

CASE STUDY 8: WATERCARE SERVICES LTD – CENTRAL INTERCEPTOR



The Central Interceptor is the largest wastewater project in Watercare's history, a 14.7 kilometres long and 4.5 metre-wide bored tunnel running between 15 and 110 metres beneath central Auckland, from Grey Lynn and Watercare's Māngere Wastewater Treatment Plant. It will also have two link sewers and a number of shafts along the route for collecting and transferring wastewater into the tunnel. The consent (licensing) process ran throughout 2012-14 after which design commenced and a main contractor, Ghella Abergeldie, an Italian-Australian joint venture, was appointed in 2019. The first construction started at a site alongside the wastewater plant in 2019. The project will build occupy some 16 sites, sinking 18 shafts in total.

Management approach

Pick one: Asset, Containment, Outcomes, Risk-based, Effects-based

Receiving environment principles considered/met/achieved

Pick all appropriate: Ecosystem, Community, Property, Cultural, Economic

Background

The Central Interceptor (CI) is a key part of Watercare's region-wide wastewater strategy. It will ensure there is enough sufficient capacity in the central Auckland wastewater network to cater for both more homes and more people. It will also provide resilience for critical and ageing assets, some of which are 100 years old.

CI is part of a larger programme of projects in the western isthmus, such as separating the stormwater and wastewater pipes. Together, the Central Interceptor and our western isthmus strategy will significantly reduce wastewater overflows in the region.

Program Objectives

The Central Interceptor project has three key objectives:

1. Cleaning up central Auckland's waterways and open spaces by significantly reducing wastewater overflows
2. Managing population growth and urban infill
3. Managing ageing assets

Wastewater overflows occur in heavy rain events, when stormwater flows into our sewer pipes and tunnels, overwhelming the network and forcing polluted water out into waterways.

Older suburbs with one home on a quarter-acre plot are now accommodating two-four houses, a dozen townhouses or even a four-five storey apartment block. CI will provide additional capacity, some 226,000 m², for transporting the increased wastewater flows to our treatment plant for purification.

In addition, the existing wastewater network is ageing and could be in increasing danger of failing. In fact, when commissioned, CI will enable Watercare to take the neighbouring Western Interceptor off-line to investigate and institute a major repair and maintenance programme, to increase its life-span. The CI tunnel itself is projected to operate for a century.

Stakeholder Involvement

The project passes through some of the longest established and most densely populated suburbs in the city: there is a huge range of partners and stakeholders with an interest in CI. Mana whenua[1], consisting of 19 iwi[2], is a vital partner and provides advice and guidance to the project through representatives on the 'Kaitiaki[3] Managers Forum'.

[1] Māori people

[2] Tribe

[3]Guardian (of the sky, the sea and the land)

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The project runs through five Auckland local board areas and four wards, represented by 40 elected members in total, as well as interest from the Auckland Mayor's office. Four of the local boards have a statutory interest as land owners of public parks and reserves where we have construction sites – each has reviewed and approved the plans for CI to occupy that land in their area.

As four inland waterways run through the CI catchment area, there are environmental groups interested in how CI will help clean up these creeks and streams. We also have several well-organised residents' associations who give us feedback from their members.

We also work closely with businesses, neighbouring residents and schools – for the latter we deliver an education course on wastewater systems for years 5-8. From day one, we have actively engaged with our communities, holding open days as site works commence and developing a state-of-the-art mobile visitor centre which we take to community events and schools.

Outcomes

The project's expected outcomes are to significantly reduce wastewater overflows in heavy rain events, when stormwater can overwhelm pipes and tunnels, forcing polluted water out into those waterways. Linked to this outcome to have appropriate sewerage capacity for population growth that is already occurring across the tunnel catchment area, and as back up for ageing infrastructure such as the Western Interceptor.

The CI tunnel is being built to last 100 years, in itself creating an environmental legacy for the people of central Auckland. However, our ambition for the project extends well beyond this, with a set of practical social, cultural, environmental and sustainability initiatives. We aim to deliver social outcomes that improve the well-being of both the communities along the tunnel route and of our own project staff.

Examples of our work are:

- paying a local social enterprise organisation for hand-knitted socks for students at a local lower-decile school
- committed to recruiting more Māori and Pasifika graduates through an internship programme of three tertiary students each summer
- initiating a literacy and numeracy programme for staff, enabling many to then apply for promotion and pay increases
- planting twice as many trees as we remove from public parks and reserves
- reducing our carbon footprint with a pilot programme of three fully-electric haulage trucks

Costs/benefits

The broad project budget is \$1.2 billion. Our aim is a significant reduction in wastewater overflows into inland waterways during heavy rain events. At present, these overflows occur at 219 locations along the tunnel route and we aim to reduce that to just 10 locations.

Project Timing

The consenting process began in 2012 and progressed alongside design and selection of a main contractor, which was appointed in 2019. That year the two main sites opened (with two shafts each), five opened in 2020, two in 2021 and a further six in 2022. The final site, of 16, is on track to open in 2023.

The original completion date was late 2025 but with Covid and its attendant worldwide supply-chain problems the completion date has moved to mid-2026.