

REFERENCE PROJECT

Geotechnical – remote monitored rockfall alert fence

Location: Johnsonville Rail Line T1-T2
Date: September 2014
Client: KiwiRail
Consultant: Geoscience Consulting (NZ)



The Johnsonville Suburban rail line runs through a series of cuttings and tunnels between Wellington and Johnsonville. 2014 line maintenance included upgrading the rock fall monitoring fence. The design was by Geoscience Consulting (NZ).

The greywacke rock is predominantly sandstone with some mudstone beds, highly to moderately weathered, closely fractured, dilated and loose. The rail corridor was subject occasional rock falls causing disruption to the commuter service. The rock face was too close to the rail corridor for the use of traditional rock fall catch fence.

The 70m monitoring fence is supported by 28 40mm NB galvanised posts holding chain wire fence horizontally 3m above the rail. 2 trigger cables within the fence detect rock falls and are connected to a transmitter station and CCTV network.

Access to the corridor was restricted to a single weekend Blockage Of Line to avoid impeding the commuter traffic. The work was carried out over two days and one night utilising a mobile drilling platform built on a Hi-Rail ballast truck.

Commuter trains can now proceed down the narrow rail corridor and tunnels with confidence of an early warning rock fall alert system

