

Domenica achieves another milestone

Our micro tunnel boring machine (mTBM) recently completed her second of four drives on Link Sewer C, from Dundale Avenue to Haycock Avenue. The journey of 715m was completed in 83 days as she laid 249 pipes. Domenica has now been refurbished at our May Road site readying her for the next drive, Dundale Ave to Miranda Reserve in Blockhouse Bay Rd.

This journey is some 1200 metres, much longer than her last two. This is because CI was able to pass beneath the location of a previously planned site, in Whitney St, New Windsor. No longer needing to excavate a shaft in this street has eliminated what could have been substantial disruption to that local community.



Pipes for Link Sewer C being readied at Dundale Ave



Domenica returning to base for refurbishment

Lining of our deepest shaft completed

At Keith Hay Park we recently reached the bottom of the 78m shaft, the deepest dig on the project. The next stage was to install six of 4.5m-diameter glass-reinforcing fibre liners. Over two mornings in the first week of July, very early so as not to disrupt local traffic, gigantic transporters delivered the liners to site. The heaviest of them was 27 tonnes and the lightest 16. They were fabricated in Indonesia and shipped to this country.



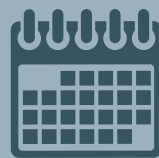
Giant shaft liner transporters arrive at site



Keith Hay Park liners being readied

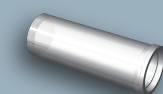
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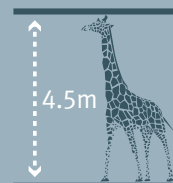


Project build
2019
to mid-
2026

14.7 kilometres



longest
wastewater
tunnel in
NZ



high
enough
to fit a
giraffe



wide
enough
to fit four
rhinos side
by side

A round-up of our construction sites

(from south to north)

Main tunnel: Hiwa-i-te-Rangi continues to make good progress on her journey north. She's currently under Ambury Farm Park and is scheduled to reach the edge of the Manukau Harbour by September.

Māngere Pump Station: On the main shaft, lining is complete and building works are in progress, with Lift 2 completed and construction of Lift 3 ongoing for the main shaft dividing wall. Shaft dewatering is ongoing with no evidence of environmental impacts.

On the confluence chamber, services diversions have been commissioned and temporary bridge construction is underway.

On the rising main extension works are ongoing, with stormwater works and installation of pipes and chambers well underway.

PS23 in Frederick Street: Shaft drilling began in June with the pilot hole now completed and shaft reaming is expected to be finished shortly.

Walmsley Park: We've completed basalt coring, so site works are on hold at present.

May Road: We recently completed a 24-hour concrete pour for shaft B. Some 280m³ of concrete, from 55 concrete trucks, was poured in the 70m deep shaft.

Haycock Avenue: In early August we will close the road outside the site for six months. Here we will construct a chamber to enable wastewater from the Western Interceptor to flow into the new CI tunnel.

Dundale Avenue: With the completion of the mTBM Drive 2 on 27 June, the focus has been on refurbishing the mTBM for Drive 3 to Miranda Reserve, commencing this month.

Miranda Reserve including PS25: The Blockhouse Bay site is inactive until Domenica arrives at the end of 2022 (end of Drive 3). At PS25, stormwater diversion work is well advanced.

Haverstock Road: Construction platform building and site establishment works continue. Camden Rd temporary site access works will start in August.

Lyon Avenue: Temporary sewer diversion works have started. We plan to start basalt excavation this month.

Mt Albert War Memorial Reserve: Construction commenced in June with site establishment well-underway.



In the main CI tunnel, the electric spoil haulage locomotive is ready for its next trip

Meet the CI team

Watercare graduate engineer, Jane Kubala, has shown exceptional leadership skills in her four years on the Central Interceptor project. Working at our Māngere Pump Station, May Rd, Haverstock Rd and the Frederick St (PS23) sites, she has developed an excellent working relationship with our main contractor, Ghella Abergeldie JV.

Raised in Auckland, Jane completed her Bachelor of Commerce and Bachelor of Engineering (Civil & Environmental) at The University of Auckland. She joined CI in 2018 as an intern and continued working part-time throughout her study until she became a fulltime Graduate Engineer. Outside of work she likes to spend time outdoors being on the water, tramping and camping. Jane's aim for this year is to try and learn how to snowboard!

Jane's work was recognised recently with a 'Health & Safety Champion Award'. This award helps show our workforce the importance of health and safety across the project. Jane had reviewed various Worksafe Approved Code of Practices (ACOPS) and shared her knowledge of these with colleagues, lifting the level of understanding within the team.

She undertook COVID-19 administrative duties and promoted testing



Jane receiving her Award from CI senior management

during the 2022 outbreak. Jane also contributed to her fellow workers' mental health and well-being by actively checking on stress levels and organising team events such as bake-offs.

Jane has also completed managing the construction of the new Watercare Pipejacking Training Facility in Māngere. In recognition of all her good work, she was recently promoted to Project Engineer.

Engaging with our communities

Open day for major new site in Mt Albert

Despite the wet day, the Central Interceptor team had an excellent turnout at the Meet the Contractor at Mt Albert War Memorial Reserve on Saturday, 18 June. Over some four hours, 150 locals turned to find out more about the project and site works, enjoy the mobile visitor Discovery Centre and have a sausage 'n' bread on us.

With Lyon Avenue and Haverstock Road sites being opened a few months ago, the site at the reserve is our third in the Mt Albert area. The site is the start of our Link Sewer B. Here we are constructing a 32m deep shaft that will connect the existing sewer network to the new Central Interceptor tunnel. It's where we will launch Domenica, our micro tunnel boring (mTBM), on her way to Norgrove Avenue and then Rawalpindi Reserve.

We will also use the Mt Albert site to inspect our main tunnel boring machine, Hiwa-i-te-Rangi, as she passes by on her way north to our Western Springs site.



The mobile visitor "Discovery Centre" is always popular



Visitors were very engaged in understanding more about the works



Process pipework and equipment for the main water reuse plant

Sustainability and environment: Reusing wastewater for construction

At CI we keep looking for ways to be a more sustainable project. Construction uses a lot of water: for example, to depress dust on site and hose down equipment and plant. It's also used for bentonite batching, creating a drilling fluid used to lubricate the TBM cutterhead and stabilise the ground being drilled.

Our latest initiative is the Māngere Recycled Water Plant (RWP), on our Māngere Pump Station site. The RWP is a small water reuse plant on a pilot scale consisting of two treatment streams.

The first stream is a 'main treatment process', treating sewage effluent to the standard for use in construction. We aim to produce 500,000 litres per day specifically for use above ground and in the main CI tunnel.

Producing recycled water for construction use has two major benefits: it reduces both the volume of treated effluent being discharged into the Manukau Harbour and reduces reliance on Auckland's main water supply network.

The second treatment stream is a small demonstration plant trialling new technologies to produce treated water so it can be used for drinking. Its aim is 30,000 litres per day of potable drinking water for testing and analysis. This plant, a first for the country, is a further Watercare CI initiative to demonstrate and prove various technologies for producing high-class, reuse water from sewage effluent.

CI team joins local environmentalists for planting day

On a sunny if somewhat chilly June morning, members of the CI and GAVJ crews enjoyed a day of planting in Norgrove Reserve. This area off Chamberlain Park, in Mt Albert, is one of the few remaining lava rock forests so close to built-up areas. Along with members of the Albert-Eden local board, St Lukes Environmental Protection Society and local residents, the team planted some 205 native seedlings.



Talia Southey, Social Outcomes Lead on CI, with a manuka seedling

The Central Interceptor is much more than a tunnel

Mana Whenua laundry service in full swing

The Central Interceptor project has launched a partnership with Mana Whenua hapū, Te Ahiwaru. Named Te Whare Manaaki, the laundromat opened for business in November 2021. It now provides commercial laundry services for all those who wear Personal Protective Equipment (PPE) on our sites.

Construction sites can expose employees to potentially harmful substances. Employees could take residue home on their soiled PPE, if there has been significant exposure. This could then pose a risk to whānau or household members who share the washing machine or facility used to clean the PPE.



Laundry staff busy with another big load

Watercare and CI main contractor, Ghella Abergeldie Joint Venture (GAJV), established the purpose-built laundry and repair service as part of our joint focus on supporting our neighbouring communities. We sourced and financed the infrastructure which consists of two containers: one equipped with commercial washing machines and driers and the other with sewing and embroidery machines, with additional space to store PPE.



Staff member, Tommy Huia, busy with another load

The service is managed by Te Ahiwaru Trust operations manager, Tuini Tuwha, and employs three operators. Tuini says: "All those employed for the day-to-day services are descendants of Te Ahiwaru from Makaurau Marae. We collect the PPE uniforms from each site every morning. We could be laundering anywhere between 100 and 500 sets a day.

"Covid-19 meant we took longer to get fully

operational. But we now have a sense of how the laundromat business will look once we're at full capacity," Tuini says.

Not only does the laundromat benefit CI employees' health, safety and wellbeing by professionally cleaning their PPE, it also recognises Watercare's long-standing relationship (since the 1950s) with Te Ahiwaru and Makaurau Marae.

The laundromat is currently on Watercare land and we may transfer it on to the marae or iwi land at the end of the CI project. Wherever it's located, we'll help ensure there is an ongoing commercial laundry service at the end of the CI project.

For the marae, this is an opportunity to run a new business, with the work experience lifting aspirations of the younger generation who are not currently in employment. Tuini concludes: "We're excited about the new challenges and learnings to come; it's a positive step forward for us."

In addition, elected local boards are a key partner for CI in our neighbourhoods. The Māngere-Ōtāhuhu Local Board Plan sets out the aspirations the board has for the area. The laundromat initiative helps meet the plan's desired outcome of creating a strong local economy. It does so by attracting and supporting local businesses bringing the community a range of opportunities to gain new skills and employment.

Local urban market group teaching new skills

Grow Space is a community-focused, sustainable social enterprise. It aims to build the business skills, financial independence and social connections of migrants and refugees.

CI's main office is at Eden Park so Watercare and GAVJ were pleased to provide funding to build a garden for an important Grow Space initiative. In a small area of the Stadium grounds, we've provided the Morningside



Gardens full of crisp vegetables for local restaurants

Urban Market Garden (MUMG) with a greenhouse, watering system and raised garden beds.

At MUMG, a number of migrant and refugee women have developed new gardening and business skills. They focus on sustainability and using organic horticulture techniques and are now delivering fresh produce to local cafés and businesses.

MUMG has transformed the space with 32 garden beds, growing an assortment of delicious vegetables. The group is now developing the Morningside Urban Compost Kitchen (MUCK) in a separate area nearby, with long garden beds and a compost hub. Here, local food heroes can save scraps, get them collected or drop them off, and the MUCK team turns it into compost to be used in their urban market gardens.

With their innovative sustainability practices, this community enterprise is one we are proud to support. Our goal is to leave a lasting legacy here in one of the communities along our tunnel route. Follow @GrowSpace to keep up to date with their journey!



Salad leaves, micro-greens and eatable flowers all add colour to local café dishes