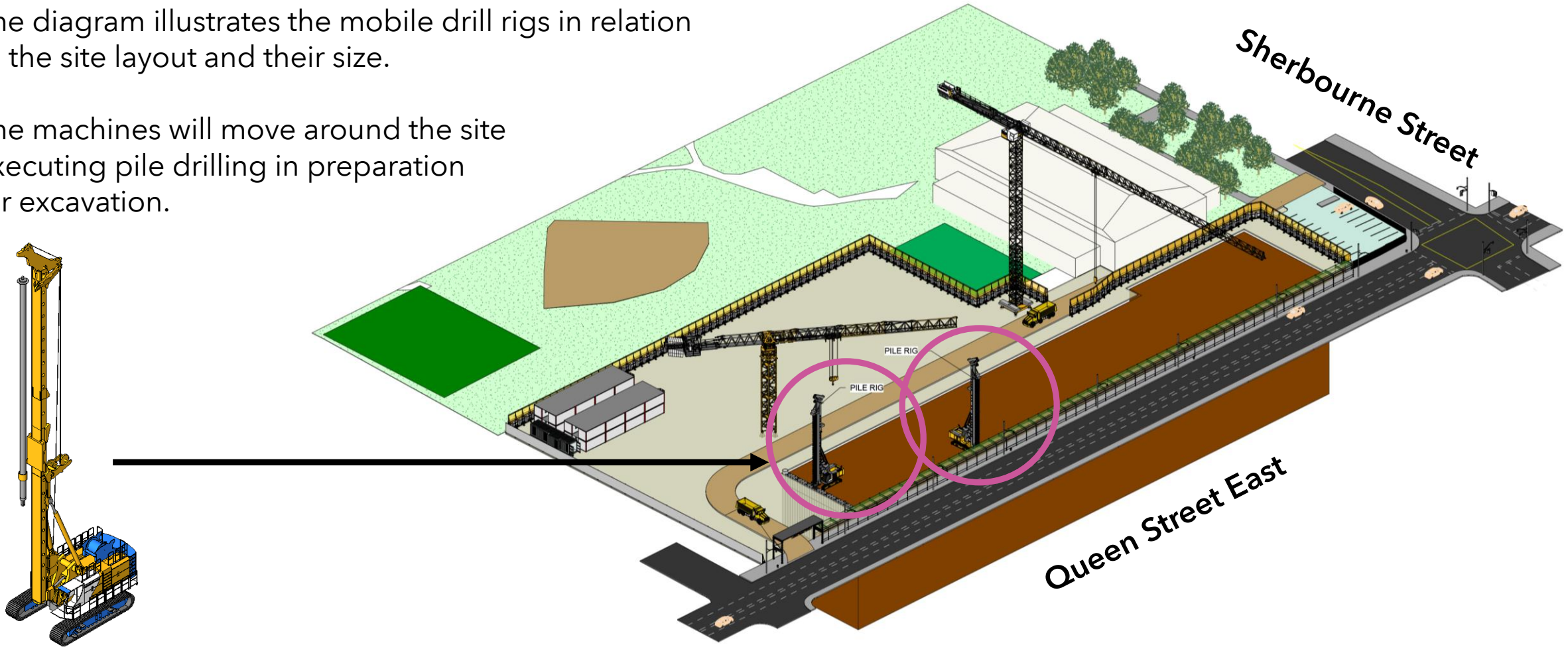
Filler pile



Example of secant pile wall

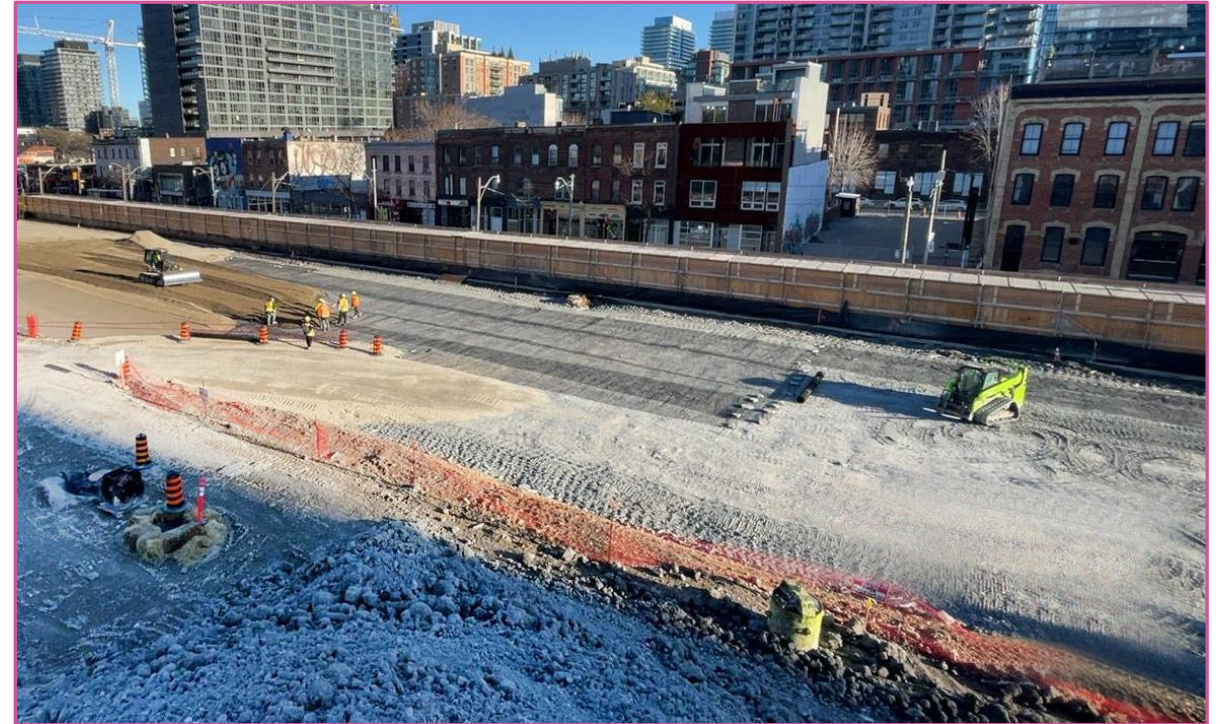
## Pile drilling site set-up & layout

- The diagram illustrates the mobile drill rigs in relation to the site layout and their size.
- The machines will move around the site executing pile drilling in preparation for excavation.



## Pile drilling schedule at Moss Park

- Piling works will be phased, beginning with the guide wall installation as early as March 18th.
- Expected hours of work are weekdays from 7:00 a.m. to 7:00 p.m.
- Work is estimated to take place from late March 2024 until mid-2024.
- Weekend work and/or extended hours may occur as needed.



## What to expect in the community

- Noise from equipment drilling piles, loading of excavated material, deliveries of steel beams and concrete is expected.
- Equipment used during this operation includes drilling machines, cranes, excavators, concrete pumps, and concrete trucks on-site.
- Several trucks entering and leaving worksites daily, following a specified route.
- Certified flag-persons in place to ensure safety for the community and workers on-site.
- Piling equipment will remain within the work site for the duration of the piling process.

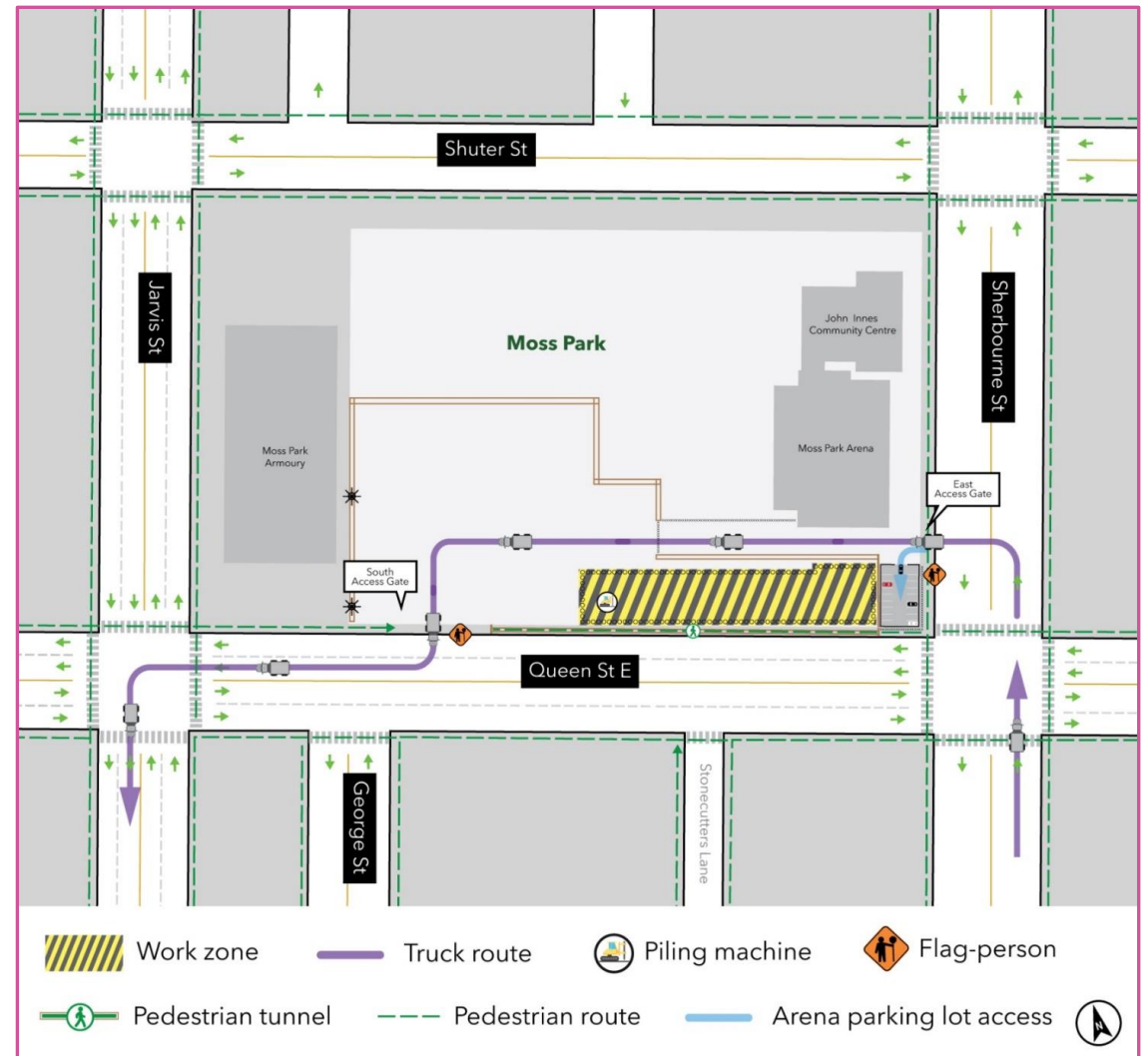


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# **Reducing impacts to the community**

## Site traffic and pedestrian impacts

- **At the east entrance**, trucks will enter from Sherbourne Street, and turn left into the site assisted by a flag-person(s).
- **At the southwest exit**, trucks will exit the site turning right onto Queen Street East assisted by a flag-person(s).
- All sidewalks will remain open. Pedestrians will continue to use Sherbourne Street west sidewalk and Queen Street East pedestrian tunnel. Flag-persons will assist with passage when trucks approach the entrance and exit points.
- All roads will remain open. No impacts to the 501 Queen streetcar or the 75 Sherbourne bus stops or schedule at the intersection of Queen Street East and Sherbourne Street.



## Reducing impacts

### To reduce impacts to residents and businesses in the area, mitigations will be in place including:

- Air quality monitoring to track dust debris and vehicle emissions to ensure that construction activities don't impact the quality of the environment.
- Site hoarding where possible to help reduce noise.
- Daytime work hours for current phase of work (7:00 a.m. to 7:00 p.m.).
- Continuous loop truck routes, reducing need for trucks to reverse using back-up alarms.
- Street sweepers and wheel cleaning as needed to ensure soil and sediment is kept off city streets and sidewalks.



Mud mat

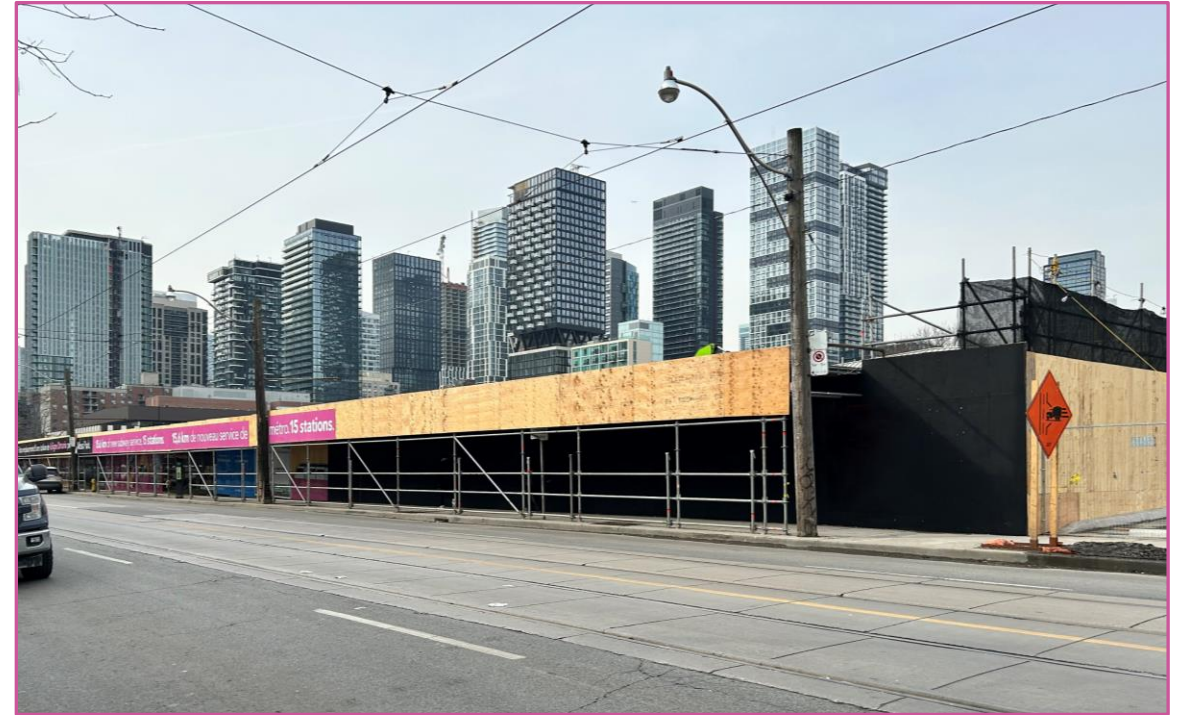


Noise monitor

Vibration monitor

## Noise impacts

- **Monitoring noise levels:** Utilizing sound metres and real-time monitoring systems, OTG can track and control noise emissions to help minimize disturbances to the community and ensure project regulations compliance.
- **Noise and vibration monitoring devices** placed on-site and in neighbourhood for active tracking of impact to ambient noise levels.
- **Hoarding & noise barriers** serve as effective solutions to absorb and contain some construction noise.



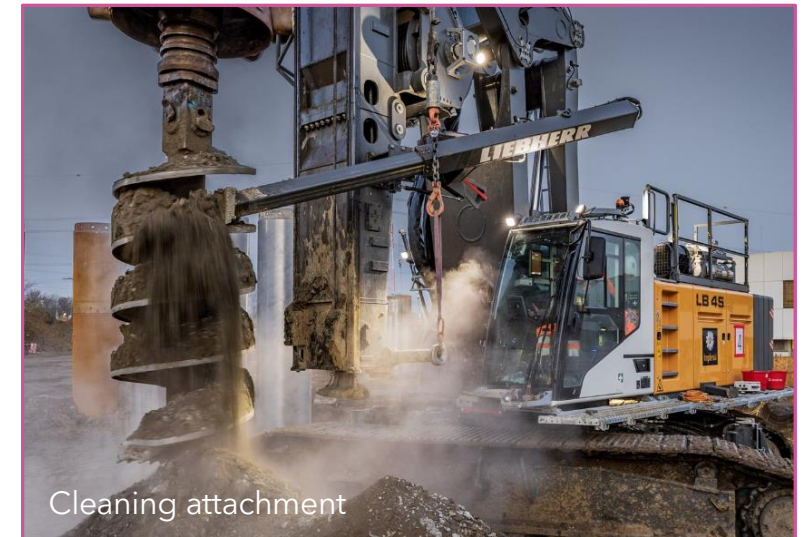


## Vibration impacts

- **Monitoring vibration levels:** This practice monitors structural impacts to neighbouring units around Moss Park ensuring construction activities remain compliant and minimal, although human perception can exceed acceptable regulations and compliance levels.
- **Planning methodologies including equipment options** OTG's strategic planning methodologies will integrate noise-reducing equipment options to minimize noise and vibration emissions, ensuring efficient operations while prioritizing community well-being.



Drill rig skirt



Cleaning attachment

Typical examples of noise and vibration reducing equipment attachments.

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OR

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# Asking Questions Tonight

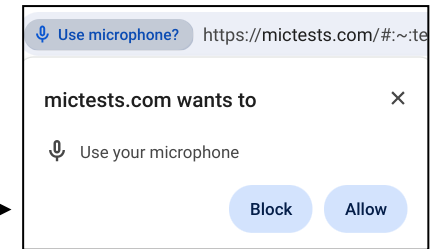
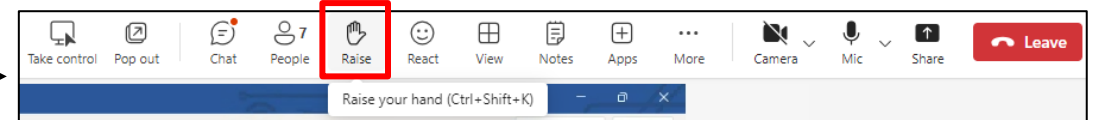
To ask a question, you can type into Slido (see link provided on slide #11) or raise your hand:

## Desktop / Laptop / Chromebook:

- Raise your hand from the bar at the top of the screen.
- Your question will be placed in the queue.
- When it comes your turn, the meeting organizer will enable your mic.

**\*You still need to unmute yourself:** click the "mic" icon at the top of the screen.

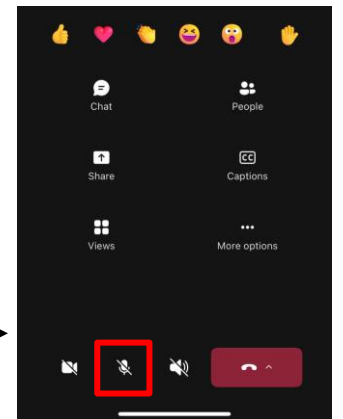
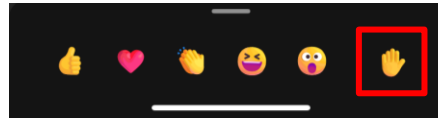
**\*Note:** your browser may ask your permission to use your mic. You must "allow" it.



## Phone

- Click the hand icon from the bottom of the screen.
- Your question will be placed in the queue.
- When it comes your turn, the meeting organizer will enable your mic.

**\*You still need to unmute yourself:** swipe up & click the "mic" icon at the bottom of the screen.





Artist's rendering. Subject to change.



Artist's rendering. Subject to change.



## Contact Metrolinx and stay connected

**Metrolinx will keep the community informed by providing Ontario Line updates and addressing questions and concerns effectively, and quickly.**

### Connect With Us:

-  Email: [OntarioLine@metrolinx.com](mailto:OntarioLine@metrolinx.com)
-  Telephone 24/7: 416-202-5100
-  Ontario Line e-newsletter: [Metrolinx.com/OntarioLine](https://metrolinx.com/OntarioLine)

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