

## GREEN TERRAMESH STRUCTURE AT SPEIGHTS GARDEN QUEENSTOWN

### GREEN TERRAMESH STRUCTURE

**Product:** Green Terramesh, Tensar RE Geogrid, Grasstrike

#### Problem

The development of the Speights Garden subdivision near Queenstown involved the cutting of benches into the existing slope profile to create level building platforms for housing. The location of the property boundary and the need to maximise the available land resulted in the designers having to steepen the cut slopes thus requiring some form of retaining.

#### Solution

Various retaining wall systems were considered including conventional concrete retaining walls. The Green Terramesh structure was selected due to it having a lower environmental impact and a higher degree of flexibility in design than conventional retaining walls for this region in New Zealand. The green vegetation front face option was appealing to the client and blended well into the surroundings.

The Green Terramesh structures was analysed using Maccaferri Slope Stability software - MacStars. The analysis of the 4.8m high structure had to consider the influence of the 1V: 2H uphill slope and a seismic design acceleration of 0.2g. The final design considered not only the internal stability of the reinforced soil block combining both Green Terramesh and Tensar uniaxial geogrid reinforcement but also an examination of the overall stability incorporating the existing uphill slope.

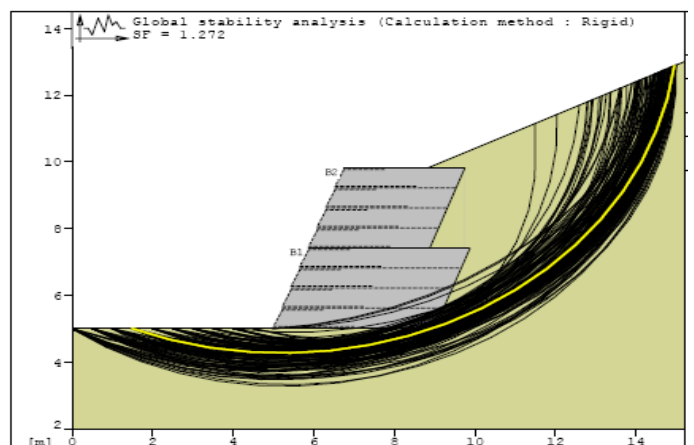
This was the first experience for the contractor installing the Green Terramesh system. Maccaferri staff were able to present information on the product and installation process including installation guidelines. This support contributed to the contractor taking less than 4 weeks to complete the project. The contractor found that construction became quicker as they became familiar with the handling and assembly of the product.



Overall view of Green Terramesh slope



Vegetation starting to grow prior to hydroseeding



Stability Analysis using MacStars

Client:

EMPIRE TRUST

Main Contractor:

B M T CONTRACTING

Consultant:

GDM CONSULTANTS

Product used:

GREEN TERRAMESH, TENSAR GEOGRID,  
GRASSSTRIKE R300

Construction Date:

JAN 2009

#### Maccaferri NZ Ltd.

14 Goodman Place, P.O. BOX 12536, Penrose, Auckland, New Zealand  
Tel. (+64) 9 6346495 - Fax (+64) 9 6346492, FREEPHONE 0800 60 60 20  
E-mail: sales@maccaferri.co.nz - Web site: www.maccaferri.co.nz  
Quality System AS/NZS ISO 9001:2000

The information presented herein is, to the best of our knowledge and belief, correct and is subject to periodic review and revision. The validity of the information relative to the subsoil, hydraulic and other engineering conditions must be ascertained by a suitably qualified person. No warranty is either expressed or implied. Unauthorised reproduction or distribution is prohibited. Copyright is vested in Maccaferri or Maccaferri's Principal where applicable.