

COURT ROAD SERVICE STATION

Umzinto, Kwa-zulu Natal

SOIL REINFORCEMENT

Product: Terramesh™ System

Problem

A planned fuelling station in Court Road was to be constructed on a fill embankment. The level of the buildings section of the service station was to be constructed using concrete columns. Retaining structures were required to uphold the forecourt. The retaining structures would be required to handle heavy loading associated with service stations.

Solution

Maccaferri South Africa were approached by Delca Systems for a feasibility design for the walls. Following receipt of all design information from the lead consultants, Maccaferri undertook 2 design options including a mass a gravity gabion wall as well as a Terramesh™ System Wall. The design report along with AutoCAD drawings were submitted to the consultant for review.

After review of the design, and a cost comparison, it was established that the Terramesh™ System was most appropriate for this application over the gabion option as well as over a reinforced concrete option.

The solution comprised a combination of 4x2x1 and 3x2x1 Terramesh™ System units. All mesh soil interfaces were lined with Gabion AG200 Geotextile. The fill comprised a granular material which was compacted to 95% MOD AASHTO. Lower walls were constructed using PVC Coated Gabions.

Client name:

SASOL

Main contractor name:

RIVERSIDE CONSTRUCTION

Consultant:

DELCA SYSTEMS

Product used:

TERRAMESH™ UNITS - M2, GABIONS - M3, AG200

Construction info:

Construction date:	FEBUARY 2010
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Completion date:	JULY 2010
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PHOTO 1 - Site slope prior to project commencement



PHOTO 2 - Site prior to project commencement



PHOTO 3 - Installation of Terramesh units at a corner

Benefits

- The consultant made use of Maccaferri's FREE element design level 2 service which included the preliminary design and drawings of the structure. The final designs were prepared by the consultants who carried the indemnity of the structure.
- As a fill operation, the project utilized less fill and allows for future development beneath the service station buildings.
- The use of mechanically stabilized soil reduced the requirement for rock and which sped up the production of the wall.



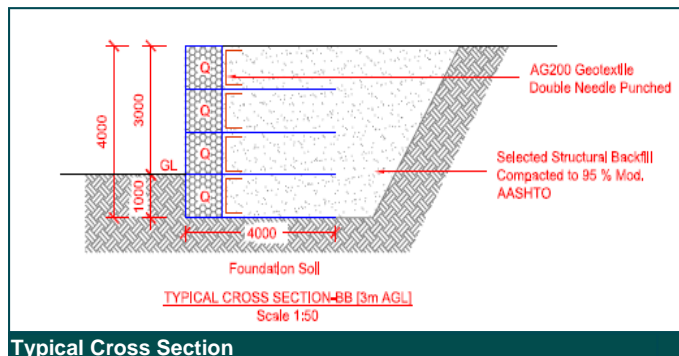
PHOTO 4 - Elevation of the completed wall



PHOTO 5 - the wall with a slab cast on the top of it



PHOTO 6 - Side elevation of the Terramesh Wall



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