

GEOFABRICS® WELLINGTON PRIVATE PROPERTY



CIVIL AND LANDSCAPING

CASE STUDY



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PRODUCTS USED

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.

Geoweb creates a series of small check-dams along the soil surface, preventing the downward migration of the soil and the creation of rills and gullies. The system also promotes vegetation because it prevents soil loss and increases structural stability.

The Geoweb cellular confinement system is usually installed with a layer of bidim nonwoven geotextile for separation and filtration and added stability.

PROJECT DESCRIPTION

A private homeowner required a design for two very steep easterly facing banks on their property. The current banks were costly to maintain due to lost plants, maintenance and soil erosion.

CHALLENGE

Due to weather caused by Spring and Summer winds, steep east facing banks, and an invasion of Ivy and Old Man's Beard, the property owner had a low plan success rate of only 20%. Once the Old Man's Beard and Ivy were removed, the banks were left with a thin, dry and nutrient poor clay liner.

SOLUTION

Geoweb® 100mm was selected as a solution as it could be installed over the existing irrigation system, and its ability to retain the compost layer required to increase soil fertility and establish plants.

Geofabrics New Zealand advised the client on the correct thickness of Geoweb to use, the number of Atra keys, pins and clips required, and the installation process.

The customer found that Geoweb® was easy to cut with strong scissors, allowing the cells to be tailored to meet the topography and shape of the area to be covered. This included going around existing plants that had survived. Filling and planting into the Geoweb® cells was fast and easy.

Each embankment took only a day for two people to complete. This included the web layout, installation, cutting and pinning, planting and clean-up.

CUSTOMER TESTIMONIAL

“The plant success rate was close to 100% which lead to an unexpected problem of over planting.

The speed of the growth was also very high with full coverage of the banks in 2 years.

After 5 years the banks are well and truly established with a dense lush growth required very little weeding, most of the work going to pruning and thinning.

This solution proved to be both time efficient and achieved an excellent gardening result in one of the most difficult and least desirable parts of a garden to work on.

As a home gardener I thoroughly recommend Geoweb® and compost for planting out steep poor soil profile slopes.

The higher upfront cost of materials is recouped by the high plant success rate and rapid establishment of full vegetation cover reducing erosion and providing attractive green spaces.

Some earlier concerns that plants may die off because they would not establish deep root systems into the clay soil has not been the case and the cells are not visible due to the leaf litter and vegetation coverage.”

