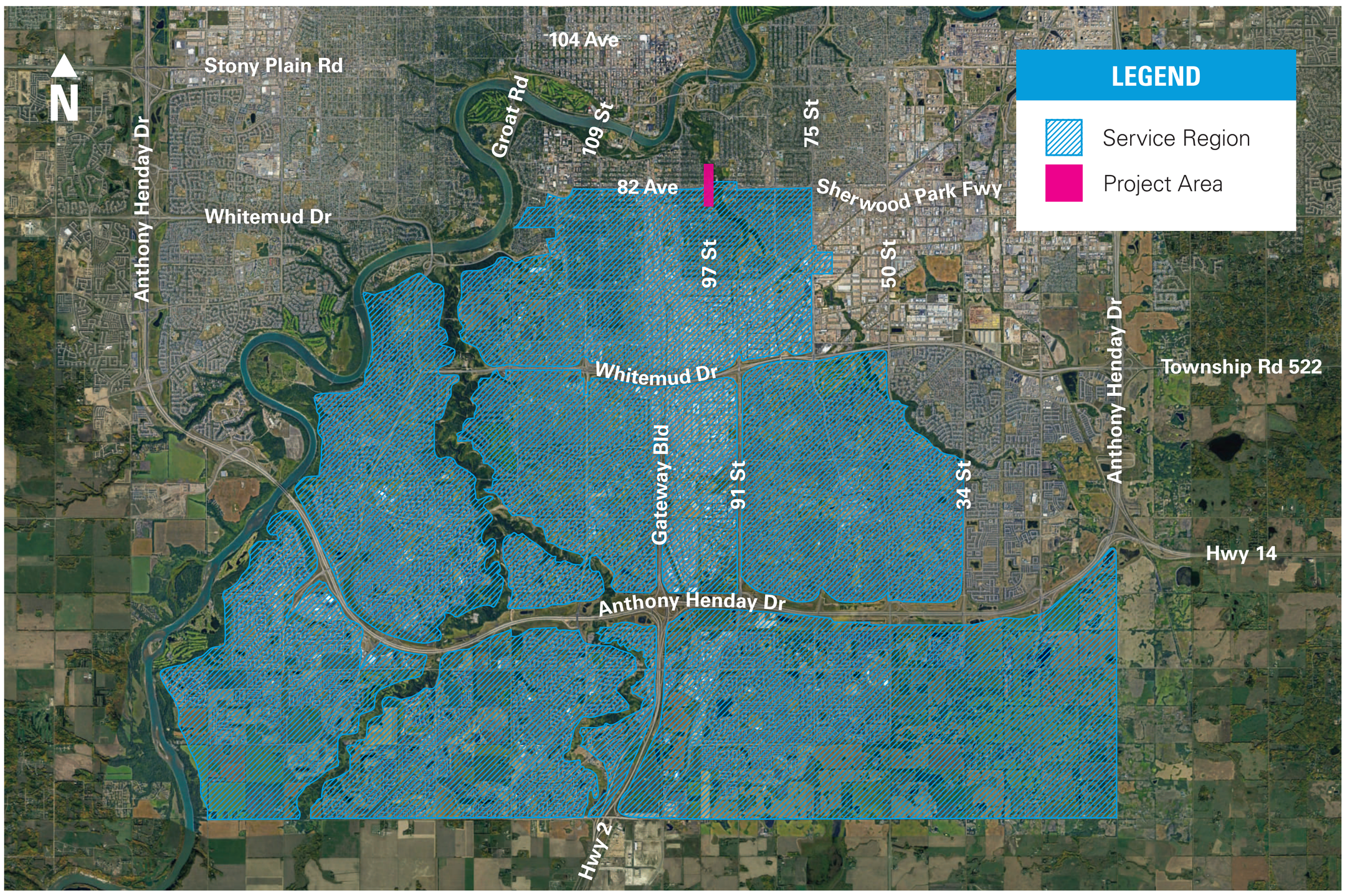
WELCOME

PROJECT BACKGROUND

The Mill Creek combined trunks carry wastewater from a large part of south Edmonton towards the Gold Bar Wastewater Treatment Plant, and also convey stormwater and snowmelt from some of Edmonton's older south side neighbourhoods. This line services approximately 58,000 sanitary connections in south Edmonton.

The Mill Creek combined trunk services the Edmonton region highlighted on the map:



Why is this project important?

In 2020, crews had identified large holes in the trunk as well as a deteriorated manhole. An emergency repair was completed in Mill Creek Ravine, which involved impacts to the trail system, tree removal and heavy equipment being transported and utilized on site.

Further inspections were completed to evaluate the remainder of the trunk's condition. Due to the poor condition and location of the line, a new trunk was needed to replace the existing trunk and ensure the system continues to reliably meet the needs of the City of Edmonton. Once the new trunk has been constructed, a portion of the existing trunk in Mill Creek Ravine will be abandoned.

The selected alignment of the new trunk is located outside of Mill Creek Ravine. The completion of the new trunk will help reduce the risk of significant environmental impacts to the ravine in the event of a trunk failure.

PROJECT BACKGROUND

Photo of existing Mill Creek Trunk Line, which will be abandoned

Example of new tunnel

PROJECT OVERVIEW

This project will be broken down into three stages:

Stage One

Mid January 2023 to Mid 2025

New tunnel construction along 97 Street and connection to the existing upstream combined trunk at 80 Avenue and downstream trunk at 88 Avenue.

Stage Two

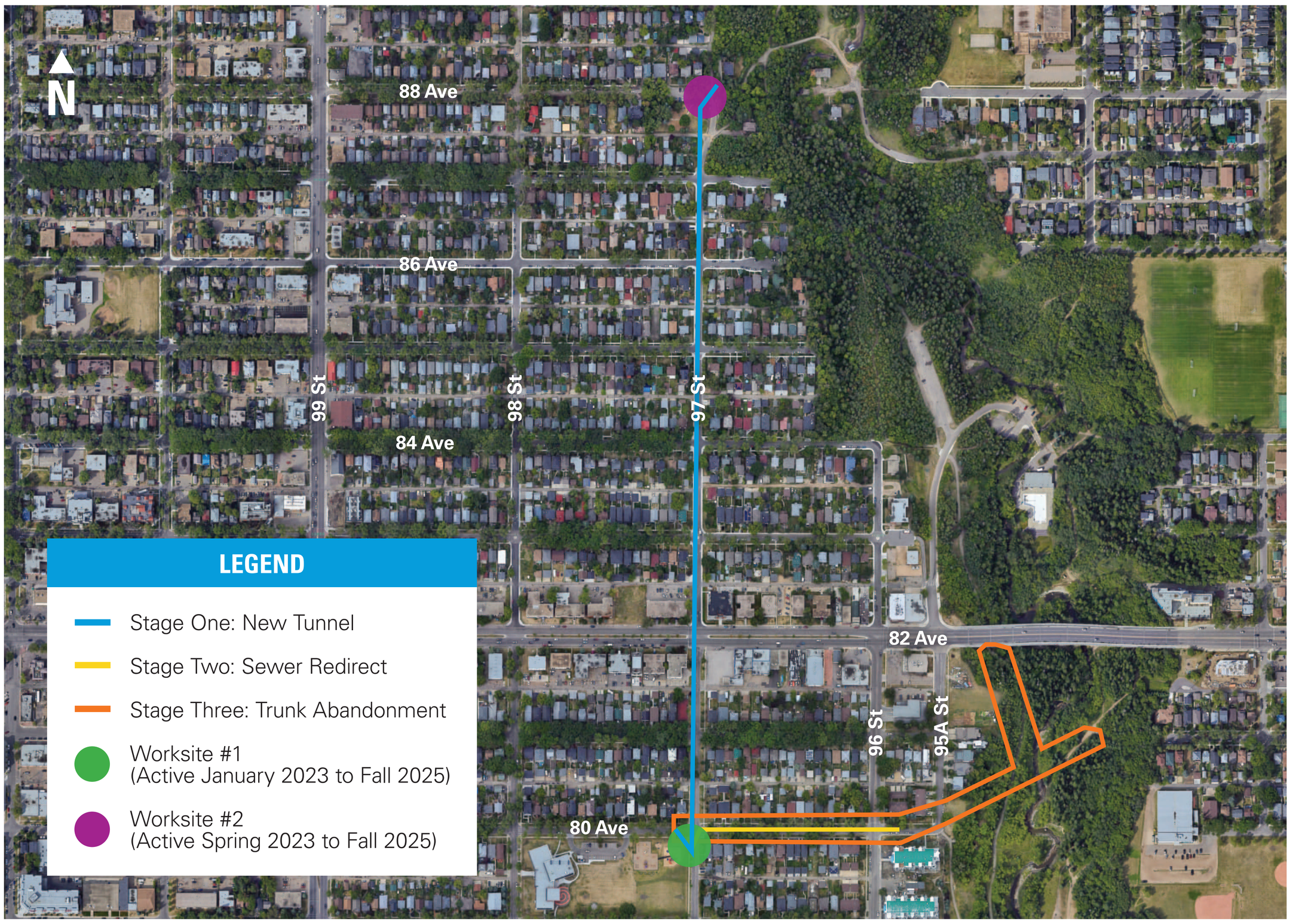
Spring 2025 to Fall 2025

Redirecting the existing sewer flows on 80 Avenue between 96 Street to 97 Street toward the new tunnel.

Stage Three

Summer 2025 to Spring 2026

Abandonment of the existing combined trunk from 97 Street to the Mill Creek Ravine.



These timelines are estimates and are pending approvals, material procurement/availability, construction conditions and weather.

OVERVIEW OF STAGE ONE CONSTRUCTION

Mid January 2023 to Mid 2025

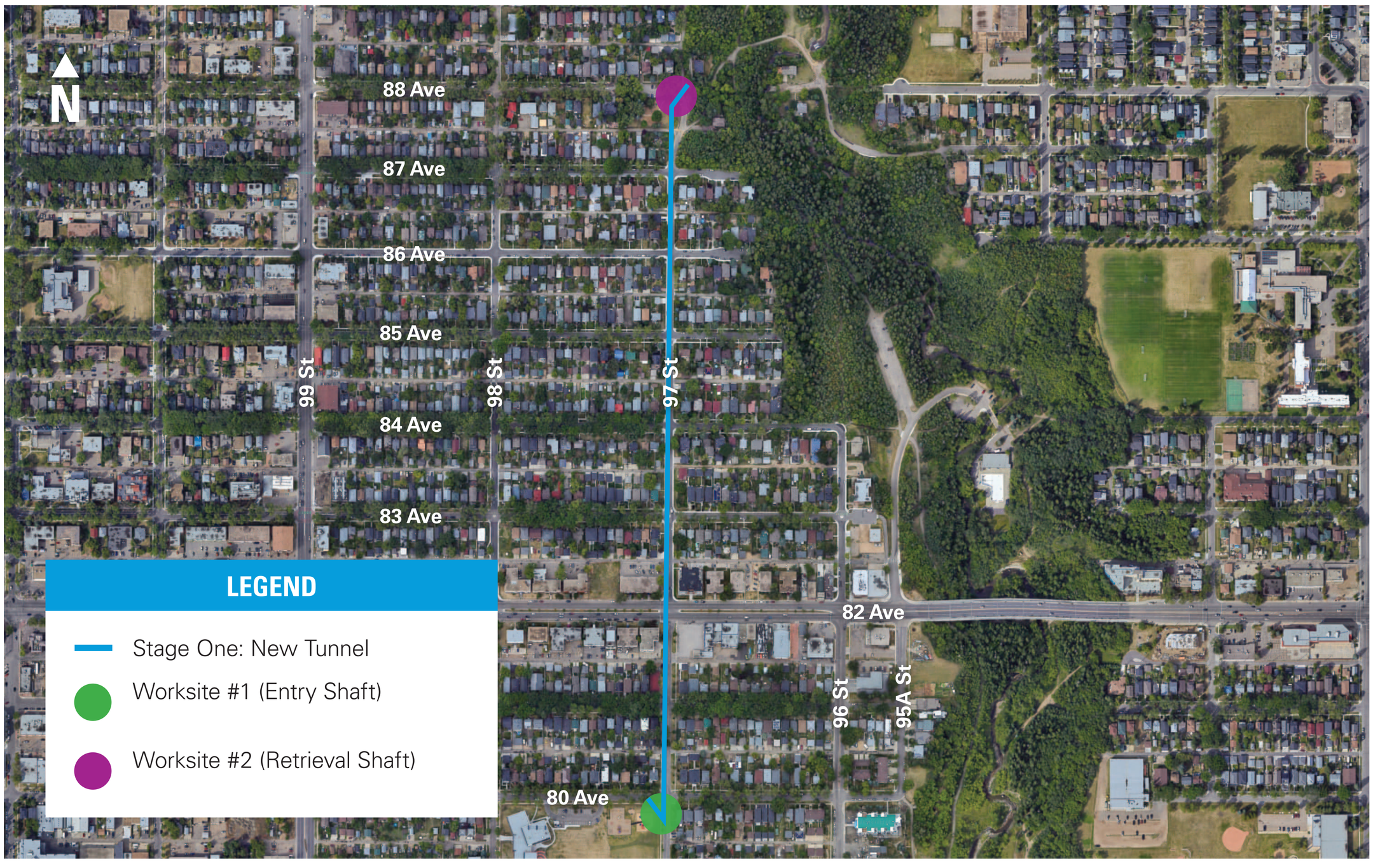
Stage One of the project will require significant closures to both the recreation field at Mill Creek School (Worksite #1), as well as the greenspace in Tubby Bateman Park (Worksite #2). The alignment of the trunk was selected in order to connect to existing combined trunks along 80 Avenue and 88 Avenue, as well as reduce the risk of impacting Mill Creek Ravine.

During Stage One of the project, crews will construct a 30 metre deep shafts for the tunnel boring machine (TBM), which will be used for the construction of the new tunnel. Two shafts will constructed for the tunnel boring machine: an entry shaft at Mill Creek School, and a retrieval shaft in Tubby Bateman Park.

Construction of the entry and retrieval shaft is anticipated to take eight months to complete. Once the shafts have been completed, tunneling will begin. The majority of the activity will take place at the entry shaft; the retrieval shaft site will be inactive for approximately one month after the retrieval shaft has been completed.

The TBM will be lowered into the entry shaft and will travel north underground along 97 Street until it reaches the retrieval shaft. Underground 24/7 tunneling is expected to take place for approximately 150 consecutive days. A slurry separation machine, located at Worksite #1 near Mill Creek School, will also operate 24/7 during tunneling activities. Once the tunneling stage is complete, it will take approximately four months to convert the shafts to manholes, providing access into the tunnel for future maintenance. Full restoration will follow and is anticipated that the school field and park will reopen in mid 2025.

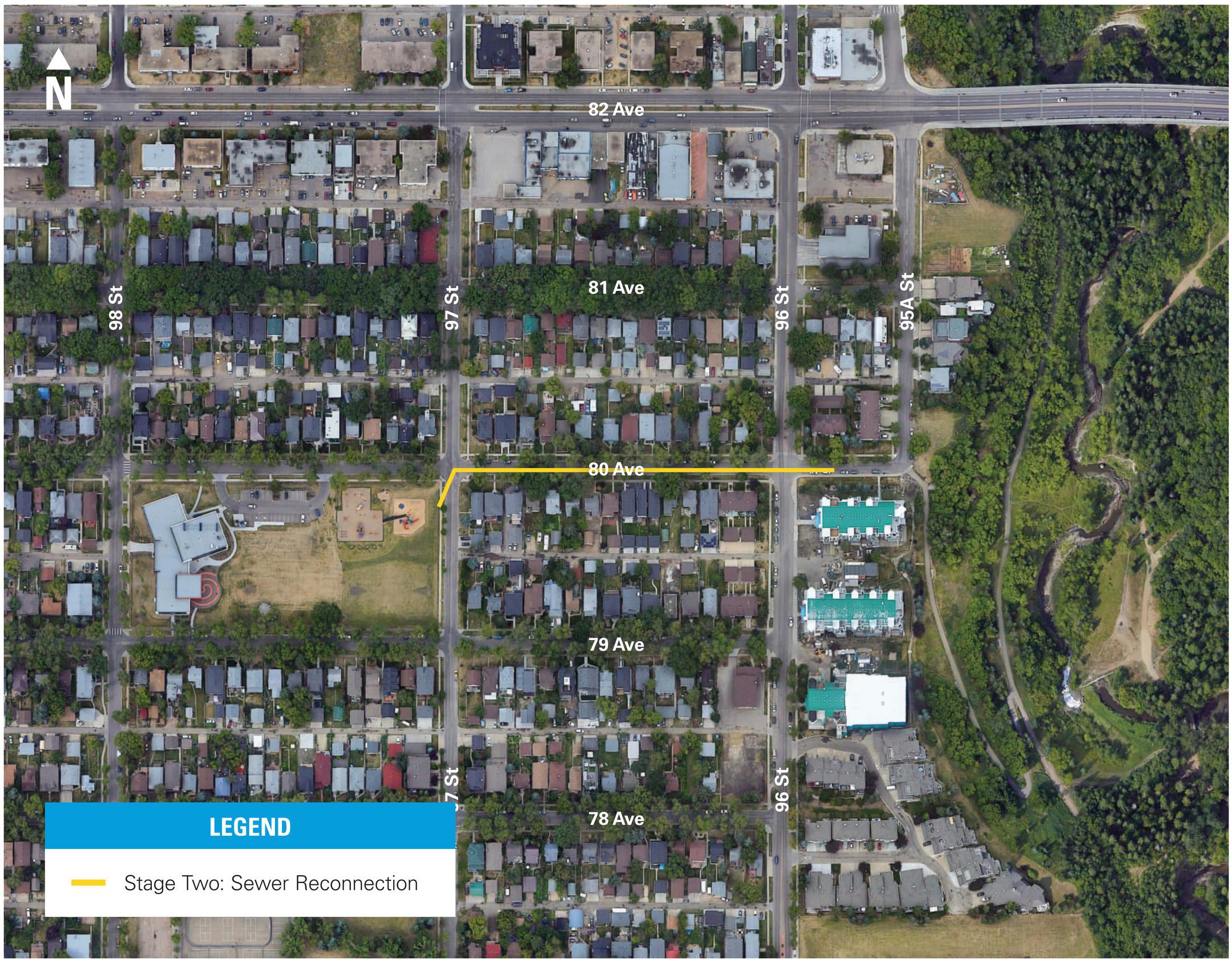
Once the new trunk is completed, Stage Two work will begin in order to connect existing sewer connections on 80 Avenue, between 97 Street and 96 Street, to the new trunk.



OVERVIEW OF STAGE TWO CONSTRUCTION

Spring 2025 to Fall 2025

Crews will perform open-trench work along 80 Avenue, between 96 Street and 97 Street, in order to connect the existing sewer to the new trunk. A full road closure is required to accommodate excavation of the work area. The road will remain closed for the duration of the Stage Two work. Please note, further notification will be provided to impacted residents before Stage Two work begins and will include details of traffic impacts, timelines and schedule when possible.

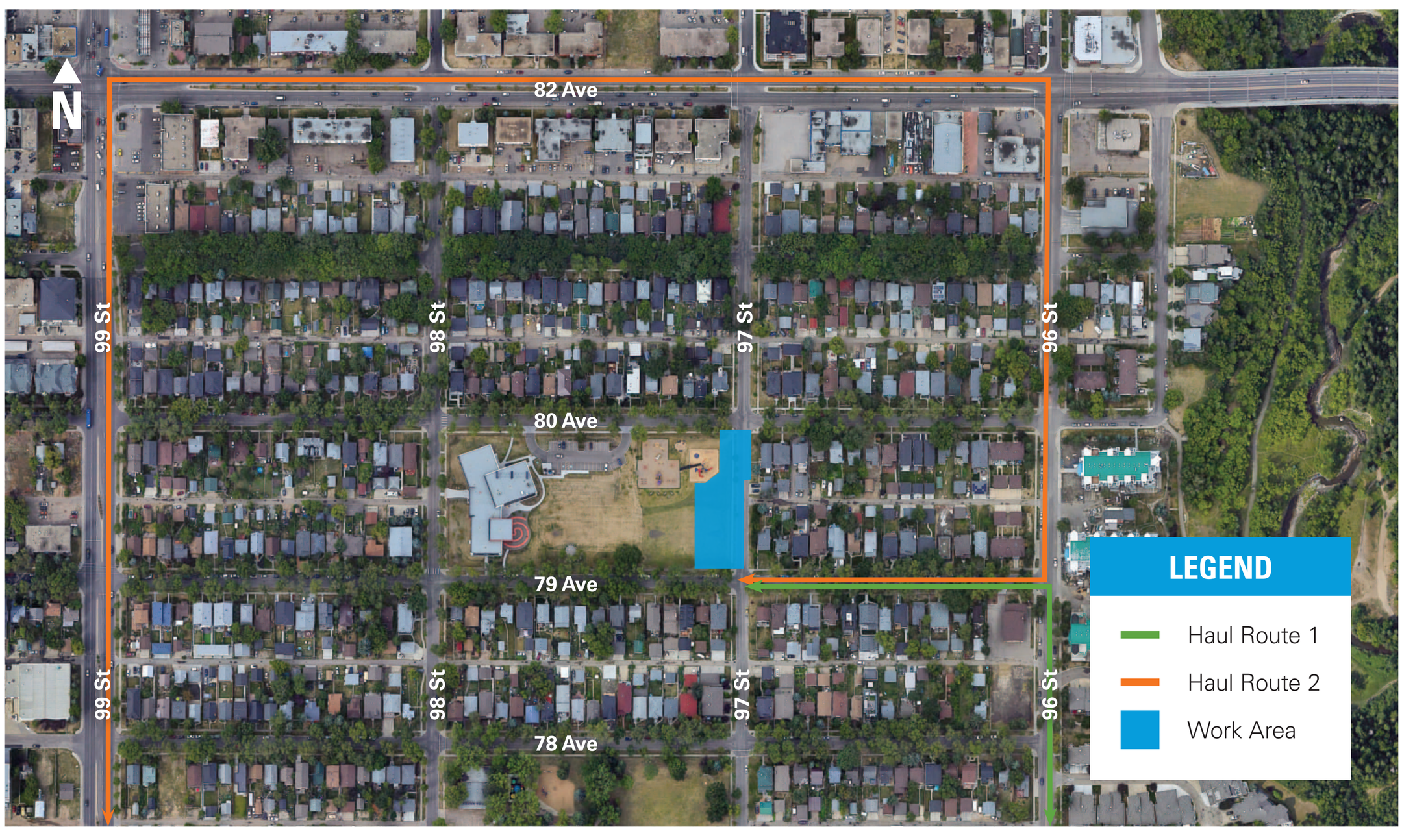


STAGE ONE: WORKSITE #1

80 Avenue and 97 Street

Estimated construction from mid January 2023 to mid 2025.

Haul Route



STAGE ONE: WORKSITE #1 IMPACTS

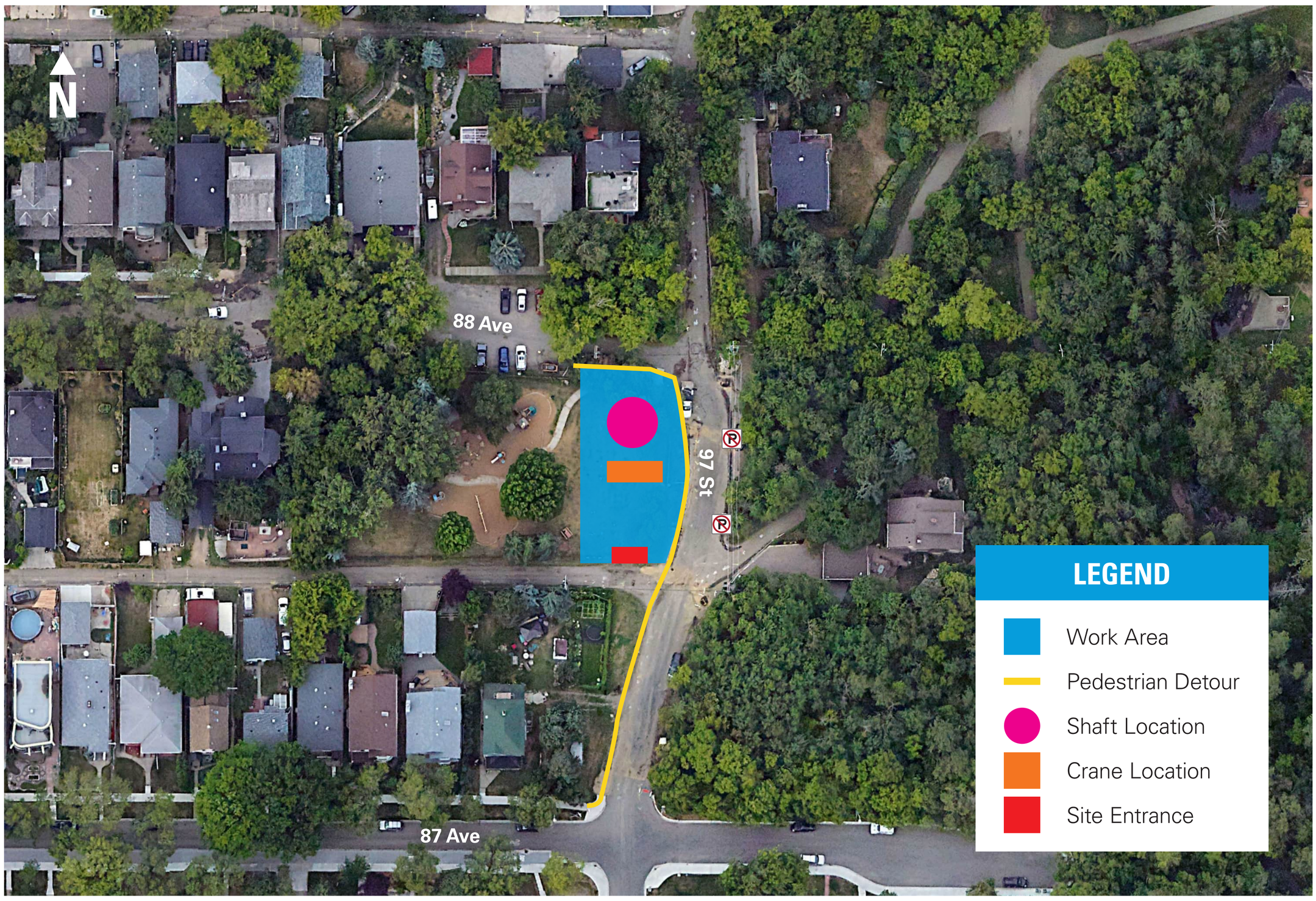
Impacts

Traffic	Full road closure on 97 Street between 79 Avenue and 80 Avenue.
Sidewalks/walkways	Pedestrians will be detoured along the west side of the construction site via a temporary walkway.
Working Hours	Typical hours of work will be from **7:00 a.m. to 7:00 p.m., Monday to Saturday.** If required, these hours may be extended, and construction may occur on **Sundays from 9:00 a.m. to 5:00 p.m.** During tunneling, the tunnel boring machine will be running 24/7.
Haul Route	Two haul routes from the site will be utilized in order to avoid traveling on 98 Street in front of Mill Creek School. Trucks will proceed north on 96 Street to 82 Avenue or south toward 63 Avenue. While the haul route will see increased activity due to construction, the routes will remain open to regular traffic. There may be intermittant road closures near the worksite while crews are moving equipment and materials. Due to the proximity to Mill Creek School, no tandem trucks will travel to and from site on weekdays during school drop-off (between 8:00 a.m. 9:00 a.m.), or school pick-up (2:45 p.m. and 3:45 p.m., including Thursday early dismissal from 1:45 p.m. to 2:45 p.m.).
School Soccer Field	The soccer field goal posts will be moved further west to accomodate the site's laydown area and allow for the continued use of the soccer field. The site will also be fenced and will use site hoarding material to block visibility and deter activity around the site. Once construction is complete, the soccer goal posts will be moved back to their original location.
Tree Trimming, Removal and Replacement	Several trees along the fence line on the west side of 97 Street, between 79 Avenue and 80 Avenue next to Mill Creek School, will be removed. Once construction is complete, the City of Edmonton Urban Forestry department will determine the number of trees to be replaced and the replacement locations.

STAGE ONE: WORKSITE #2

87 Avenue and 97 Street

Estimated construction from Spring 2023 to mid 2025.



Haul Route

STAGE ONE: WORKSITE #2 IMPACTS

Estimated construction from Spring 2023 to mid 2025.

Impacts	
Traffic	There will be no parking adjacent to the worksite on 97 Street.
Sidewalks/walkways	Pedestrians will be detoured via a temporary sidewalk from the east side of the worksite to the pedestrian path on the north side of the worksite (connected to the parking lot).
Working Hours	Typical hours of work will be from **7:00 a.m. to 7:00 p.m., Monday to Saturday.** If required, these hours may be extended, and construction may occur on **Sundays from 9:00 a.m. to 5:00 p.m.**
Haul Route	One haul route will be used to access this site. Trucks will proceed south from the worksite along 97 Street to 82 Avenue. There may be intermittant road closures on 97 Street near the worksite while crews are moving equipment and materials.
Tree Trimming, Removal and Replacement	Several trees in the north east corner of Tubby Bateman Park on 97 Street will be removed. Once construction is complete, the City of Edmonton Urban Forestry department will determine the number of trees to be replaced and the replacement locations.
Tubby Bateman Park Green Space	The worksite for the construction of the retrieval shaft will encompass a large portion of the green space within Tubby Bateman Park. The playground will remain open during construction, however a large portion of the park space will be closed to the public for the duration of the Stage One construction. We are working with the City of Edmonton to relocate or store any historic resources that are currently within the work area.

STAGE TWO: SEWER RECONNECTION

Impacts

Community Disruption	EPCOR will work with residents to understand individual impacts related to this work, such as garbage pick-up, accessibility issues and other needs. We will work to determine mitigations on a case by case basis.
Traffic	There will be a full road closure on 80 Avenue, from 97 Street to the intersection of 96 Street, to accommodate open cut construction. The road will be closed for the duration of this work.
Sidewalks/walkways	Sidewalks on 80 Avenue will remain open for pedestrians.
Working Hours	Typical hours of work will be from **7:00 a.m. to 7:00 p.m., Monday to Saturday.** If required, these hours may be extended, and construction may occur on **Sundays from 9:00 a.m. to 5:00 p.m.**
Haul Route	Trucks will proceed north on 97 Street to 82 Avenue or south toward 63 Avenue.

Example of open-cut construction used to complete the sewer reconnection

STAGE THREE: ABANDONMENT OF EXISTING TRUNK LINE

Summer 2025 to Spring 2026

During Stage Three, crews will decommission the existing trunk line within the ravine by filling it with a concrete-like material. Crews will use the existing trails as an access route to complete this work, however it is anticipated that trails remain open to pedestrians the majority of the time.

There may be intermittent trail closures while crews are moving equipment, such as a mini-excavator, and materials to the worksites.

Please note, further notification will be provided to impacted residents before Stage Three work begins and will include details of traffic impacts, timelines and schedule when possible.

WHAT CAN I EXPECT DURING CONSTRUCTION?

Construction Noise

- Work will create typical noise associated with construction.
- Noise abatement measures will be implemented to comply with City standards.
- Heavy trucks will be moving through residential streets.

Safety

- Safety is our first priority for our site workers and community members. All work areas will be fenced off and secured, and flagging personnel will be used where necessary.

Weather

- Work may be delayed due to extreme weather, such as lightning, cold temperatures, and wind. Updates will be provided if original timelines are adjusted.

Hours of Work

- During shaft construction and manhole work (all worksites), typical hours of work will be **7:00 a.m. to 7:00 p.m. Monday – Saturday.** If required, these hours may be adjusted or extended, and construction may occur on **Sundays from 9:00 a.m. to 5:00 p.m.**
- During the tunnelling period there will be continuous work **24 hours a day, 7 days a week.**
- 24/7 tunnelling will only occur at Worksite #1 for 150 consecutive days.

Odour

- There may be odour during the sewer redirect work along 80 Avenue between 96 Street and 97 Street.

Parking

- Vehicles related to the construction may be parked on the road near the construction sites. No parking signs may also be placed in certain areas.

Visual Impacts

- You can expect to see activity that is typical to construction, including company/contractor vehicles and equipment.
- The contractor may use a combination of excavators, loaders, skid steers, cranes, and tandem trucks, as well as other equipment.
- There will also be a two-story soil separator at Worksite #1.

WHAT IS EPCOR DOING TO REDUCE IMPACTS TO THE PUBLIC?

EPCOR has met with Mill Creek School and Bonnie Doon Community League, as well as providing a project backgrounder to impacted residents of Old Strathcona, Ritchie, King Edward Park and Bonnie Doon communities.

Noise Control

- Noise abatement measures will be utilized at the 24 hour a day tunnelling sites; however, construction noise should be anticipated.
- Activity is reduced to the minimum requirement during overnight hours.

Sidewalks/Walkways/Pedestrian Crossings

- Detours will be created for any sidewalk/pedestrian crossing closures.

Light Pollution

- Lighting structures will be place low within the worksite to minimize light from spilling outside the worksite.

Worksite Security

- As the construction worksites are in close proximity to Mill Creek School and Tubby Bateman Park, the site will utilize secure fencing and site hoarding material to block visibility and deter activity around the site.

Student Safety Education

- EPCOR will work with Mill Creek School to provide safety education for students to promote safe behaviour around construction sites.
- EPCOR will also provide information to the school to provide to parents

EQUIPMENT ON SITE

What is a TBM?

- A machine used to excavate tunnels by breaking the surrounding soil/earth/rock to create a large diameter tunnel.

How big is the TBM?

- The TBM being used for this project is 4.5 metres in length, weighs approximately 30 tonnes and is 2.7 metres in diameter.

How fast does a TBM tunnel?

- It is anticipated that the TBM will progress, on average, at a speed of about six metres per day in the expected conditions.

Why does the TBM need to operate 24 hours a day?

- The TBM operates under a pressure system to move forward. This is facilitated by the use of a slurry (water and material mixture) to lubricate the pipes and reduce the friction. When tunneling stops, the slurry may harden and cause the pipes and TBM to be unable to be pushed forward.

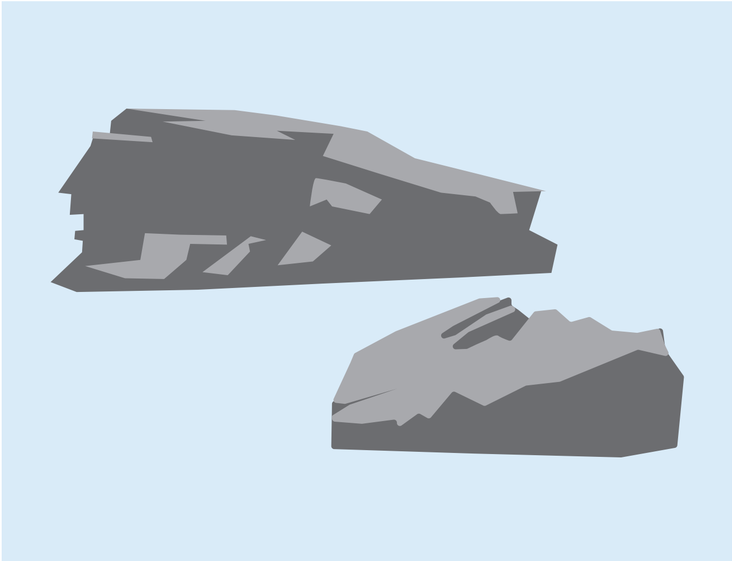
What is a slurry separation machine?

- A slurry separation machine is a large piece of equipment (approximately two stories tall) used to mange soil removal. The machine separates the solids from slurry, so that the water can be recycled back to system. The machine operates 24 hours a day while the TBM is tunneling. Noise abatement panels will be used to dampen the noise generated by the machine.

Example of a micro-tunnel boring machine (TBM) used during tunneling

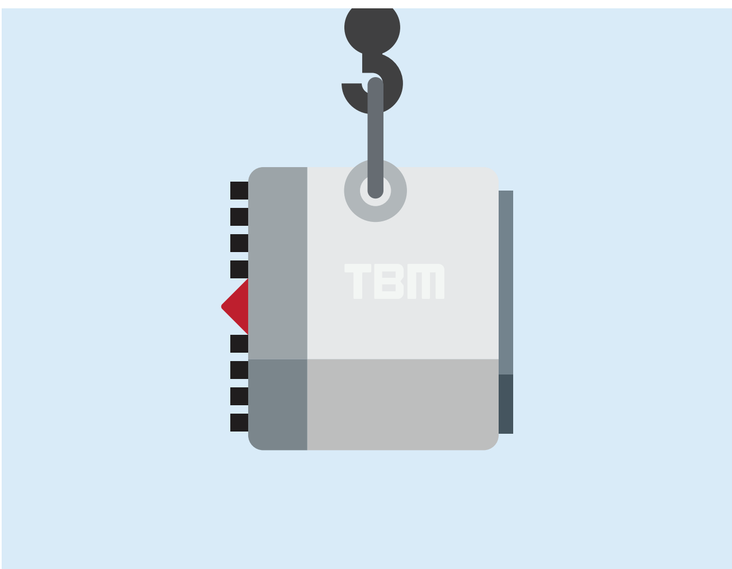
Example of slurry separation machine used onsite during active tunneling

WHAT COULD DELAY THE SCHEDULE?



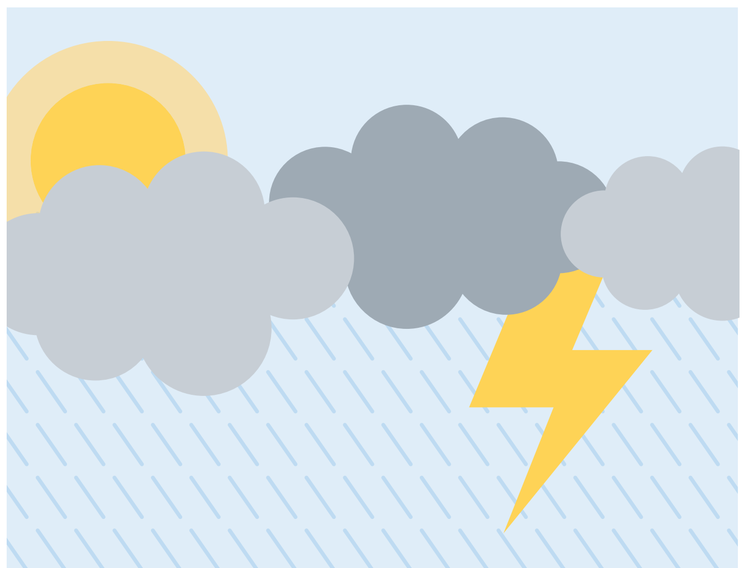
Ground Conditions and Boulders

Geotechnical investigations have been completed along the alignment and we anticipate that the ground conditions are favourable for tunneling. However, there is a risk the TBM could encounter harder soil or boulders, which could slow down progress.



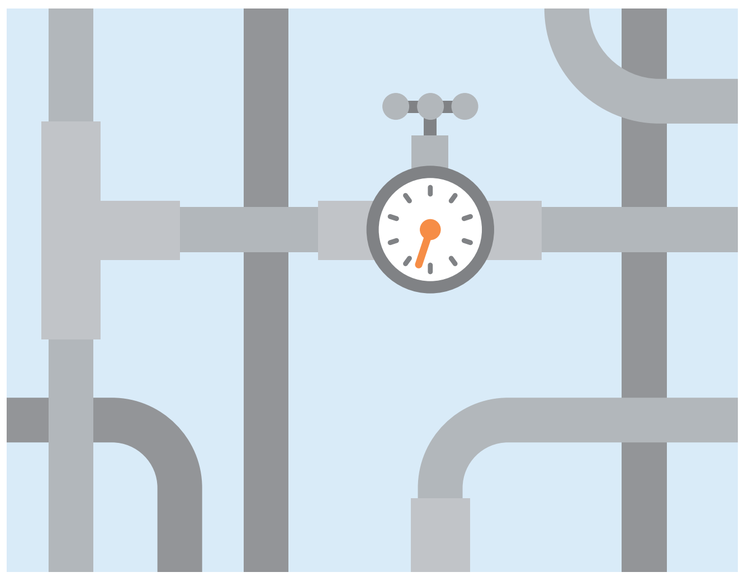
Delivery of the TBM

The TBM will be delivered from overseas, either from the manufacturer or from another project site. If there are delays with shipping, the tunnelling portion of the project may be delayed.



Extreme Weather

Extreme weather including severe cold, heavy rains, high winds and lighting make working unsafe. During these conditions, the site will be shut down.



Relocation of Existing Utilities

The start date of the project is dependent on relocation of the utilities, including a water main at Tubby Bateman Park, as well electricity and telecommunication lines at Ritchie School. Electricity and telecommunication line relocations are anticipated to take place in Q4 of 2022. The watermain relocation is anticipated to take place in Spring 2023. There may be some disruption to local services, however more information will be provided at the time of construction.

CONSTRUCTION SITE HOARDING

What is construction site hoarding?

Construction site hoarding can be creative, eye-catching printed art displays installed to a fence on a construction site perimeter. The hoarding helps keep the site safe and also provides an aesthetically appealing display.

EPCOR looks forward to hosting an art contest for students at Mill Creek School to decorate the construction hoarding. More details about art contest will be provided at a future date.

Example of construction art hoarding for EPCOR's 99 Avenue Sanitary Trunk Rehabilitation Project at 148 Street and Summit Drive

THANK YOU

We are committed to keeping you up to date as this project progresses so you are aware of the possible impacts from the work. Should you have any additional questions about this project, please do not hesitate to contact us.

EPCOR Drainage Services

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