

CENTRAL INTERCEPTOR



Hiwa-i-te-Rangi breaks through into the Western Springs shaft

Project background:

Breakthrough at Western Springs

On Wednesday 10 September, our main TBM, Hiwa-i-te-Rangi, broke through into our Western Springs shaft. In the original CI programme, this would have been her final stop. Since the first consents, we now have plans to continue the tunnel some 3.2km further. Her journey now takes her through the shaft at Tawariki St and on to Point Erin Park in Herne Bay.

Commissioning the southern CI tunnel section

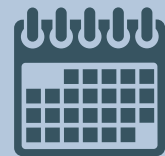
Come the end of 2024, we will be ready to commission a long section of the CI tunnel, along with Link Sewer C. This section runs from the western end of Miranda Reserve in Avondale, 3.2km to our May Rd site, then south, under the Manukau Harbour to the Māngere wastewater treatment plant. Before then we are carrying out a wide range of electrical, mechanical and instrumentation tests to ensure we are all ready on Day One.



Our southern section inspection team at work

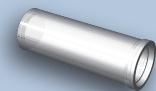
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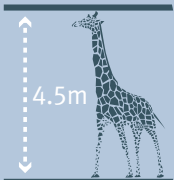


Project build
2019
to late-
2026

16.2 kilometres

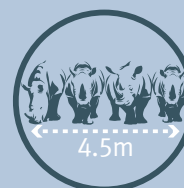


longest
wastewater
tunnel in
NZ



4.5m

high
enough
to fit a
giraffe



4.5m

wide
enough
to fit four
rhinos side
by side



A round-up of our construction sites

Main tunnel sites:

On the main tunnel, we are preparing for commissioning the southern section and the final TBM drive to Tawariki St and on to Point Erin.

Māngere Pump Station: Our six pumps for the main shaft have been carefully lifted into place at the bottom of the MPS main shaft. Concrete has been poured for the valve chamber, air valve chamber and flowmeter chamber walls. EPR (Emergency Pressure Relief) construction has been completed, with concrete for the outfall structure bordering the coast having been poured. On the confluence chamber, our 36m-deep piles are now in place, with temporary works underway on construction of the confluence chamber. And on the pump station building, the roof is now completed on the upper level.



MPS pumps being tested

PS23, Hillsborough: The concrete roof slab has been placed on top of the shaft and two major chambers for the local sewer completed. The roof slab on the diversion chamber is now in place. The Hoskins Ave pipeline works have been finished.

Keith Hay Park: Construction of the new plant room is well advanced and roof connections and ducting work on the three chambers is progressing well. Branch 9b works are completed and the area returned to grass for football. CC9 works are progressing well with the kindergarten carpark reinstated and the primary school grounds under restoration.

May Rd: With the southern section commissioning due this year, works on the air treatment facility (ATF) is progressing well. We have completed the superstructure to meet the schedule for commissioning the process plant.

Walmsley Park: We've backfilled our two chambers and placed the lids on top of them and cast the concrete lid that will be placed on top of the shaft. We have commenced excavation for the plant room and will begin its construction in October.

Haverstock Road: In the shaft, construction of the permanent shaft lining is complete, and we've commenced construction of the dividing walls and cascade shelves; we've installed three (of 24) pre-cast segments. We've started building the walls of our control chamber. We've backfilled two overflow chambers and started constructing a sewer between the overflow chambers and the control chamber.

Lyon Avenue: We are currently installing the 25 tonne cascade shelves: we have done three of the 22 in total. Because of their size, they are being delivered individually at night over a period of the next six months. Once commissioned, the cascade shaft will redirect flows from the Edendale branch sewer, significantly reducing wet weather overflows. We have also completed installation of steel beams to support excavation of two chambers.



Lowering the cascade shelf into Lyon Ave shaft

Western Springs: We are making good progress on constructing the base slab and walls for the chamber on Stadium Road. We've also started constructing the base slab for the chamber near Bullock Track. We have also installed sheet piles around the footprint of the plant room: next steps are excavating inside the sheet piles and then constructing its base slab.

Tawariki Street, Grey Lynn: The shaft has been excavated to its final level, 28m, and construction of the permanent shaft lining has commenced. We have also started excavating the two large chambers for the manholes to enable us to connect the existing stormwater and wastewater network to the CI tunnel. Both manholes have existing 100-year-old sewers running through them.



Point Erin Park, Herne Bay: We are well underway with temporary shaft piling, with all 68 piles installed. We will shortly commence constructing the shaft top capping beam with the flood protection wall, ahead of beginning shaft excavation.

Work is well under way at our newest site, Point Erin Park

Link Sewer C



Haycock Avenue: Construction of the manhole chamber in the roadway is now complete and the street is again open. We need only return in the new year for a short period and then we can begin restoring the site in full.

Cutting into the Western Interceptor deep below Haycock Ave

Dundale Avenue: Work is complete at our Dundale site and we have planted new trees as part of our reinstatement of the road reserve. (See article on p3.)

Miranda Reserve: We have completed our construction works and the site is now ready for Council to build a new playground in that space.

PS25: We are constructing three major chambers at this site, and we will have just placed roof slabs on all three. We have also successfully air-tested the vent stack and site reinstatement has begun.

Link Sewer B



Mt Albert War Memorial Reserve:

We have installed 18 of our 25 precast shelves and the dividing wall and will start pipejacking from the shaft to connect to the new manholes. We have also exposed and cored the existing Branch 8 sewer to prepare for bifurcation chamber construction.

Shaft cascade rings ready for the Mt Albert shaft

Norgrove Reserve: We have completed all our concrete pours in the shaft and will shortly start installation of the precast ring segments while we progressively backfill. We have also constructed several manholes in the reserve. We are also installing a fibre network in the roadway between our Norgrove and Rawalpindi sites to enable control of the pump stations and plant rooms at those sites.



Rawalpindi Reserve: We have installed our eight glass reinforced liners (see image) into the shaft and backfilled the area. Work on the overflow outfall for our two chambers is completed all bar the roof slab installation and we have just commenced piling for the control chamber near the Ōrākei Main Sewer.

Oversize RPC liners being installed at our Rawalpindi site.



Project background:

Planning to restore our construction sites

We have established our construction sites in a variety of locations: public parks, schools, private land and a treeway. A very important commitment to those land-owners and our neighbours is to restore those sites to their former condition (or better) with landscaping and new plantings.

Our Dundale Avenue site has been returned to green grass after more than three and a half years of construction and tunnelling. This was the first site on our Link Sewer C, from May Rd in Mt Roskill to Miranda Reserve in Avondale. So much has happened in this time including Covid shutdowns and delays, changes to the design, cranes of every shape and size on site, construction of a noise reduction hangar and thousands of hours of hard labour.

Very little obvious evidence remains of the shaft, chambers and tunnels below the surface: a couple of man-holes and a small patch of concrete. We've planted 14 trees over the winter to replace trees we removed at the site, that were removed for our construction.

Planting in the right season helps the trees flourish and survive. The species we planted will provide both shade and colour to the area and were selected after consulting Council's Parks team, land-owner Auckland Transport and some of our near neighbours.



Planting team at Dundale Ave this winter



Dundale Ave at peak of the works



Dundale Ave site fully restored

Growing Together: CI school gardens initiative with Oke Charity

We recently partnered with Oke Charity to create beautiful new gardens for the students at Hay Park School. Established in 2016, Oke Charity empowers Kiwi kids by offering opportunities to learn life and social skills through sustainable "outdoor classrooms" across Tāmaki Makaurau/Auckland and beyond.

As a gesture of gratitude for our neighbours' patience during our nearby construction in Mt Roskill, our Social Outcomes team is delighted to support this mission. We've done so by sponsoring gardens for both Hay Park School and Hillsborough Kindergarten.

Our working bee, held during the first week of Matariki, saw CI staff joining forces with Oke Charity, school staff and students. Together, we built raised beds, planted fruit trees and set up a new greenhouse and garden shed stocked with supplies. The day was filled with teamwork, laughter and the joy of creating a space where children can thrive and learn in nature.



Teachers and students at the primary school all ready to start planting



The Central Interceptor is much more than a tunnel

Leaving a legacy in basalt sculpture

On the CI project, we have removed a considerable amount of basalt from several construction site shafts. We know it's great sculpture material, so we commissioned two artists to create three basalt artworks. This project reflects CI's commitment to long-term benefits and sustainability.

Emerging Ngāti Te Ata Waiohū artist, Pāora Puru, contributes a mana whenua perspective for the project. He is creating the designs and narrative, incorporating traditional knowledge through the designs. These acknowledge the cultural and environmental significance and values of the three project locations.

Pāora is collaborating with renowned sculptor Chris Van Doren, of Niuean, Samoan and Dutch heritage, on this whakairo (carving) project. Chris brings his carving expertise in materials such as copper, stainless steel, wood and stone.

The artworks will be set up at our Māngere site, along the coastal walkway, at Keith Hay Park and at Lyon Avenue. Here they enhance those public spaces, as the community can appreciate and engage with the cultural art.

The first installation is set for this December. We will report in on progress in future newsletters.



Pāora Puru



Chris Van Doren with one of his sculptures

Sustainability and environment:

A safe place to nest for our feathered friends

Watercare has acquired consent for an ecological enhancement project at our PS23 site on Frederick Street, Hillsborough. The site lies within the Manukau Harbour, one of the most important areas for migratory wading species and other coastal birds in the country. Unfortunately, due to increased urban development, human disturbance and pest mammals, the availability of suitable bird roosting areas has declined.

To help reverse this trend, we are building a bird roost area using log piles placed in the foreshore, covered with loose shells. There will also be a salt marsh vegetation area to increase native vegetation biodiversity. This will potentially provide habitats for more and different species. We aim to both restore and enhance the habitat of the site for a variety of coastal birds, including those in the "At Risk" and "Threatened" species.



Our apologies but due to a huge rise in mailing costs, future newsletters will be by email only.

To sign up, please send an email to ciprject@water.co.nz, with the subject line: *Sign me up for the CI newsletter.*