

## Construction of the Fairbank Silverthorn Storm Trunk Sewer System

# Public Information Drop-in Event

# Tonight's Event

The purpose of tonight's event is to:

- Speak one-on-one with City staff
- Learn more about the upcoming work near Harvie-Kitchener-Nairn-Chudleigh neighbourhood
- Understand how it may impact you
- Get more information on what the City is doing to lessen the impacts

# A History of Basement Flooding

The Fairbank Silverthorn community is located on a designated flood plain which is prone to flooding due to its low lying area and proximity to the Humber River.

The City of Toronto is working to protect the Fairbank-Silverthorn community against basement flooding by making improvements to the local infrastructure.

The causes of flooding in the area are the result of:

- Overloaded combined sewer system (sewers carry both sewage and storm water)
- Overloaded surface drainage system
- Low lying areas
- Reverse slope driveways



Image: Flooding in 2009

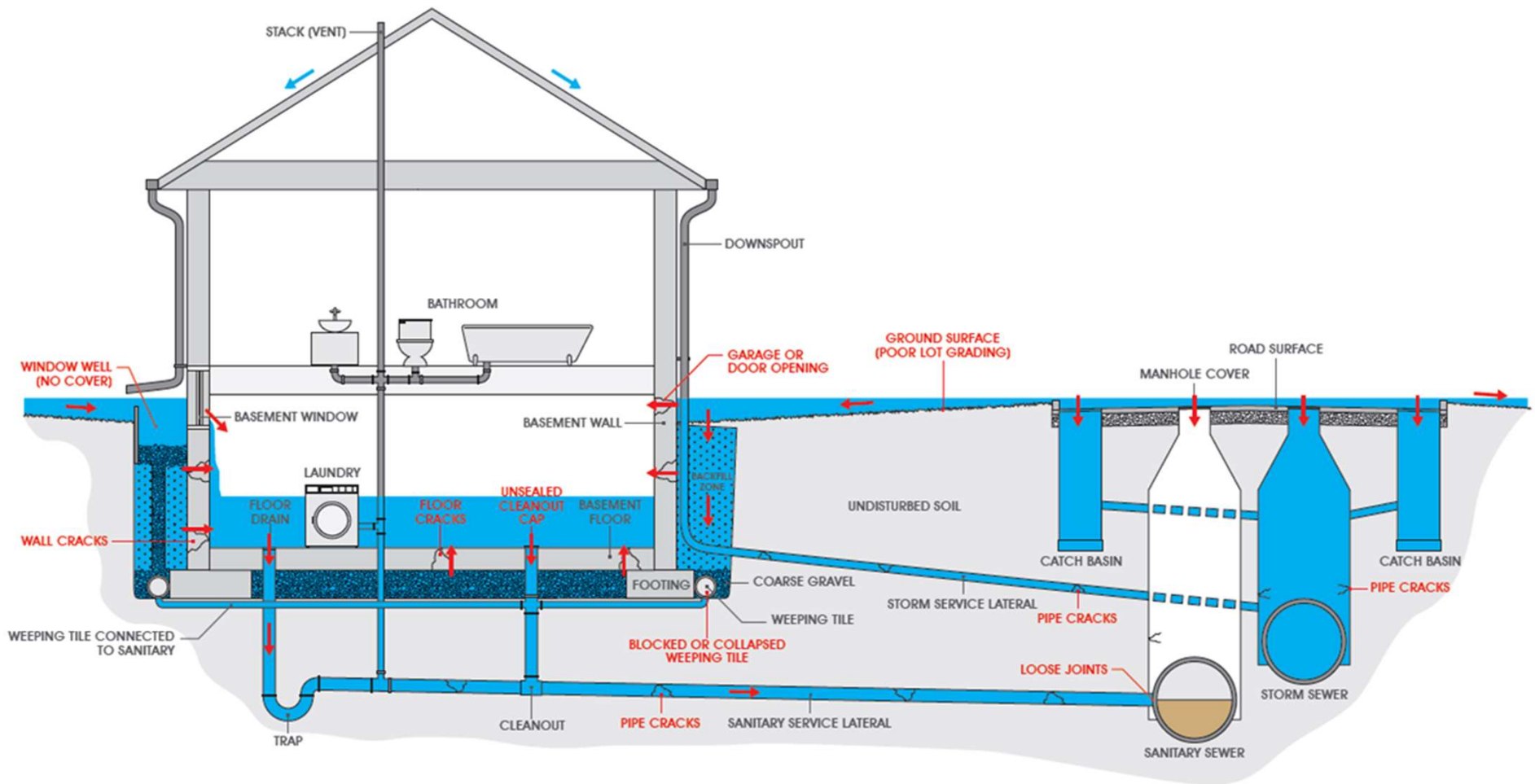
# Protecting Against Future Flooding

The City's 2011 study of basement flooding in the area recommended solutions to help reduce future flooding by building:

- a large Storm Trunk Sewer
- installing new local storm sewers
- a storage tank in Caccia Park
- catch basin control devices

**Once completed, the new storm sewer system will provide flooding protection for more than 4,600 properties within a 140-hectare area.**

# Causes of Basement Flooding



# How the New Sewer System will work

In the future, when there is heavy rainfall, stormwater will flow from local streets into catch basins, which are connected to the new local sewers. These new local sewers will carry the stormwater into the new Storm Trunk Sewer.

The new Storm Trunk Sewer will be able to temporarily hold the stormwater and when safe to do so, will release up to 9,500 litres of stormwater per second into Black Creek.

An underground storage tank in Charles Caccia Park (installed in 2017) will also help to store combined sewer flows when needed. Using pumps, the tank will drain when the wastewater plant is able to accept the flows for treatment.



# Project Phases

Construction of the new storm trunk sewer system will be carried out in two phases:

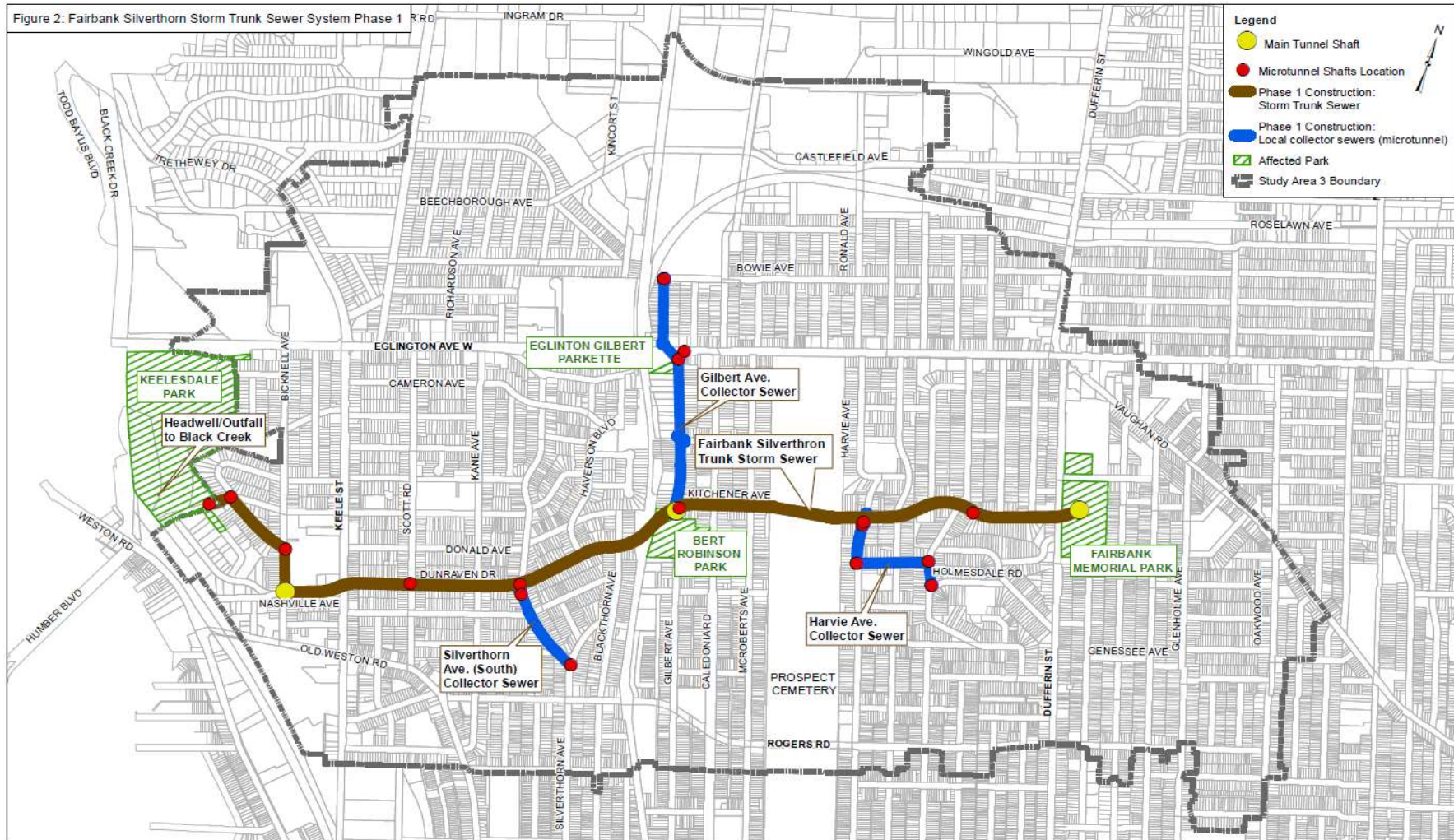
<b>Phase 1</b>	2021-2025	Three (3) km long storm trunk sewer from Fairbank Memorial Park to Black Creek and three storm collector sewers on Silverthorn, Gilbert-Croham and Harvie-Chudleigh-Ennerdale
<b>Phase 2</b>	2023-2026	15 km of new collector storm sewers to connect to the storm trunk sewer and other infrastructure improvements

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The project is funded in part by the Government of Canada through the Disaster Mitigation and Adaptation Fund.

# Map of Construction Area – 2022 to 2025





# Constructing the Storm Trunk Sewer – Phase 1

- The new Storm Trunk Sewer Tunnel will be 3 kilometres long and 4.5 metres-wide and between 15 to 40 metres below the ground surface.
- To construct the tunnel, a Tunnel Boring Machine (or TBM) will excavate below the ground.
- The TBM uses rotating disc-shaped cutting wheels that bore through soil and install concrete segments to create the tunnel walls. The TBM typically excavates 8 to 10 metres per day.
- The TBM will be launched from the Fairbank Memorial Park and move west below Dynevor Road, Kitchener Avenue and Dunraven Drive. It will be removed at Nashville Avenue by 2024.



Image: Tunnel boring machine

# Constructing the Collector Sewers

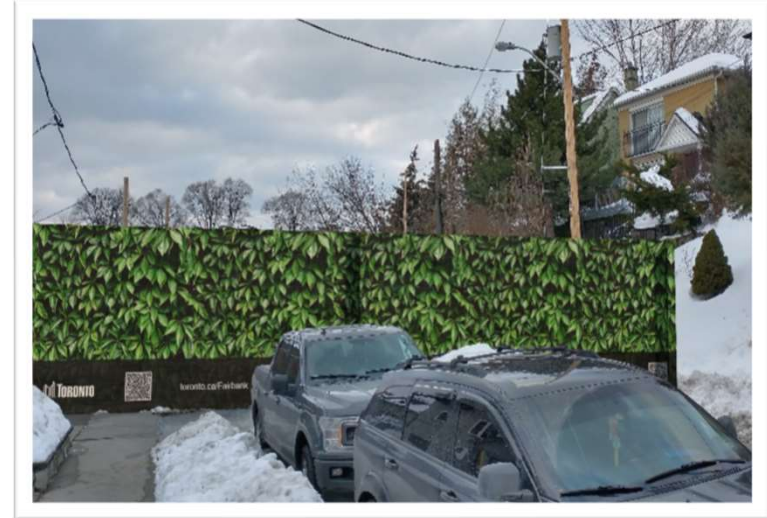
- Three collector sewers will carry rainwater to the new Storm Trunk Sewer. The collector sewers are located along Silverthorn Avenue, Gilbert Avenue and Harvie-Chudleigh Avenue.
- Each new collector sewer will be constructed by micro-tunneling (tunneling using smaller machine).
- Shafts will be constructed at locations shown in red dots on the map to lower and retrieve the micro-tunneling machine.
- At shafts where the collector sewers connect with the Storm Trunk Sewer tunnel, additional construction work is required to make the connection.



Image: inside of the vertical shaft

# Shaft Work Areas

- Each shaft work area will be surrounded by a solid wood fence that is eight feet in height. Where fencing is beside an active traffic lane, it will require a concrete barrier with chain link fence on top.
- The size of shaft work areas vary by location and are affected by underground and overhead utilities, pedestrian and vehicular traffic, ground conditions and tunnel alignment.
- In some places, work areas will extend beyond the road, onto driveways, front yards and sidewalks located on City Property. We have worked to minimize the impacted areas wherever possible.
- Where necessary, temporary walkways will be in place to ensure pedestrian access to homes is maintained at all times.



# Shaft Work Areas

Behind the hoarding and fencing at each shaft work area will be:

- An excavator and crane to remove material (asphalt, concrete and soil) and load it onto trucks to be disposed of off site.
- A tunneling machine that will be lowered or retrieved from shafts by a crane.
- Pipes and material (concrete, steel reinforcement) will also be lowered by crane through the shaft to complete underground tunnel work.
- Generators will be used to power some equipment.
- Once the new sewer has been constructed, maintenance holes, with covers, will be constructed at shafts for future maintenance access.

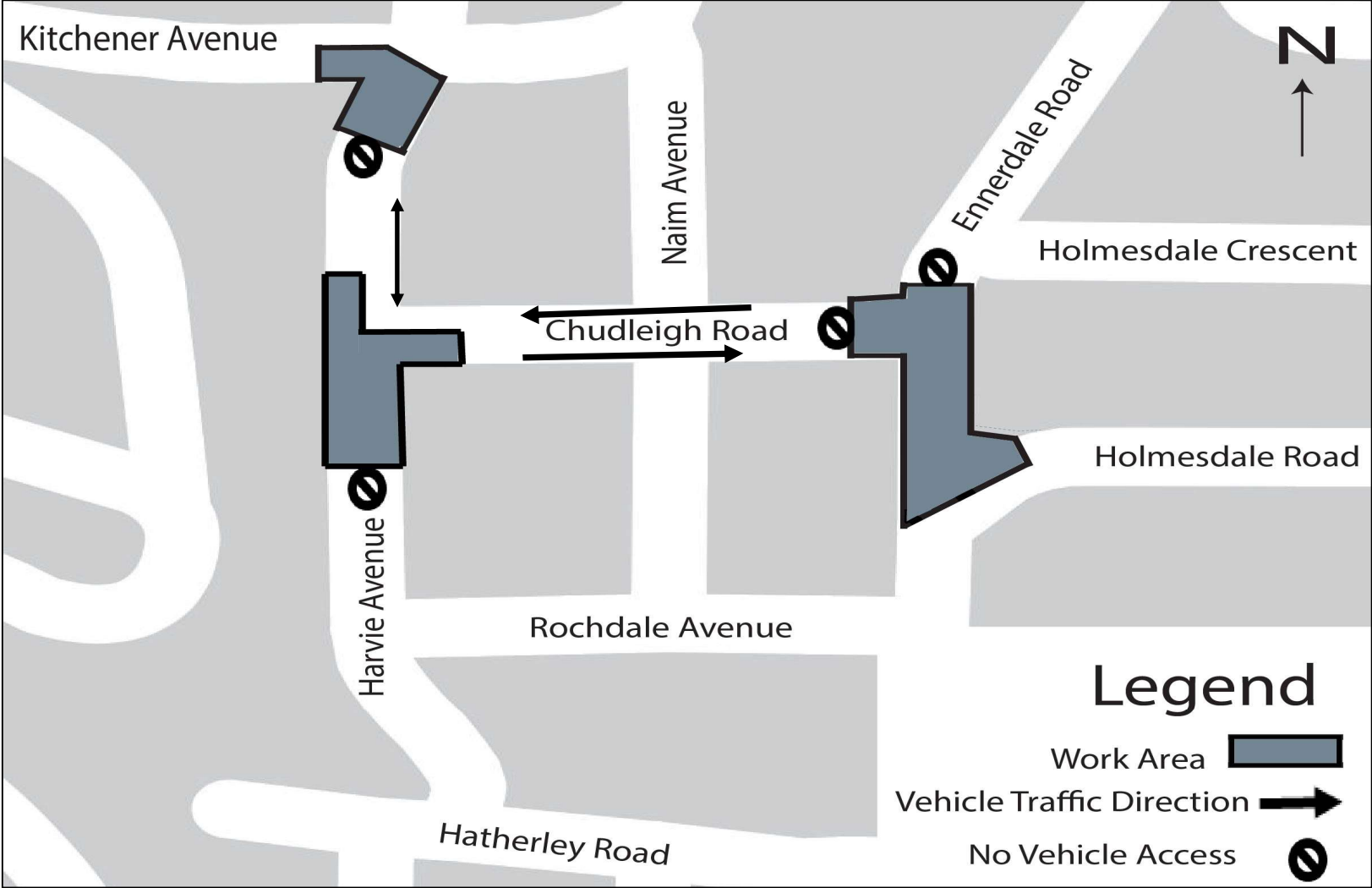


# Dealing with Vibration, Dust & Noise



- The City and the Contractor monitor the work areas full-time for vibration, ground movement, noise and air quality.
- Vibration monitoring devices will be installed at shaft locations and for tunneling work to measure ground vibrations.
- Residents can expect minor vibrations during construction. Monitoring will help to ensure that vibration levels are well below the City's allowable limits.
- Residents are encouraged to have a pre-condition inspection of their property ahead of construction.
- The contractor will be responsible for keeping the area around the work zone clean, tidy and minimizing dust.

# Road closures and getting around



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Shaft work areas will require road closures due to the amount of space needed for construction.

<p><b>July 2022 to March 2024</b></p>	<ul style="list-style-type: none"> <li>• Harvie Avenue closed from Kitchener Avenue to 50-meter south of Kitchener Ave</li> <li>• Traffic on Kitchener Ave to west of Harvie Ave will be limited to one way westbound</li> </ul>
<p><b>February 2023 to October 2023</b></p>	<ul style="list-style-type: none"> <li>• Chudleigh Road closed near Ennerdale Road</li> </ul>
<p><b>February 2023 to August 2023</b></p>	<ul style="list-style-type: none"> <li>• Ennerdale Road from north of Chudleigh Road to Holmesdale Road will be impacted</li> <li>• Work will be complete in stages to maintain local traffic as the work progresses</li> </ul>
<p><b>October 2022</b></p>	<ul style="list-style-type: none"> <li>• Harvie Avenue closed from Chudleigh Road to 50-m south of Chudleigh Rd</li> </ul>
<p><b>March 2023 to November 2023</b></p>	<ul style="list-style-type: none"> <li>• Harvie Avenue closed from Chudleigh Road to 50-m south of Chudleigh Road</li> <li>• Harvie Avenue north of Chudleigh Road will be reduced to a single lane but two-way travel allowed for impacted properties</li> <li>• Chudleigh Road will be temporarily converted to two-way traffic to allow access for Harvie Avenue residents</li> </ul>



# Impacted Properties

- For properties where construction will block access to their driveway, the City will make alternate parking arrangements for their vehicles at no cost. This may include permits for on-street parking on your street or nearby streets.
- Existing on-street parking bylaws, such as no parking in front of a fire hydrant, will continue to apply throughout construction.
- Visitors will need to continue to comply with signed parking restrictions.
- Temporary street parking tags must be displayed on a vehicles dashboard and residents must continue to follow parking regulations at all times. If Parking Enforcement officers are called to a street, they may issue a Parking Violation Notice (yellow ticket) to vehicles that are violating parking bylaws (e.g. parking in front of a fire hydrant).






# What you can expect during construction

During construction, residents can expect:

<p><b>Work Hours</b></p> 	<ul style="list-style-type: none"><li>• Work will take place between 7 a.m. and 7 p.m., Monday to Friday, with occasional weekend and evening work, as required.</li><li>• Underground tunneling work at Fairbank Memorial Park may continue 24 hours a day, seven days a week.</li></ul>
<p><b>Truck Traffic</b></p> 	<ul style="list-style-type: none"><li>• During work hours, there will be about one truck each hour traveling to or from the work area.</li><li>• In some locations, a flag person or paid duty officer will be in place to direct vehicles and pedestrians when high volume of truck traffic is expected.</li></ul>

# Maintaining City Services

The City has reviewed construction plans with city service providers and residents will continue to be served.

<p><b>Emergency Services</b></p> 	<ul style="list-style-type: none"><li>• Access for Paramedics, Police and Fire Services, will be maintained at all times.</li><li>• Where roads are closed, sidewalks and temporary walkways will allow emergency services to gain access to properties.</li></ul>
<p><b>Garbage &amp; Recycling Collection</b></p> 	<ul style="list-style-type: none"><li>• The City will continue to collect garbage and recycling on the usual day of the week.</li><li>• Where necessary, the contractor will bring waste bins to a designated spot for collection and return the empty bins to the appropriate address each week.</li></ul>
<p><b>Snow clearing</b></p> 	<ul style="list-style-type: none"><li>• On streets impacted by construction, including temporary walkways near shaft work areas, snow clearing will be carried out by the contractor.</li></ul>

# Maintaining Access to Your Property

## Have a delivery? Moving? Work taking place at your home?

- Temporary walkways will ensure pedestrian access to properties for mail carriers and delivery people.
- Where necessary, signage will be installed to direct delivery people around the work areas.
- Residents who live near a work area and are planning to move, planning major renovations, or expecting delivery of large items should contact the Field Ambassador in advance.



# Tree Removals and Future Planting

- Some construction activities will require City trees to be removed if the tree is in conflict with a shaft or work area.
- Trees that are located close to the work areas but do not need to be removed, will be protected with fencing.
- The City will plant three trees for every one City tree that is removed.
- After construction is completed, new trees will be planted on streets where there is space in the boulevard, in parks or ravine areas.



# Restoration After Construction



- When work is completed, all areas affected by construction will be restored to their pre-construction condition.
- This includes City-owned roads, parks, sidewalks, grass, retaining walls and driveways.
- Where grass sod is needed, restoration will need to take place when weather conditions are suitable for sod to root, such as spring, summer or fall.

# Stay in touch



Affected residents will receive notices about upcoming construction work and updates.

Sign-up for email updates tonight or through the project web page: [toronto.ca/Fairbank](https://toronto.ca/Fairbank)

## Questions or concerns about construction, contact:

Field Ambassador: Shakha Vasdani

Call: 416 338 5497

TTY: 416 338 0889

Email: [fairbanksewer@toronto.ca](mailto:fairbanksewer@toronto.ca)