

First tunnel boring machine breakthrough!

We've been busy tunnelling beneath the streets of central Auckland. Two weeks before Christmas, we celebrated with a 'hooray' photo when our micro-Tunnel Boring Machine, Domenica, broke through into the Haycock Avenue shaft in Mt Roskill.

To complete this first drive she travelled almost a kilometre since her launch from May Road in June. This is a great milestone for the project, the first of many breakthroughs to come, as we wrapped up a very challenging year.

Domenica has now been removed from the shaft and transported to our Dundale Avenue site. Here she is being reassembled ready to launch on her 722m drive back towards the site at Haycock Avenue.



A big hooray from the team as Domenica breaks through



Domenica deep within the Haycock Ave shaft

Hiwa-i-te-Rangi makes good progress on her journey

In late November, the final gantry section of the TBM was lowered into place. This now makes her full length some 190 metres. She's now making her way north from our main site and will soon pass under Ambury Park in Māngere.

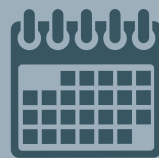
Hiwa-i-te-Rangi should reach the southern shore of the Manukau Harbour in August which will be another cause for celebration.



Deep underground Hiwa-i-te-Rangi moves relentlessly forward

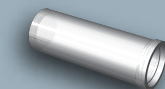
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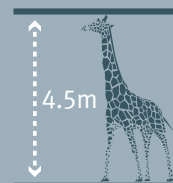


Project build
2019
to early
2026

14.7 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

(from south to north)

Māngere Pump Station: on the main shaft we're busy with shaft lining and internal dividing wall works, while over on the twin rising main, works continue through the treatment plant odour beds. We've started excavation for the pump station building foundations which we'll construct next.

PS23 in Frederick Street: The retaining wall next to this narrow site is nearly complete as is the temporary work platform. Next is setting up the site for the shaft works.

Keith Hay Park: Secant bored piling for the main shaft is due to start in the next few weeks. Then we'll drill the shaft and prepare for excavation and installation of the permanent liner.

Walmsley Park: Secant piling has been completed so we'll shortly begin rock breaking and drilling the shaft.

May Road: Excavation of Shaft B is progressing very well while at Shaft A we're digging deeper to match the depth of Shaft B.

Haycock Avenue: We're finishing work on two manhole chambers on site and preparing to build a large chamber in the roadway to provide connections to the existing Western Interceptor.

Dundale Avenue: Major work is underway erecting the noise reduction hangar for the launch of the mTBM to Haycock Avenue.

Miranda Reserve: Excavation has started on the shaft and setting up shaft for the mTBM arrival while at PS25 we're completing our site setup. Our next works are installing stormwater pipe network and sewer connections.

Lyon Avenue: Site set up begins on 21 February. Our first tasks are diverting the path through the Roy Clements Treeway to maintain access for walkers and cyclists. We'll also rescue any skinks, remove the vegetation on the site and start on the retaining wall.



A January sunrise over our May Road site, showing the noise reduction hangar over the shaft.

Skink rescue update

Late last year our contractor, Ghella Abergeldie Joint Venture (GAJV), set up the construction site next to Watercare's existing pump station (#25), in Miranda Reserve, Blockhouse Bay. To establish the site, they needed to remove a small area of bush which was identified as a possible habitat of native lizards.

The contractor has always worked closely with Ecology New Zealand (ENZ) to rehome skinks before commencing work. At Miranda Reserve the GAJV undertook a lizard salvage and safely rehomed four native copper skinks in a "lizard stack" put together by the ENZ ecologists.



Two of the native skinks ready to be rehomed



The Glenavon playspace welcomes all to visit and relax

Local community designs a new, fun playspace

What started as an empty grass area with a small, shared pātaka kai and a community bookshelf is now a vibrant communal space. It now has its own stage, custom-designed mural, nature trail, bike and scooter track, four-square grid and large balance beams: all thanks to ideas from enthusiastic Glenavon locals.

The playspace is on land kindly donated by Kāinga Ora right across from Miranda Reserve, in Avondale. Watercare, in one of our consent conditions for CI, needed to provide an alternative playground to the one we removed in 2020 from the Reserve. We unfortunately had to do so because that's exactly where the CI is constructing a shaft to connect to the new tunnel.

Kāinga Ora, Community Waitakere, Glenavon Community Hub, Glenavon Community Trust, Auckland Council, Whau Local Board and Arts Whau were already working with the community on taking their ideas for the space forward. CI joined this taskforce, working with the community to research the best ideas for the space with them. We then funded a playspace designer and project manager and paid for the bulk of the new amenities. Residents have a strong sense of belonging to their community and this has thrived by making them feel their voices were heard.

The space also features a mural by Samoan comic artist Michel Mulipola, co-designed with local people and funded by the Whau Local Board. The artwork incorporates themes of community and whānau plus greetings in more than 25 languages.

Shayne Cunis, CI Executive Programme Director, adds his support: "We have been delighted to help fund this playspace which brings the local community what they helped to design."

With special recognition of our great partnership with Kāinga Ora.



Local children are out in the sun enjoying the new playspace.

Ancient shells give us a glimpse into our past

We've told you about the discovery at our Māngere site of 3.5-million-year-old fossils, including shells and a whale vertebra! Now, Watercare is partnering with the Mana Whenua Kaitiaki Managers Forum and Auckland Museum to collect, identify and add the fossils to the latter's collections. The Museum will also display some of the fossils in future galleries.

The fossils were found in a five-metre-thick shell bed layer in the geological Kaawa Formation, some 35 metres below the surface. Although most of the sediment consists of sand and crushed shells, the layer has yielded more than 200 different species of molluscs and other fossils to date.

Many are in a very good condition and some have not been seen before in any excavations in Auckland. A number of these species were previously unknown to science, including two fossil flax snail species.

With funding from Watercare, two collection technicians have been recruited by the Museum to enhance our knowledge of these taonga, as well as providing valuable training and development for these recruits. They are using their museum practice and academic knowledge to carry out field collection by sifting through the stockpile of shell and sand near our Māngere Pump Station site.

Back at the Museum, they are processing, identifying and archiving the fossils into the Museum's collections. They will then establish access to them for mana whenua and the scientific community.

The museum is now developing an education programme about these taonga, both from the scientific and cultural points of view. This growing partnership with the Museum is yet another example of the wider journey we are on at the Central Interceptor project by helping expand the understanding of our city's heritage.



Museum collection technician, Nathan Collins, with a shell new to science

The Central Interceptor is much more than a tunnel

At CI, we want to help improve the well-being of both communities along the tunnel route and our own staff. Each newsletter will feature a local initiative we're working on.

Tikanga Māori: Wānanga Māreikura Initiative

In the day-to-day work of CI, we interact frequently with Mana Whenua and Mataawaka. In these meetings, we adhere to tikanga Māori, recognising our role as a treaty partner and the importance of this in creating a culturally-informed workplace.

Across CI, we uphold Tikanga Māori both on marae and in our offices. Some of the most prominent roles in tikanga processes are those of Kaikaranga and Kaiwaiata Tautoko, which are held by Māori women. The responsibility of these roles falls to a very small group and can weigh heavily on our wāhine Māori: these positions reflect the hierarchies of Māori communities and the sacredness of the roles themselves.

Role of Māori women

The Wānanga Māreikura initiative recognises that Māori women in corporate organisations feel a sense of whakamā or shame at taking on these roles but will still do so out of obligation. The whakamā can come from the corporate role being in conflict with the role they hold on their own marae or it can be because they are disconnected from that knowledge and tikanga. Either way, expecting Māori women to carry out these roles without proper preparation puts them under spiritual and emotional pressure.

The role of Kaikaranga (the caller), for example, normally takes years of training from childhood before responsibility at the marae is conferred. The role can vary from the need to karanga (call) only once, for a powhiri, for example, or to call to all the manuhiri (guests or visitors) arriving at the marae for tangi.

One of the course participants, Kelly Brown (Ngāi Takoto), outlines the role: "The kaikaranga for the haukāinga (the home or local people of that marae) will start the karanga and the kaikaranga for the manuhiri will respond. Manuhiri wait at the waharoa (entrance of the marae) for the kaikaranga to start before making their way across the marae ātea (area between the waharoa and the marae). When you karanga you're speaking to both realms the living and those who have passed on. Both sides will acknowledge those who have passed on. Because you are calling to those in another realm it is tapu (sacred), hence when the welcome is finished, we have a cup of tea and something to eat or whakanoa to remove the tapu."

The Te Kaa Programme

The initiative was designed and facilitated by Precious Clark (Ngāti Whātua, Waikato, Te Uri o Hau, Ngāti Hē and Ngāti Pākeha). She is the creator of Te Kaa, a programme to help 10,000 people positively identify with Māori culture.

Through working with Precious and the Te Kaa programme, wāhine from CI and Watercare have grown in their mātauranga Māori and gained the confidence to take on the roles of Kaikaranga and Kaiwaiata Tautoko in both a professional setting, and on their own marae. Our programme has a high completion rate, with 14 of the 17 participants graduating at Umupuia marae in Maeraetai.

A personal success story

Kelly plays pivotal role at CI as office manager at Eden Park. On the Wānanga Māreikura programme she learned how to take on the roles of Kaikaranga and Kaiwaiata Tautoko for the project.

Kelly says that taking the Te Kaa course has given her a connection to te Ao Māori which she never experienced growing up. Her parents were part of the 'robbed generation', forbidden from speaking Māori at school and cut off from their culture.

Te Kaa provided Kelly with the resources to engage with te Ao Māori. She is now steeped in the role of Kaiwaiata Tautoko and is confident in her ability to represent the project on marae. This knowledge goes beyond the workplace and enables Kelly to participate on marae with her son who is schooled in a bilingual unit. She says that she is proud to be with him as they journey through te Ao Māori.



Left to right: Amaria Walker, Kelly Brown and Waimania Teddy practicing standing in formation.

Our People

Before we launched our TBM, Hiwa-i-te-Rangi, we brought you the story of the team driving the TBM. Working beside them is another team keeping the TBM well-maintained and running smoothly.

Name: Sam Bridger

Position: TBM mechanic

Background: I was previously a heavy diesel mechanic and because of COVID the work was slowing down so I tried something new. Doing the hard work and getting experience will pay off in the future.

Role on site: We're the first team into the tunnel on shift: we check the machine and make sure that we have all the supplies we need.

What kind of person can work underground? The TBM is cutting through some tough terrains including tunnelling under the Manukau Harbour. It's a hard environment underground so you need to be motivated and be able to do constant work. You also need to use your initiative and be passionate about wanting to do well and learn new things.

Outside of work: I like to go spear-fishing and to the beach. I also run in my spare time.

