

Reference Project

Geotechnical Slope Stabilisation

Buller Gorge SNL Rail Slope Improvement

Location: Buller Gorge – Kiwirail SNL Line
 Date: April 2022
 Client: KiwiRail
 Consultant: Abseil Access & GEO Advice



Abseil Access was approached to assist with the design and construction of an anchored retaining wall below the SNL railway line in the Buller Gorge to support the railway line. We partnered with Geo Solve consulting for the design of the retaining wall and anchors.

The work included:

- Design, construct, and install 6m long x 0.9m high SG8 - H5 timber retaining wall
- Design and installation of the vertical support micropiles and retaining wall sub-horizontal support rock anchors. These consist of duplex coated 40mm SDA anchors into 110mm diameter anchor holes.
- MacMat R retaining mesh for railway ballast and extending below the retaining wall



Abseil Access used a 12 ton high rail excavator to form the support base of the retaining wall, as well as to drill off and position the retaining wall. This provided the versatility to quickly move on and off the railway between the train movements, whilst still allowing for quick and efficient drilling.



SDA anchors were used to allow for quicker drilling between trains, as well as for the variable collapsible ground conditions.

Mesh was installed onto the anchors and retaining wall face to provide additional protection from erosion, as well as promoting vegetation growth.

The railway was continually monitored to ensure that it was not subsiding under the pressure of the works.

