

REFERENCE PROJECT

Geotechnical (Slip Stabilisation)

Location: Vista Bridge, Waitara Road,
Te Pohue, Hastings
Date: February – April 2018
Client: Hastings District Council
Consultant: Stantec NZ Ltd. Hastings

A slip below the Vista Bridge on Waitara Road, off the SH5 near Hastings threatened to undermine the bridge. Abseil Access was awarded the project to stabilize the abutment as follows: Install 59 soil nail anchors, with a shotcreted section directly under the bridge, and fit Steelgrid HR30 rockfall netting combined with Grassroots erosion control matting surrounding it to prevent further erosion and rockfalls.

Traffic control was carried out by Abseil Access, with the preliminary earthworks below the slip at stream level carried out by a sub-contractor using small and medium excavators. The slip face was scaffolded by Acrow Scaffold for access. The Canter truck with mounted crane as well as an Iveco Panel Van (acting as a mobile workshop) were used by Abseil Access, and the team was housed 18km from site on the SH5.

The design incorporated DW40 bars 3m deep for the mesh, and DW32 bars 15m deep for the shotcrete, at a maximum spacing of 3m.

Three sacrificial verification test anchors were installed at 3m, 6m and 15m depths and tested to 42kN so as to confirm the rock characteristics for the anchor design. Two production tests were also successfully conducted to a load of 339kN.

Nine weepholes 6m deep were drilled and installed across the slip.

The 150mm thick shotcrete area had HD25 and HD12 reinforcing bars with localised thickened shotcrete up to 300mm thick around the anchor heads, with steel wire mesh reinforcing the remainder of the shotcrete area. Alidrains were installed behind the shotcrete.

The lower bench was reprofiled to guide the stream below the mesh.

The works were conducted to all the Engineers design requirements, and successfully adhered to all the QA and H&S requirements.

