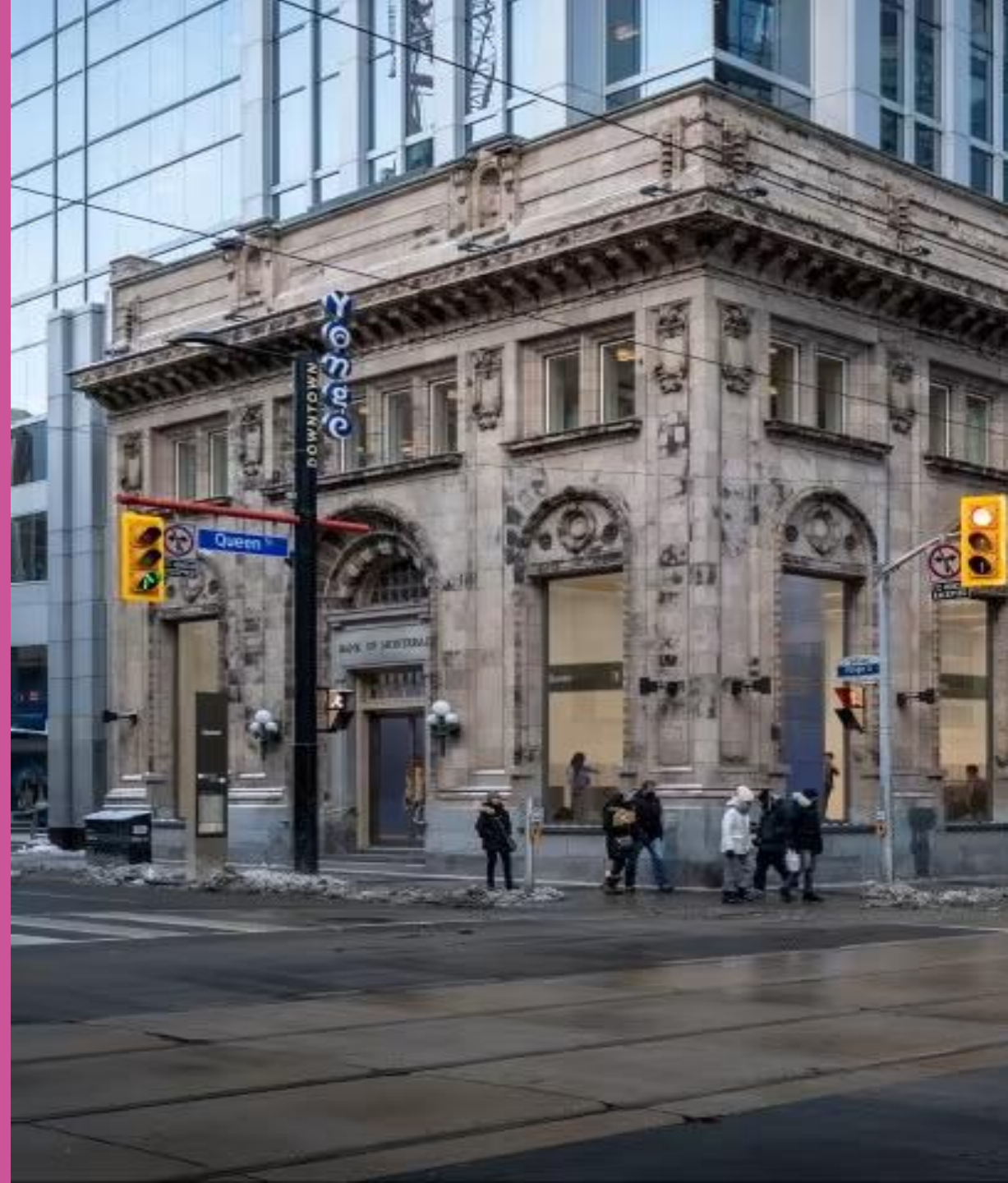


Ontario Line

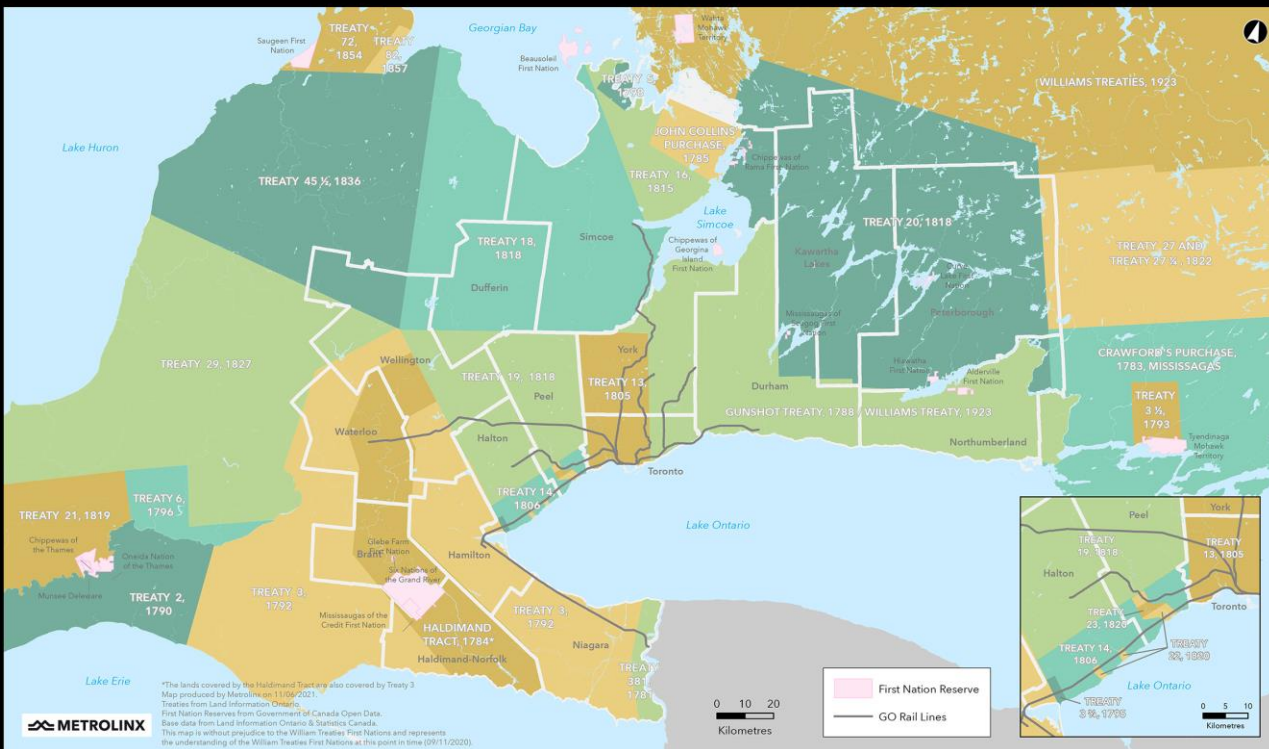
# Queen Station Virtual Open House on Piling Construction

May 14, 2024



# Land Acknowledgment

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.

# Introductions

## Speakers

### Contracting Authority



**Ross Andersen**  
Senior Advisor,  
Community Engagement  
Metrolinx



**James Francis**  
Senior Manager,  
Subways Sponsor  
Metrolinx

### Constructor



**Hugo Cuesta Allende**  
Station Manager, Queen Station  
Ontario Transit Group



**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

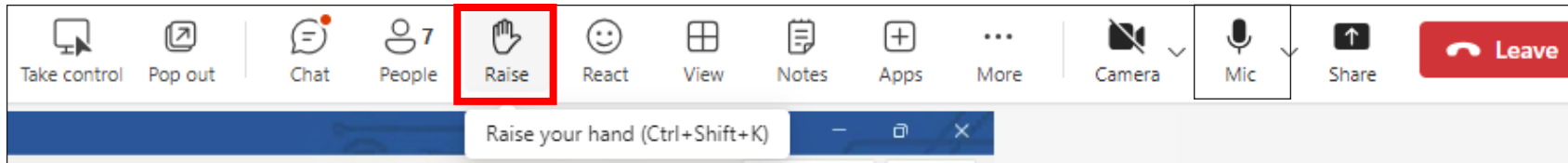
- Please help us create a respectful space for both panelists and fellow participants.
- We want to answer as many questions as possible, so **please keep your question brief.**
- Please ask **one question at a time**; if you have a second question, we will loop back to you.
- We'll have dedicated time 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 Queen Station 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 Queen Station CLC.

# Asking questions on Microsoft Teams

**Please follow the below steps to ask questions:**

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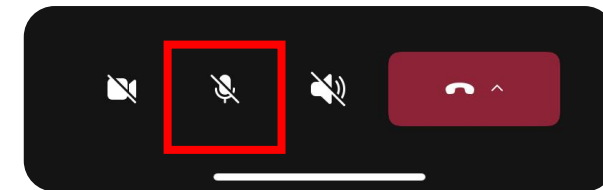
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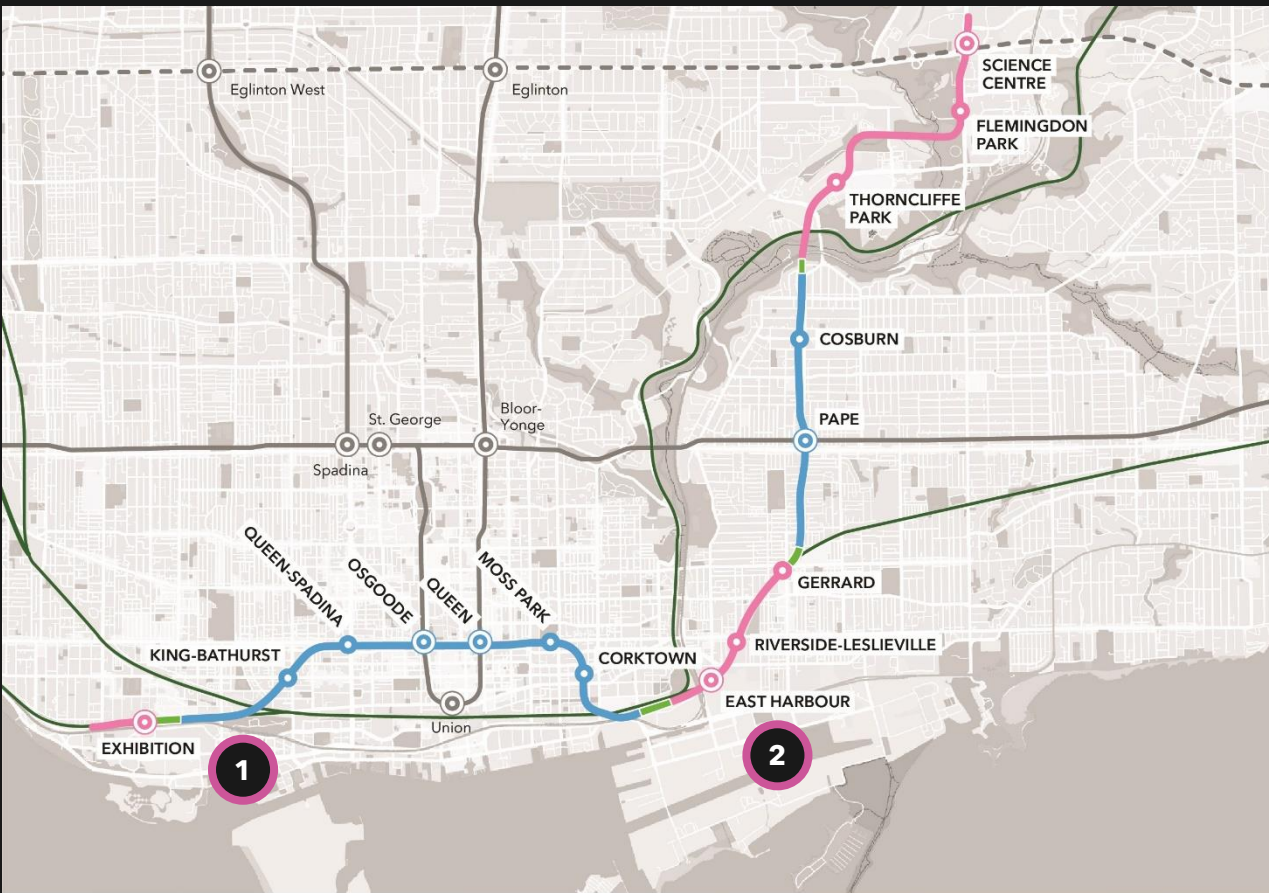
Ontario Line

# About the Ontario Line



Note: Initial concept rendering. Designs – including finishings, signage, and accessibility features – to be informed by further plan

# ONTARIO LINE 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



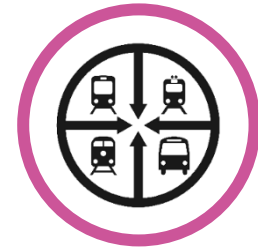
As frequent as every 90  
seconds during rush hour



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 Projects 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**

### Tunnel:

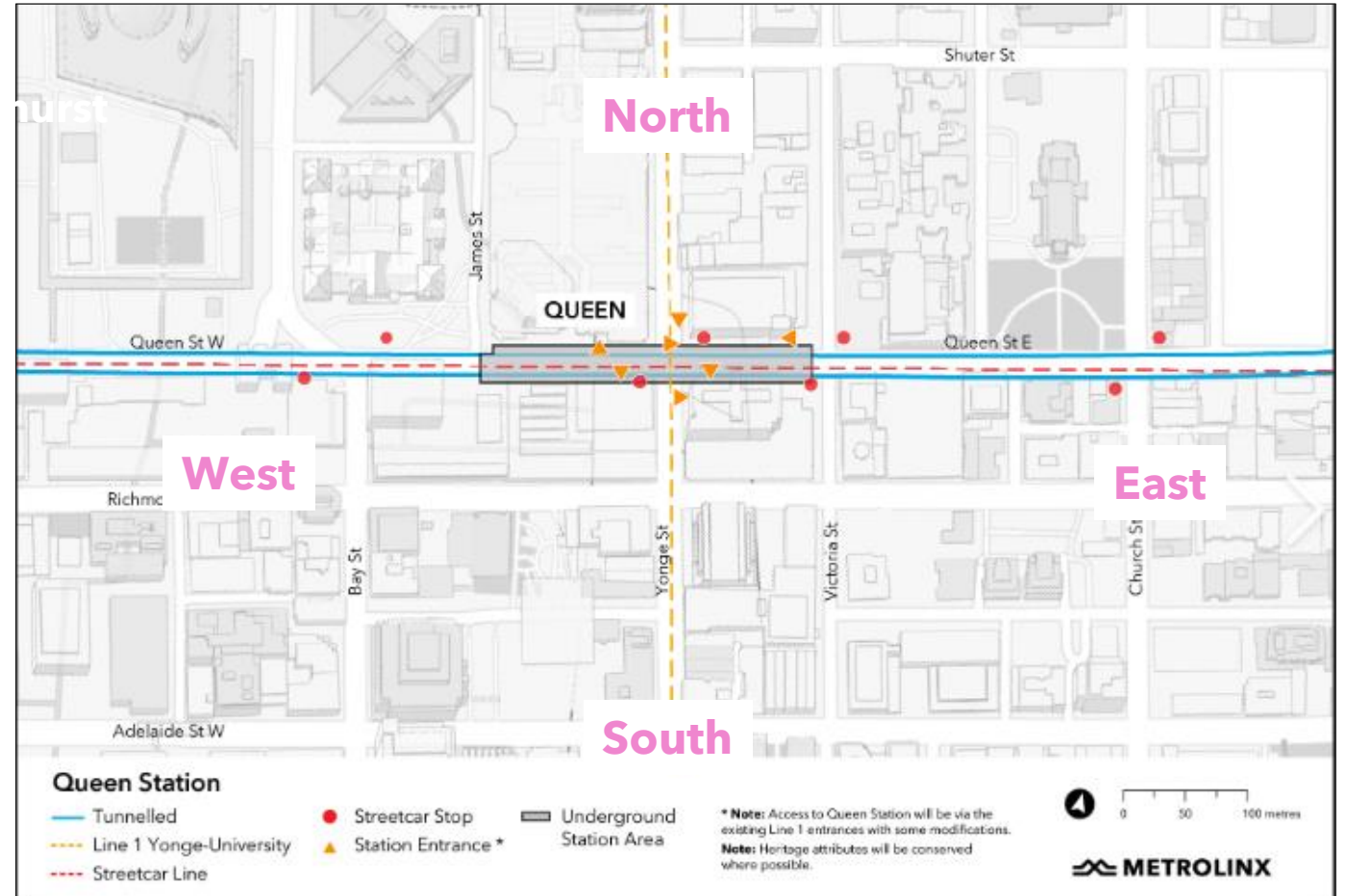
- **6-kilometre tunnel** and associated tunnelling works from Exhibition to Don Yard portal.



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

## Overview of Queen Station

- **Station entrances** are placed a few steps away from streetcar stops.
- **Station entrances** utilizing existing TTC Line 1 Yonge-Queen Station entrances. No new headhouses will be constructed for this station.
- **Interchange station** will be constructed below the existing TTC Line 1 Yonge-Queen Station and connected to the northbound and southbound existing Yonge-Queen Station at concourse level.



## Progress to date at Queen station

- The new Ontario Line Queen Station serves as a crucial transfer point between Line 1 and other transit routes, facilitating seamless travel.
- The Advanced Works for utility relocation and Hudson's Bay basement modification are being undertaken by Metrolinx to remove any conflicts within right-of-way prior to commencement of station construction works.
- As Advanced Works is almost completed, most of the site has been handed to OTG to begin site preparation for construction.



2 Queen Street East building as of April 11, 2024

## Queen Station 2024 construction look-ahead

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

| Time                   | Activity                                    | Details & Purpose  |
|------------------------|---|--|
| Spring 2024            | <b>Installation of hoarding and signage</b> | 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.        |
|                        | <b>East Site Prep</b>                       | Various works to prepare the East work zone (Queen Street East, from Yonge Street to Victoria Street). This is underway and is expected to take about one month to complete.     |
| Spring - December 2024 | <b>Piling (West, East)</b>                  | Piling work around the perimeter of the future station sites ensures structural support before heavy digging begins.   |
| 2025                   | <b>Excavation</b>                           | Soils will be dug to create shafts from the street level to the station level 40m underground. Heavy digging of the station cavern to connect the station shaft and the tunnels. |

*All timelines estimated and subject to change based on weather or other unforeseen circumstances.*



Ontario Line

# Focus on: Pile drilling



## How does piling work?

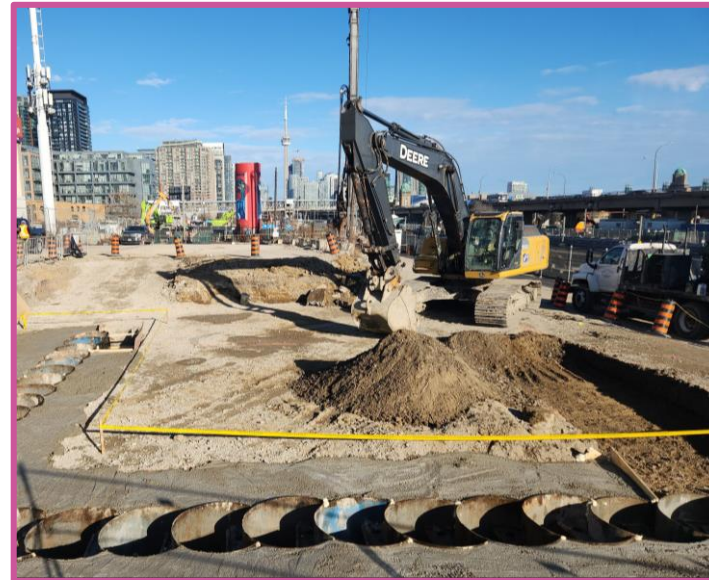
- Piling is a foundational technique used to construct underground structural support systems.
- Piling ensures stability and support for the surrounding infrastructures and buildings during the construction of stations and other subway structures, until the permanent concrete structure of the station 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 approximately 18m in depth, at 1m in diameter, around the perimeter of the West and East 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



## Pile drilling schedule at Queen station

- Piling is estimated to take place at Queen Station sites from **mid-May 2024 through December 2024**.
- Piling works will be phased beginning **west of Yonge Street** in **May 2024**. Work is expected to take place **weekdays, 7:00 a.m. to 7:00 p.m. and 7:00 p.m. to 7:00 a.m.**
- Work in the **East site** (Queen Street East between Yonge Street and Victoria Street) is **expected to start as early as June 2024**. More information will be shared closer to the start date.
- Weekend work and/or extended hours may occur as needed.



A drill rig machine used in Ontario Line project used for piling.



## How does piling work? (continued)

### Secant piled wall

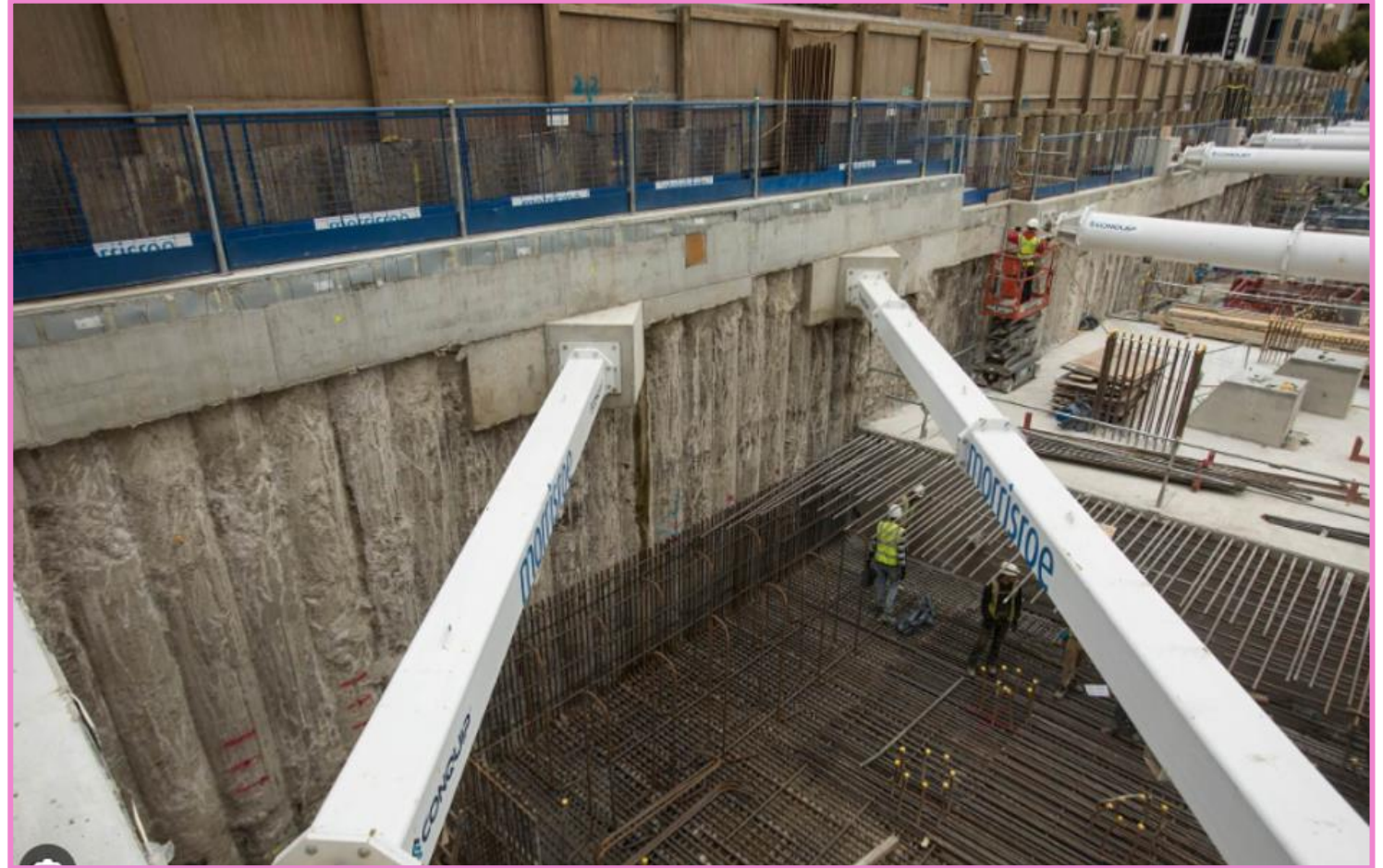
Visualization of what a secant pile system provides upon excavation.

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

## What to expect in the community

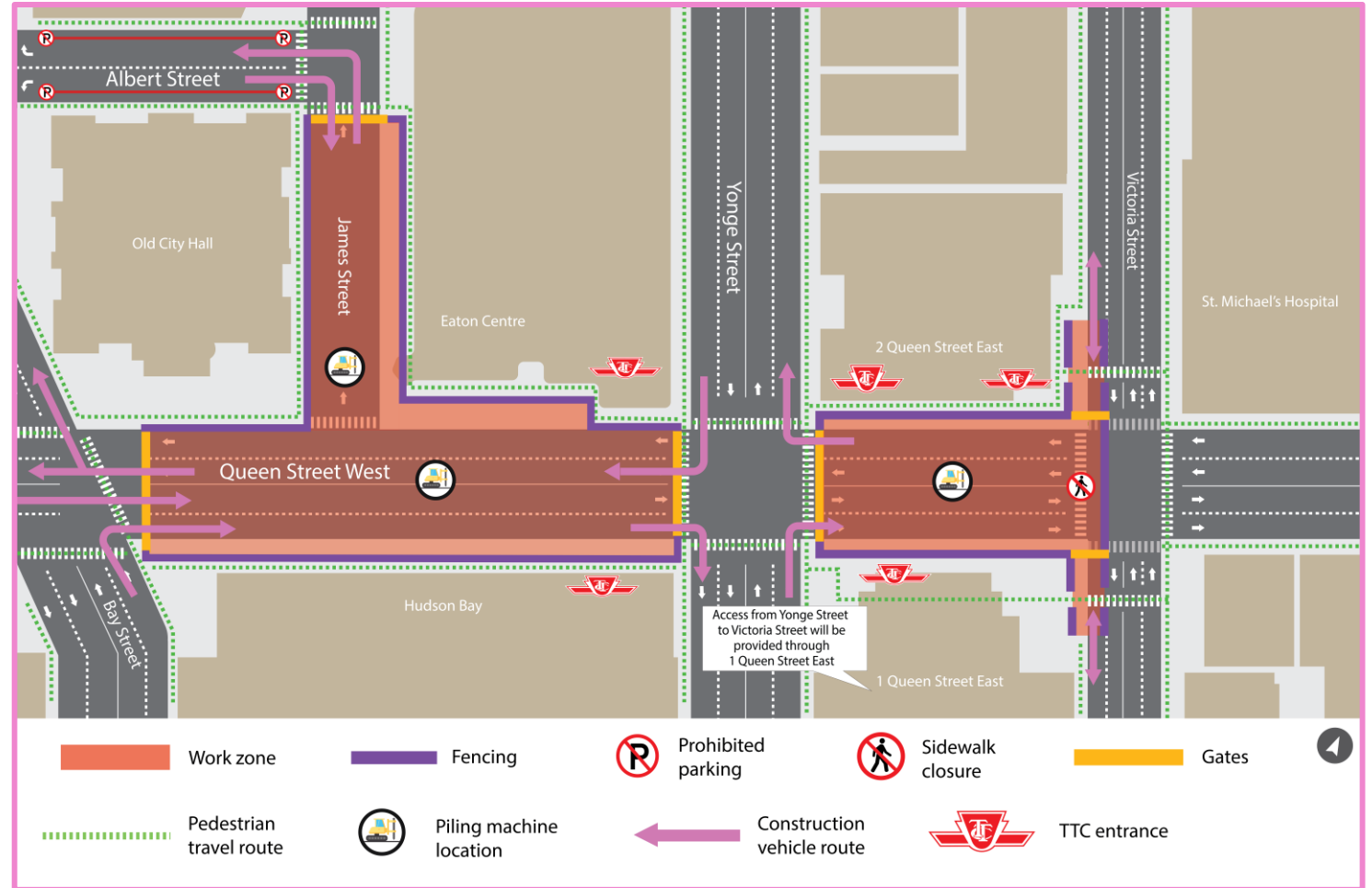
- Noise from equipment drilling piles, loading of excavated material, deliveries of steel beams and concrete is expected.
- Equipment used during this operation includes drilling machines, cranes, excavators, concrete pumps, and concrete trucks on-site.
- Several trucks entering and leaving worksites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



View of piling works at Moss Park – another Ontario Line station in progress.

## Site traffic and pedestrian impacts

- James Street will remain closed South of Albert Street.
- Pedestrian access will be maintained through the site, as indicated on the map.
- Most of the pedestrian access shown will be implemented by **mid-May**. Pedestrian access to the South of Queen West will be available after work is complete for HBC in June.
- Building access will be maintained.





Ontario Line

# Reducing impacts to the community

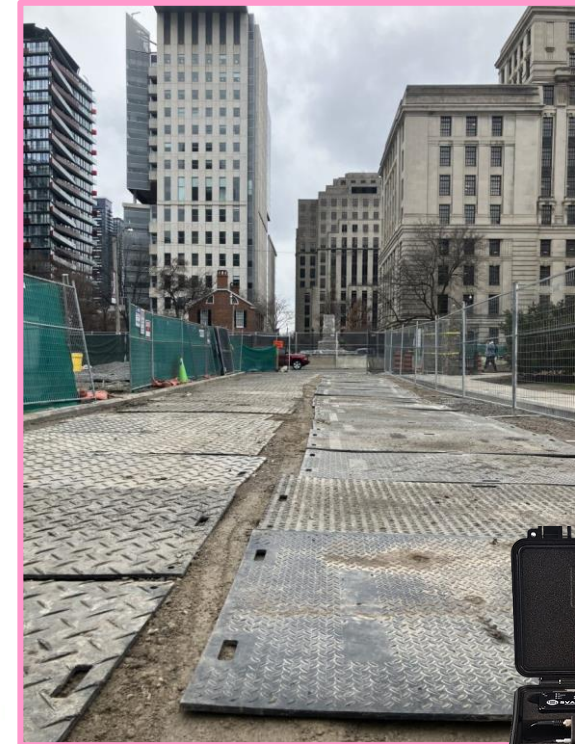




## Reducing impacts

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.
- White noise back up alarms on machines like loaders or trucks.
- 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.



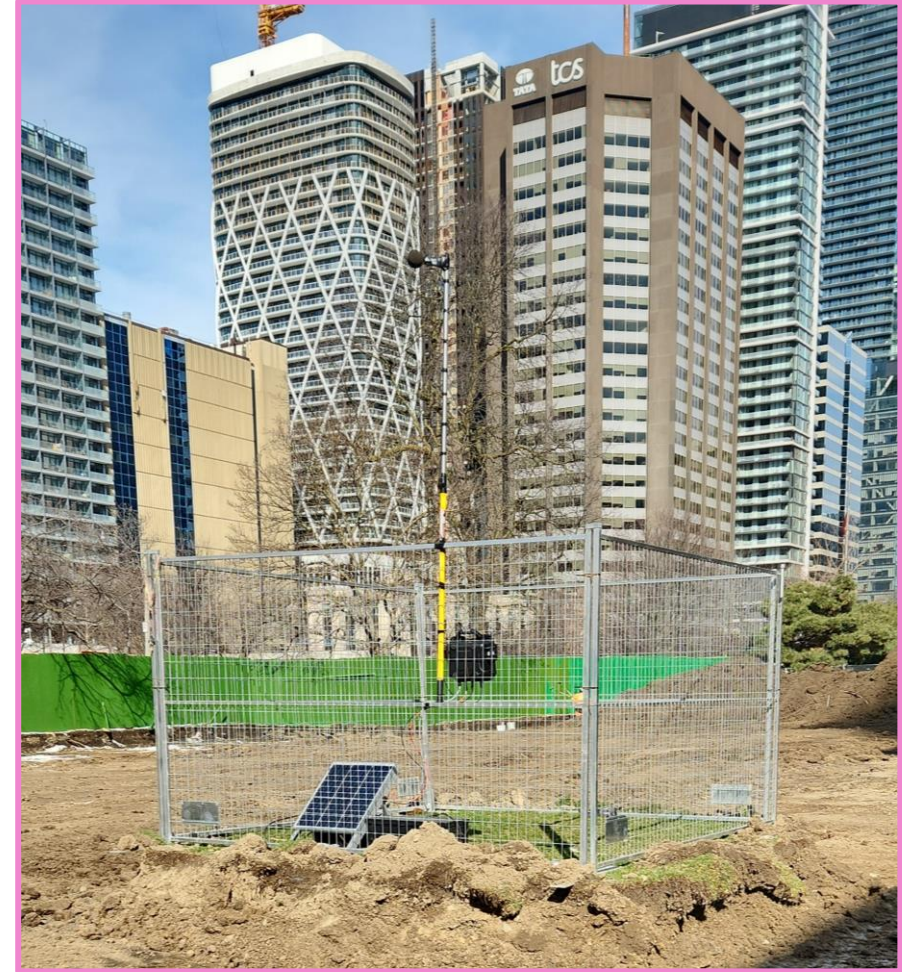
Noise monitor



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 and noise barriers serve as effective solutions to absorb and contain some construction noise.



Sample noise monitor in action for the Ontario Line project

Ontario Line

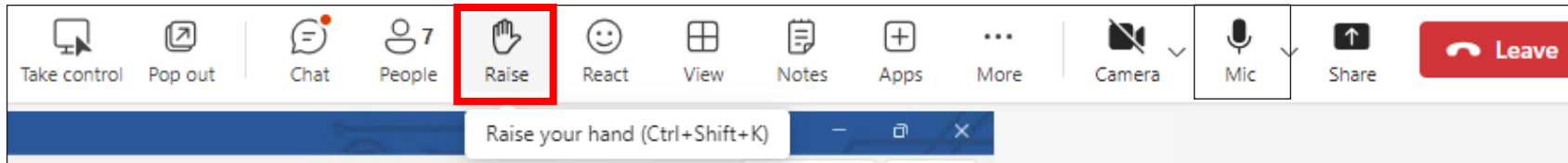
**Q&A**

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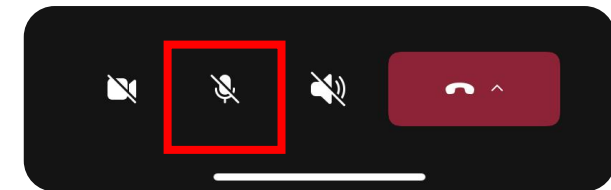
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# Community Engagement

## 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)

### Follow us on social media:



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subscription





Ontario Line

# Station Renderings



*View of platform in future Queen Ontario Line station – Note: Initial concept rendering. Designs - including finishings, signage, and accessibility features - to be informed by further planning and consultation.*





LOUIS VUITTON

QUEEN





DOWNTOWN  
caso

Queen

BANK OF MONTREAL

Michael's Hospital

Artist's rendering – subject to change



