

BRYANTS BRIDGE DROPOUT REPAIR SH57 PALMERSTON NORTH

GREEN TERRAMESH STRUCTURE

Products: Green Terramesh, Tensar RE Geogrid, Enkamat, Grasstrike, Enkadrain SL, Bidim Geotextile

Problem

Bryants bridge is located on SH57, the main route between the Manawatu Gorge and Shannon. A major weather event occurred in November 2006 causing damage to the northern end of Byrants bridge. Subsequent heavy rain in January 2007 caused the collapse of one of the bridge approach lanes. An urgent engineering solution was required to prevent total loss of the road.

Solution

The solution for this site had to be cost effective, quick and easy to construct and having a proven history of performance. Green Terramesh was chosen as it met these criteria and was able to be constructed over a short period without closing down the one remaining lanes on this busy highway. AP40 granular backfill was selected for ease of placement and compaction.

The design considered a mix of Tensar RE geogrid grades located at each 0.6m vertical lift of the Green Terramesh facing units. Enkadrain, a geocomposite drain, was used up against the cut face at the rear of the reinforced soil zone to cut off the path of groundwater. Subsoil collector drains located at the base of the cut slope ensured any excess groundwater collected by the Enkadrain was quickly removed away from the structure.

The final Green Terramesh structure was 11m in height and 25m in length. After receiving onsite training from Maccaferri the contractor was able to develop a construction methodology which included the use of 2 Maccaferri supplied pneumatic lacing tools. Working day and night shifts they completed the structure within 5 days. This high level of performance by the contractor ensured that the traffic disruption was kept to a minimum providing a great result to the client and road users.

Client name:

NEW ZEALAND TRANSPORT AUTHORITY formerly
TRANSIT NEW ZEALAND

Main Contractor:

HIGGINS CONTRACTORS - PALMERSTON NORTH

Consultant:

MWH NZ Ltd - WANGANUI

Products used:

GREEN TERRAMESH, TENSAR RE, ENKAMAT 7018,
GRASSTRIKE R300, ENKADRAIN SL, BIDIM A29

Construction date:

JANUARY 2007



Site prior to Construction



Construction of Green Terramesh Structure



Completed Green Terramesh Structure at Bryants Bridge

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.