

CENTRAL INTERCEPTOR BULLETIN

Rawalpindi Reserve site, 9a Rawalpindi Street

We're building the Central Interceptor, a super-sized wastewater tunnel to reduce overflows, creating a better environment for you to enjoy.

Site update

Our Rawalpindi Reserve construction site has been buzzing with activity in the last few months. You may have noticed that we recently extended our site into the playground side of the reserve. This gives us more room to complete the nearby manhole and chamber works. We currently have two crews working on site on different activities. One team is focusing on shaft excavation and the other is on surface works and plans for new manhole chambers.

We will use this site as a launch site to lower our micro-Tunnel Boring Machine (mTBM), Domenica, into the shaft once the excavation is complete. Domenica will travel 300 metres towards our Norgrove Avenue site. This section of tunnel is called Link Sewer B.

We will excavate the shaft at Rawalpindi Reserve to a depth of 28 metres. We have already drilled secant bored piles, which are intersecting, reinforced concrete piles to form the outside ring of the shaft. This will prevent the walls from collapsing while we dig down. The mines team will set up the jacking frame for the mTBM pipe-jacking once the excavation is complete. Pipe-jacking is where sections of pipe are laid behind the mTBM and pushed into place by hydraulic rams at the base of the shaft (see diagram below).

micro-Tunnel Boring Machine (Domenica)

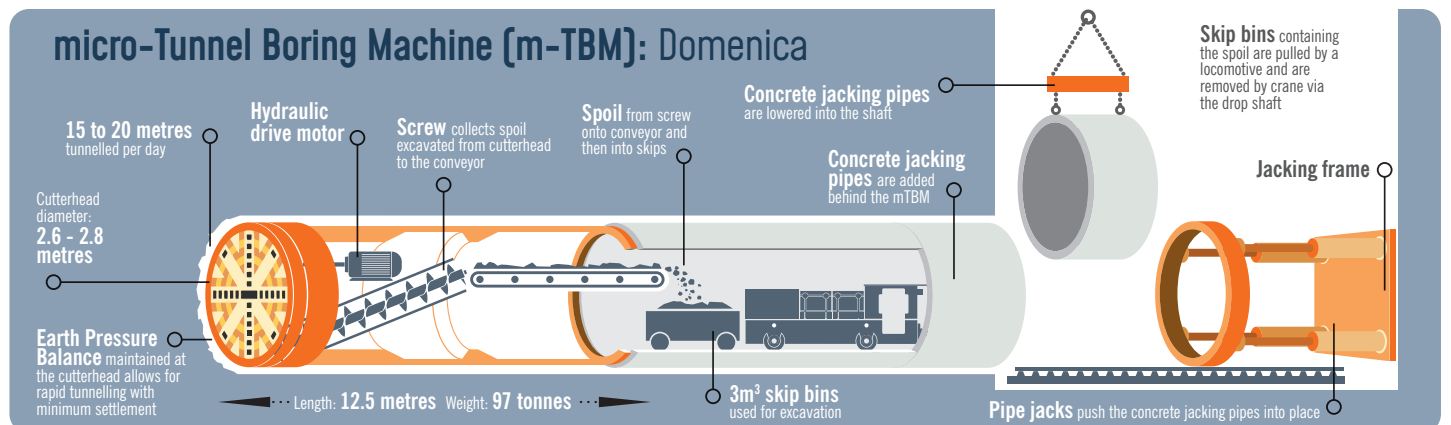
Domenica successfully completed her drives on Link Sewer C (LSC) in March this year, boring 3200 metres. Link Sewer C runs from May Road to Pump Station 25 in Miranda Reserve.

We lifted Domenica from the ground and took her to our warehouse facilities in Māngere for refurbishment and up skinning. Link Sewer B (LSB) will be 2.4 metres in diameter, which is 0.3 metres wider than LSC. This means that Domenica needed a new, bigger skin and cutterhead to complete the next section of tunnelling.

Tunnel progress

Check out our website which now has a weekly update of the TBM's progress. <https://www.watercare.co.nz/Central-interceptor/Constructing-the-Central-Interceptor>.

You can also follow us on Facebook, or Instagram.





Dawn Blessing

Before we start excavating the shaft and taking our workers underground, we traditionally hold a private dawn blessing ceremony. This is to recognise the disruptions to the earth and those working below it, focusing on the people, their safety and our connections to the land. These blessings are carried out by our Kaitiaki Māori representative who acts as a carer and guardian of the land and our people. It is important to us on the Central Interceptor Project that we honour Māori beliefs and tikanga. The excavation crew attended the dawn blessing at Rawalpindi a few weeks ago.



Increased truck movements

As our team excavates the shaft, you may notice an increase in the number of trucks going in and out of the construction site. We produce a large amount of spoil during excavation and this needs to be transported offsite. Spoil is material (such as rock or earth) that is removed when excavating. Our traffic management team is onsite to ensure the safety of pedestrians and other vehicles. Please follow all instructions and signage to keep you and our workers safe.

Who it takes to build the Central Interceptor

The Central Interceptor project stretches across 16 sites from Māngere to Grey Lynn. Each of these sites has a team of people working on various activities and construction stages. There are numerous jobs on this project, each requiring different skills, backgrounds, experience and qualifications. This regular feature will give some insight into one of the many important roles on the project.

Micro Tunnel Boring Machine (mTBM) Operator

What is an mTBM operator?

They are the pilot/driver of the mTBM. We have two experienced mTBM operators working on the Central Interceptor project.

What qualifications do you need to be an mTBM operator?

There is no formal qualification required to become an mTBM operator. For our project, the requirement is first-hand mTBM experience for two or more years.

What are some of the daily activities for an mTBM operator?

An mTBM operator will start their day with the site team completing a pre-start. Pre-starts are where the team gets together to discuss the work for the day, safety requirements and other important information. They then travel through the tunnel via electric locomotive to reach the mTBM to begin operating the machine. Their job is to drive the mTBM, operate it correctly and efficiently and inspect the mTBM to ensure everything runs as smoothly as possible.

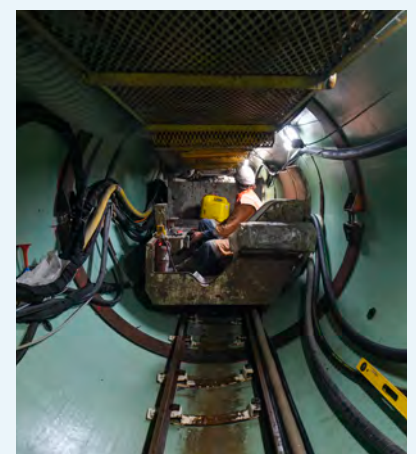
What are the challenges of being an mTBM operator?

There are unique challenges for those working underground, especially when it comes to tunneling. The space is confined and there is no natural light or air ventilation. There are risks of exposure to air contaminants, fire and floods. Our mTBM operators are skilled and experienced, having been trained to know what to do if an emergency occurs.

One of the biggest challenges for our mTBM operators is driving and steering

the mTBM completely "blind". The operators use a gyro navigation system to guide the mTBM through the earth. The gyro system is a device that uses gravity to determine the orientation of the machine and reports directional information back to the operator. The mines survey team (part of the tunnel crew) carries out periodic surveys every 40-80 metres to ensure that the mTBM is moving in the right direction.

Despite the challenge that is driving "blind" underground, our operators have achieved four breakthroughs into our receiving shafts on Link sewer C with incredible accuracy.



Any questions?

For up to date information please see our website:

 www.centralinterceptor.co.nz

You can also email us at:

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Or phone:

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We encourage you to receive these updates electronically - send us your email, your current mailing address and quote "Sign me up: Rawalpindi Reserve site bulletin" to ciproject@water.co.nz