



## Rigs on site: Geotech works kick off for Takitimu North Link – Stage Two

Geotechnical investigations between Te Puna and Ōmokoroa start this month for Stage Two of the Takitimu North Link project.

These investigations involve robust testing of the soil and rock at individual sites within the future construction area, and look at:

- Ground conditions, including soil and rock types;
- Groundwater depths;
- Strength of soil and rock; and
- Gathering soil and rock samples to assess.

Tests will be completed between March and April 2021 and will take place in several sites between Te Puna and Ōmokoroa. They will be arranged and supervised by CMW Geosciences, on behalf of Waka Kotahi NZ Transport Agency.

**There are many things we must do before we start construction – and a lot of this work won't be seen. We do this work so we can understand what the ground is like to help us design and plan how to build the road.**

In order to complete these assessments, we have requested consent from some property owners to enter their properties. We have been in touch directly if this affects you. While site investigation activities do generate some noise, we will minimise disruption where possible.

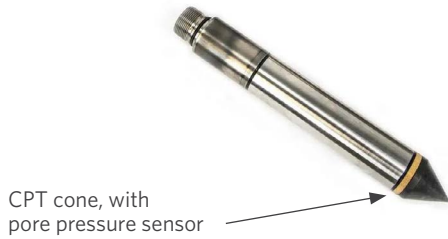


Machine boreholes are drilled using a rig.

## WHAT TESTS ARE BEING DONE?

### Cone penetrometer tests (CPTs)

- **Standard CPTs** are carried out by pushing a cone (approximately 40-50mm diameter) up to 40m into the ground to gather information about the soil.



- **Dissipation tests** use the same CPT cone fitted with a pore pressure sensor. This test is used to measure how the water within the soil pores disperses over time, which is useful for assessing areas of road which will pass over low-lying, swampy ground.



A CPT rig is about the size of a small truck.

- **Seismic CPTs** this test provides additional information on the characteristics underlying geology using the behaviour of shear waves. Seismic CPTs are undertaken at the same time as standard CPTs, by striking a source at the surface which is picked up by a receiver on the CPT cone.

This type of geotechnical testing is relatively low impact with no samples taken. The areas are covered on completion of each of these tests, and do not leave an open hole.

### Test Excavation Pits

Test pits are holes dug by a digger to allow observation of the soil layers and to facilitate strength testing and sampling. The holes are typically rectangular in shape, approximately 2m x 5m, and up to 4m in depth. Each test pit is backfilled immediately following testing and sampling.

### Hand Auger Boreholes and Scala Penetrometer Tests

Hand auger boreholes are performed by manually drilling a 50mm auger, up to five metres in depth to gather soil information. They are backfilled with removed soil once completed.

Scala penetrometer tests use a standard weight dropped at a standard height to measure soil strength within the boreholes.



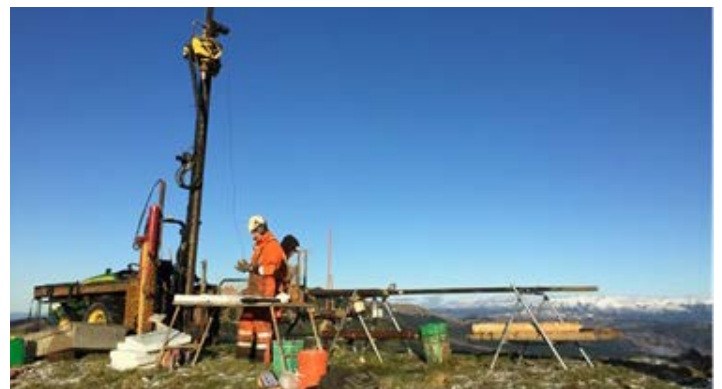
Hand auger

Scala Penetrometer

### Machine Boreholes

Machine boreholes are drilled using a rig, typically the size of a small truck. The drill holes are about 100mm in diameter and drilled vertically, to a maximum depth 60m below the ground. Boreholes provide soil and rock data and facilitate collecting samples. The boreholes will be cased during drilling and backfilled and sealed with a clay grout on completion.

Water for drilling boreholes will be sourced from local drains. During and following drilling, water will be discharged across grass away from local water sources.



Machine borehole investigation underway.



### CONTACT

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