

Christchurch ground improvement trials

Christchurch ground improvement trials report

[PDF 1.5 MB]

<https://www.building.govt.nz/assets/Uploads/building-code-compliance/canterbury-rebuild/chch-ground-improvement-trials.pdf>

About this document

Published on 23 March 2012

1st edition

Of interest to Geotechnical engineers

Introduction

If you are a geotechnical engineer you may be interested in the results of ground improvement trials in Canterbury. These were to find ways to strengthen land prone to liquefaction.

[Repairing and rebuilding houses affected by the Canterbury earthquakes \(https://www.building.govt.nz/building-code-compliance/canterbury-rebuild/repairing-and-rebuilding-houses-affected-by-the-canterbury-earthquakes/\)](https://www.building.govt.nz/building-code-compliance/canterbury-rebuild/repairing-and-rebuilding-houses-affected-by-the-canterbury-earthquakes/) supplementary guidance.

MBIE will use the trial results to develop technical guidance to repair and reconstruct foundations in Canterbury's TC3 areas.

The 4 options trialled were:

1. cement-stabilised two-metre-thick raft over the building platform – formed by excavation, mixing and recompaction or in-place mixing
2. deep soil mixing columns – constructed in a grid pattern to provide 15-20 per cent ground coverage beneath the building
3. perimeter curtain wall – to form a protected cell around the building
4. densification by excavation and recompaction or by dynamic compaction – dropping weights repeatedly in order to make the ground beneath the building denser.



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New Zealand Government

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