

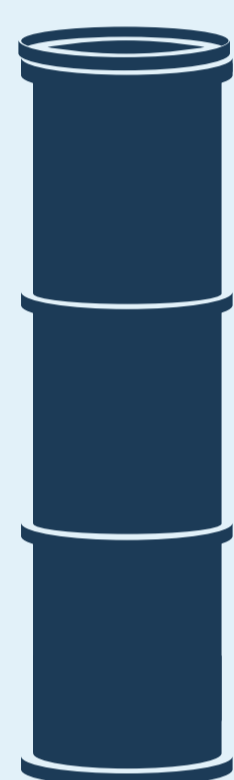
# Midtown wastewater diversions

## Fast facts



### Two Phases of work:

- **Queen Street:** October 2024 – December 2025
- **Mayoral Drive:** November 2025 – December 2026



### Queen Street:

Four shaft sites: Greys Avenue Carpark, Mayoral Drive, Wellesley Street East, and Victoria Street East

Shaft depths measure 5.5m, 14.5m, 8.4m and 7.0m, respectively.

Pipe measures 1.23m diameter and 6m long

### Tunnel Boring Machine (TBM)

8m long

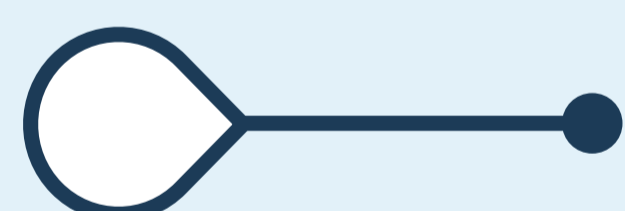
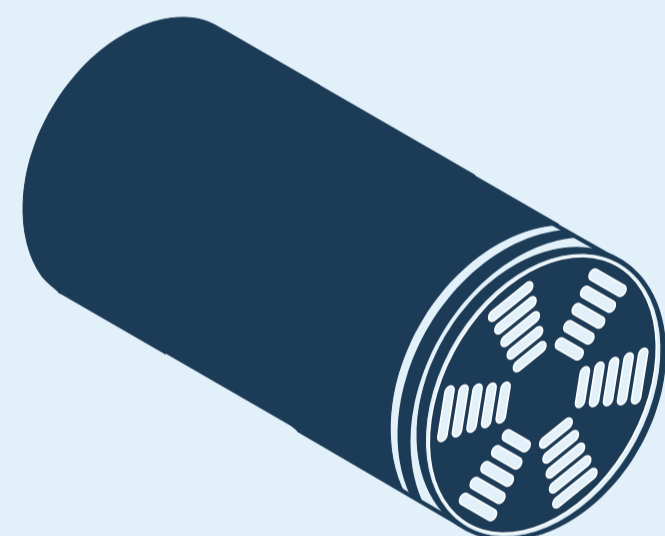
Weights 12 tonnes

Will travel at a rate of 6 – 12m per day

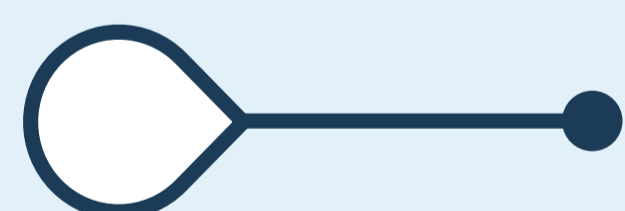
Working at a depth of 6 – 14.5m beneath Queen Street

Covers a distance of 585m

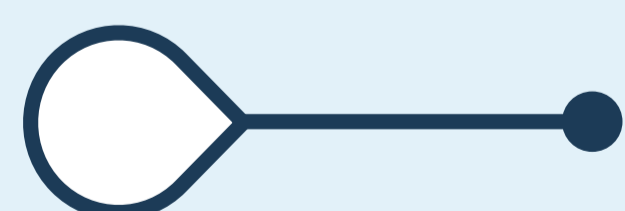
Her name is *Piper*



Utility relocations necessary prior to main works at Queen Street/Mayoral Drive intersection and Queen Street/Wellesley Street East intersection.



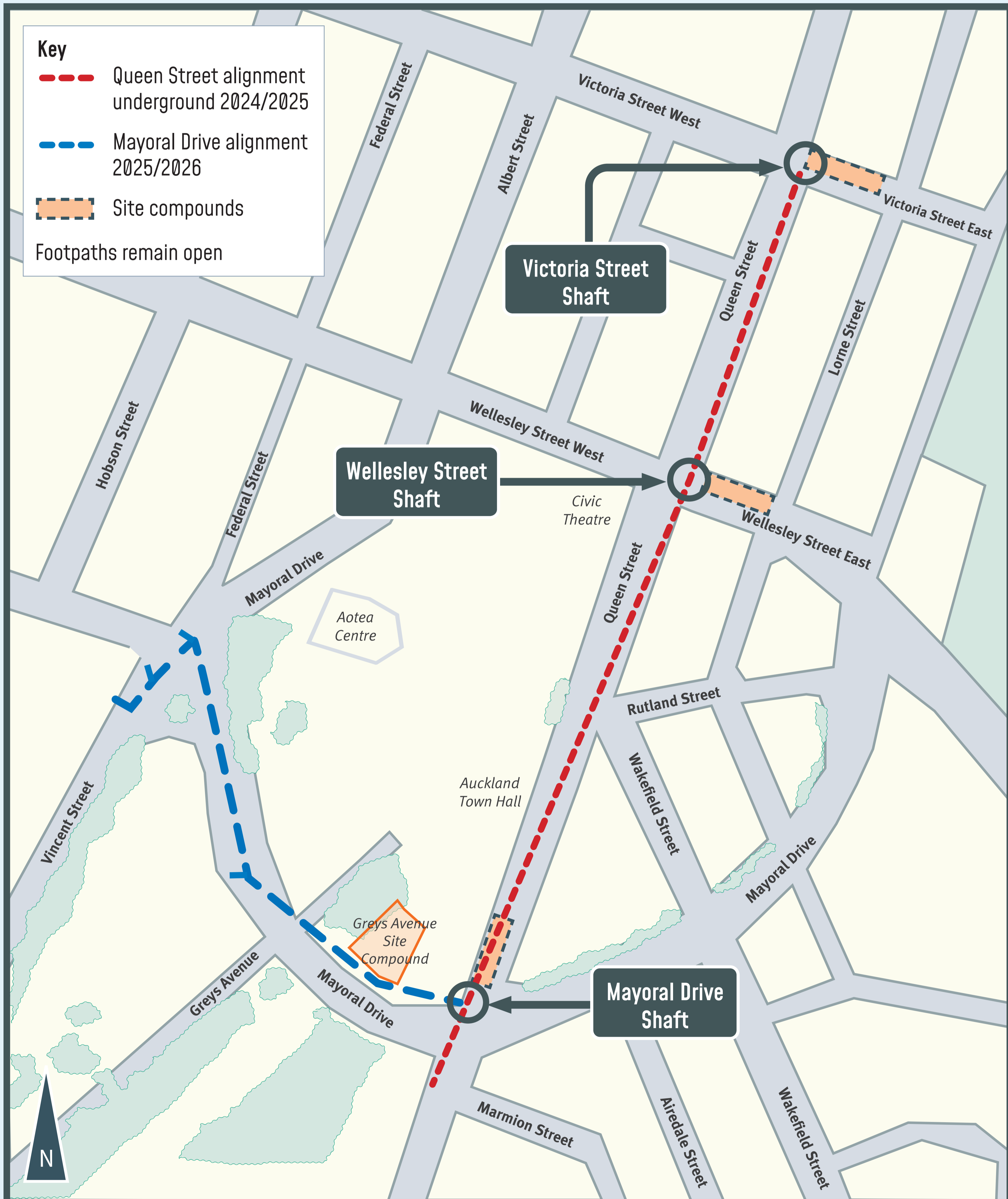
Three open cut trenches at Wellesley Street East are to be constructed and additional wastewater pipes laid which will remove the ability for wastewater to overflow into the stormwater network and then out to our beautiful harbour. Wastewater will instead connect into the new larger Queen Street pipeline.



Will connect into the Ōrākei Main Sewer (OMS) at Victoria Street East. A section of the OMS will also be relined to ensure its service life is extended for another 100 years.

# Midtown wastewater diversion project

## Overview of works



# Midtown wastewater diversion project

## Project timeline





# Midtown wastewater diversion project

## Frequently asked questions (FAQs)

### What are the reasons for this project?

Auckland's midtown is on the cusp of an exciting future. As with to the revitalisation of Downtown and Karangahape Road, the Auckland Council group is getting the streets and public spaces in midtown ready for the completion of the City Rail Link. These works will benefit the thousands more people who will visit midtown each day. They will also help cater for the expected growth in residential and commercial development.

### What are we doing?

To prepare for this growth, our network has been redesigned. To improve wastewater capacity, we are installing pipes beneath Queen Street. This will capture wastewater flows from the eastern side of the city to connect with the Ōrākei main sewer. In addition, we will reline a section of the Ōrākei main sewer and another existing tunnel to reduce wastewater overflows into our beautiful harbour.

At each shaft we will first establish the site for our workforce and materials. Here we set up hoardings and noise mitigation measures, along with directional signage and diversions for pedestrians and traffic. We next investigate where all the services are and then we can commence shaft excavation for the pipejacking equipment. This will build the new pipelines to which we will connect existing infrastructure.

### What are the timeframes for these works?

It is estimated that these works will start in October 2024 and will take two years, three months to complete.

### What are the stages of the project?

#### **Queen Street wastewater diversion from mid-late October 2024 until December 2025**

- Construction of three deep shafts, on Queen Street near Mayoral Drive, on Wellesley Street East between Queen Street and Lorne Street and on Victoria Street between Queen Street and High Street.
- A 1.35m diameter tunnel boring machine will be used to construct the new 600m long wastewater pipe under Queen Street connecting into the shaft locations.
- Three short open-cut trenches at the Queen Street/Wellesley Street intersection to connect existing wastewater networks to our new tunnel.

#### **Mayoral Drive wastewater diversion November 2025 to December 2026**

Like Queen Street, a tunnel boring machine will be used to drill beneath Mayoral Drive from Vincent Street under Greys Avenue, and into the carpark near Myers Park. There will be some short sections of open-cut trenching at the intersection of Mayoral Drive, Vincent Street and Cook Street.



## **What are the noise limits that the proposed works will be adhering to, and will active noise monitoring be part of the project?**

The project follows the Auckland Unitary Plan (which specifies environmental regulations for the City) noise restrictions for works within the road reserve. Noise will be monitored at the start of each activity to confirm/adjust predicted noise levels for each piece of equipment at the nearest Noise Sensitive Receiver. Noise monitoring will also be carried out upon receipt of a reasonable noise complaint.

## **What is the process in the event of any damage being made to a building?**

Through investigations, design and considerate construction and monitoring, Watercare does everything it can to avoid causing damage to property. Should your property show signs of damage, please contact Watercare immediately.

## **Will the proposed works have effects on traffic in the area?**

The proposed shaft/compound locations within the road corridor will have minor effects to traffic within the central Auckland area. Watercare will work with Auckland Transport through the Corridor Access Request process to ensure appropriate traffic management measures are in place to minimise disruption to central area residents, businesses, the roading network and public transport.

Closer to the construction date, we will be providing the community with more specific information about the traffic management that will be in place.

## **What is a TBM?**

A TBM is a Tunnel Boring Machine.

## **What depth is the TBM installing the tunnel?**

6-13 metres below the road surface.

## **How many metres of new tunnel will be installed by the TBM?**

The project will install approximately 585 metres of new pipeline.

## **What speed does the TBM travel at?**

Approximately 10 metres per day –when the machine is mining.

## **What kind of vibration and noise can be expected at ground level?**

The machine is hydraulically powered and mining through relatively weak ground. It will not produce any vibration or noise at the surface.



### **What kind of vibration and noise can be expected at basement level?**

There will not be any noticeable noise or vibration in basements. The machine is quiet and does not vibrate.

### **What kind of vibration and noise can be expected from above ground equipment in the car park?**

The loudest component is the generator – which, while being a super-silenced type, will produce some noise – typically 70db (or less) at 20 metres. Similarly, the separation plant, which includes a series of vibrating screens and hydro-cyclones would emit slightly more noise than the genset. We would not expect any banging noises from the equipment. There will be occasional bangs from loading spoil trucks with an excavator.

### **Other information on the TBM**

The machine is a state of the art, remote Tunnel Boring Machine with very sophisticated monitoring systems. It constantly monitors the face pressures and balances them with a slurry medium to balance the earth pressures. Pipe is progressively pushed behind the machine from the jacking shaft using very powerful hydraulic rams. Thus, the ground is continuously supported for the pipeline's entire length, including the face as the ground is mined. This type of advanced machine has been used in busy central areas frequently for many years. It is extremely unlikely that there will be any measurable surface deformation.

We are passing well below services to avoid any possibility of encountering or impacting them.

This is a micro-tunnelling machine with an external diameter of 1.35 metres with a length of eight metres.