REINFORCED SOIL WALLS & SLOPE REINFORCEMENT

Product: Terramesh® System, Mactex® H40.1, Gabions

Problem

Road Rehabilitation has been carried out on the N11 route to Groblersdal along much of the roadway. On selected sections of the road the toe of the mountain was blasted to achieve a widened carriageway.

The blasting resulted in an unstable rock cut face, which was susceptible to erosion and the dislodgment of rocks was a hazard to motorists below.

Solution

A deviation to the norm of traditional retaining structures saw the Terramesh® System being employed to achieve a more environmentally friendly solution. Maccaferri’s Terramesh® System is a versatile modular system used for soil reinforcement applications such as mechanically stabilised earth walls and slopes.

The design comprised of an approximately 200m long Terramesh® Wall with a maximum height of 7m. The backfill used for the wall was crushed rocks blasted from the mountains which was classified as a G5.

A sub-soil drainage system was installed at the toe of the cut rock face. The sub-soil drainage comprised of 19mm stones and two perforated pipes, all covered with a geotextile. The drain geocomposite was connected to the sub-soil drain to capture any seepage from the rock cut face.

Benefits & Features

- Local labour was utilised during the construction of the wall.
- The rock fill for the Terramesh® units was obtained from crushed and blasted rock from the mountain.
- A concrete footing was constructed in order to align the Terramesh® with the road.
- The colour of the rocks within the Terramesh® units blended well with the surroundings giving it an aesthetically pleasing finish.
Front Elevation

No bulging on the front face

Rock Cut Face

Finished backfill level