

Technical Category 3 (TC3) investigations and assessments

What is TC3 and what does it mean?

Last year the then Department of Building and Housing mapped the residential green zone into three technical categories as a guide to determining the most appropriate foundation system for each property. The technical categories (TC1, TC2 and TC3) reflect the potential risk of damage from liquefaction in future earthquakes and the variability of Canterbury soils.

Properties in the designated TC3 blue area have the potential for moderate to significant damage from liquefaction in any future significant earthquakes. That's why further geotechnical investigation is required to ensure house foundations in need of repair are designed to lessen the risk of future damage.



EQC drilling programme

We need to know more about the land your home is on before any repairs can be undertaken to your damaged foundations. Once we know this, your new or repaired foundations will be best suited to how your land is expected to perform in any future events.

This detailed investigation of your soil conditions is necessary to support your building consent application for repairs to your foundations or construction of new foundations. It is a requirement of the local council.

EQC is managing a drilling programme in TC3 areas where there are properties that have been assessed as under cap (ie, with no single claim over \$100,000 plus GST). Insurers have agreed to buy data from EQC for their

customers' house repairs or rebuild. EQC drilling started in the eastern side of the city in March and will continue across the rest of the city until the end of 2013.

Further details about where we are drilling in your neighbourhood is on our website: www.eqc.govt.nz.

The drilling process

Investigations will be undertaken either on your property or, where possible, on roadside berms (the grass or paved verge between your property and the road). EQC will contact you by phone if drilling is required on your property to arrange and confirm the date when testing will occur. For rental properties, EQC will seek approval from your landlord before drilling commences and it is up to your landlord to notify you of this.

Our field staff will find a location least likely to cause disruption, either in your front or back yard. We will take photos of the area before drilling starts to ensure we can return the area to its original state. Contractors do not need to go inside your home. For your safety and that of our contractors, we ask that you do not engage or distract the contractors while they are on site. Pets should be kept safe during the drilling programme and dogs restrained at all times if there are contractors and/or machinery on your property.

EQC has reached agreement with Building and Housing and the Christchurch City Council that geotechnical data is taken from the near vicinity of each property, so it will not always be necessary to drill on or near every property to obtain accurate data.

This means that even if you have foundation damage, an inspection may only be undertaken on your berm or a neighboring property.

Cost of the drilling programme

Canterbury's TC3 drilling programme is being managed by EQC. The cost of drilling is included as part of the \$100,000 plus GST cap for EQC building claims. Where repairs to properties are over cap (over \$100,000 plus GST in a single event), private insurers have agreed to buy the drilling data from EQC. All the costs will be met by insurers – either EQC or private insurance companies – as part of the insurance claim, so there is no cost to homeowners.

0800 DAMAGE (0800 326 243)
or visit us at www.eqc.govt.nz

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The drilling process

Step 1: Marking out the drill site and service clearance

The first step is to ensure no underground cables or pipes are present in the chosen drill site, involving the use of a ground-penetrating radar unit (approximately the size of a lawn mower). To be doubly sure, the site will be revisited within a week by a cable locator. Each visit will take around 10 to 20 minutes and should not be an inconvenience to you. A wooden stake will be placed in the area where drilling will take place and it is imperative that it is not removed.

Step 2: Investigating your soil

While every endeavour will be made to drill on the roadside berm, in some cases we may need to investigate your property with one of the following:

- a) A cone penetration test (CPT), which provides very high quality geotechnical data. A drill rig pushes a rod, around 20mm in diameter, into the ground to 20m below the ground surface. The rig weighs a minimum of 2 tonnes and will be on tracks or wheels. A CPT test, which takes up to 3 hours to perform, will gather data allowing detailed analysis of how liquefiable your soil is.
- b) A machine-drilled borehole takes up to two days to complete. These holes have a diameter of 100mm. Soil is extracted, boxed and sent to our lab for logging and testing. The hole will be backfilled with grout on the day of drilling completion. It is important that you and your family keep away from any drilling equipment left on your property overnight.

Step 3: Reinstatement

Our field staff will reinstate your property either on the day or within two to three weeks of drilling. Photos taken before drilling will be referred to when ensuring your property is left in its original condition. Staff will also take a GPS reading of the drill site to confirm the investigation point location.

Step 4: Data management and interpretation

EQC will manage your data through the web-based Canterbury Geotechnical Database platform. The highly technical data will become available to geotechnical and structural engineers, council officers and other specialists to assist them with the design of foundations for obtaining building consent for your home. The data is uploaded on the Canterbury Geotechnical Database platform once

drilling has been completed. The data is not easily interpreted by anyone other than a geotechnical or structural engineer and is not for general distribution. If you would like to review the data collected, you will need to ask for it from the structural engineer allocated to your repair.

Step 5: Repair of your home

You will be referred to either your private insurer or the Canterbury Home Repair Programme where your repair or rebuild will be managed by your local Fletcher EQR hub.

You will not need to wait for the city-wide drilling programme to end before repairs can start on your home. EQC commits to repairing all homes with over \$50,000 worth of damage (including those with foundation damage) by December 2013.

Navigating your way through TC3



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