

Residence Re-levelled by JOG & USL

INDUSTRY

Residential

STRUCTURE

House

PROBLEM

Earthquake remediation

LOCATION

Christchurch, New Zealand

DURATION / YEAR

7 days / 2014

TECHNOLOGY

JOG Computer
Controlled Grouting &
Uretek Slab Lifting

BUSINESS UNIT

Mainmark New Zealand



Summary

This residential property was located in one of the areas of Christchurch hardest hit by the earthquakes of 2010-2011. The foundation soil was mainly non-cohesive silty-sand and the watertable in the area was generally just a metre or less below ground level.

Mainmark rectified the substantial settlement, with JOG integrated computer grouting under the load-bearing elements and Uretek Slab Lifting (USL) expanding resin injection under the floor slabs.

The structure was raised an average 33mm back to its design grade.

The two injection processes were applied at the same time. This way the entire building was brought up, very gradually, without placing any uneven stress on the structure.

The average lift was 33mm and the greatest was 44mm.

The JOG process was completely successful, as was the Uretek Slab Lifting of the non-load-bearing floor areas.

An average lift of 33mm was achieved, as required to bring the structure back to its design grade.

Objectives

The whole house was to be brought back up as close as possible to the design grade and re-levelled.

Solution

28 JOG injectors were installed to inject beneath the load-bearing elements of the building.

Different injectors were also installed through the non-load-bearing floor slabs to raise them by means of Uretek expanding resin injection.