

NEW PROJECT:

RAILWAY DRAIN UPGRADE

**RANGIORA, SOUTH ISLAND
NEW ZEALAND
JULY 2019**

GEOWEB®

The Geoweb geocell cellular confinement system is the most advanced soil stabilisation technology available.

It was initially developed by Presto Geosystems together with the US Army Corp of Engineers to allow heavy vehicles to travel over soft ground.

It is widely used for load support, erosion control, slope stability, retaining structures and high velocity channels.

The Geoweb system consists of a robust three-dimensional structure housing a network of interconnected cells that confine and compact soil. The confinement action prevents erosion and improves the structural performance of the soil or aggregate infill providing an alternative to reinforced concrete or armour.

The Geoweb cellular confinement system comes in collapsed, lightweight panels which can be handled easily and safely onsite.

Following the 2018 flooding at the Northbrook ponds the council necessitated a design review for a one in 50 year flood event of the railway drain overflow.

Geofabrics provided design guidance and anchorage calculations based on a horizontal anchor resistance of 50 KN/m². The design consisted of an increased height of the northern bank of the railway drain near the inlet to Northbrook settling pond and a widening of the railway drain that runs east of the settling pond inlet.

The widening created steep banks two to four metres high at a slope of 1:1. To stabilize the exposed soil on the slopes, Geoweb geocell cellular confinement system was installed with Bidim A29 geotextile underneath the toe of the slope.

The Geoweb was anchored using steel rods at a rate of 1/m² and the Geoweb cells filled with a soil mixture then covered with coir matting. In total there was 1,230 m² of Geoweb GW30V 100 mm.

To complete the installation, native shrubs and grasses were planted in the slopes to aid slope stability and to replace what vegetation was removed for the upgrade.

Both the contractor and council were happy with the result.

