

REFERENCE PROJECT

Geotechnical (Slope Stabilisation)

Location: Simeon Quay, Lyttleton, Christchurch
Date: May - July 2014
Client: City Care
Consultant: SCIRT – Stronger Christchurch Infrastructure Rebuild Team

The loess slope above the Orion substation on Simeon Quay partly collapsed after drainage was damaged in the Canterbury 2011 earthquakes.

Abseil Access Ltd were successful in the tender process, and completed the works within the allocated construction window.

The repair to the slope consisted of a staggered grid soil nail design with 28 x 6m deep, 150mm diameter holes, 25mm epoxy coated grouted steel tendons. Four anchors were successfully tested to design load after 72 hours of curing. 70MPa grout was achieved after 28 days, well in excess of the design capacity. All the holes were drilled with rope access and our cliff face drilling equipment.

A lower section of the slope was covered with Macmat-R netting, and secured with Duckbill erosion mat anchors, installed with a pneumatic jackhammer.

Once the top part of the slope was stabilised; an overlay of geocomposite drainage strips and SE82 reinforcing mesh was installed. A 150mm shotcrete cover was applied using a combination of rope access and an Elevated Work Platform.

All tests and quality assurance requirements were met and the finished work exceeded SCIRT design specifications.

