

CASE STUDY

VISTA BRIDGE SLIP STABILISATION

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INTRODUCTION

A slip below the Vista Bridge on Waitara Road, off State Highway 5 near Hastings, threatened to undermine the bridge structure. Hastings District Council engaged Abseil Access, under the consultancy of Stantec NZ Ltd, to stabilise the abutment. The scope included installing 59 soil nails, a shotcreted section directly beneath the bridge, and Steelgrid HR30 rockfall netting combined with Grassroots erosion control matting to prevent further erosion and rockfalls.

PROCESS

Abseil Access managed traffic control and utilised scaffold access provided by Acrow Scaffold for the slip face. Preliminary earthworks at stream level were carried out by a subcontractor using small and medium excavators. The team operated with a Canter truck-mounted crane and an Iveco panel van as a mobile workshop, working from accommodation 18 km away on SH5.

The design specified DW40 bars at 3 m depth for the mesh and DW32 bars at 15 m depth for the shotcrete, spaced at a maximum of 3 m. Three sacrificial verification anchors were tested at depths of 3 m, 6 m, and 15 m to 42 kN, and two production tests achieved loads of 339 kN. Nine 6 m-deep weepholes were drilled, and the 150 mm thick shotcrete area was reinforced with HD25 and HD12 bars, with localised thickening up to 300 mm around anchor heads. Alidrains were installed behind the shotcrete to manage drainage.

OUTCOME

The lower bench was reprofiled to guide stream flow beneath the mesh. All works met the engineer's design requirements, adhered to strict QA and H&S standards, and were completed to a high standard, successfully stabilising the bridge abutment against further erosion.

