CASE STUDY

Drainage and Separation | Subgrade Stabilisation | Mam’s Mall, Mamelodi

Client: New Africa Development

Contractor: Renico

Product:
- Rockgrid® PC | 16 000m²
- Flo-Drain® | 1 602m
- TriAx™ | 22 000m²
- bidim® A2 | 22 000m²

Problem
The weak clay subgrade where the new mall was to be built, could neither support massive stormwater pipes nor future construction of the platforms for the structures. The only conventional option was a costly layer of dump rock (over one metre thick) to compensate for the low bearing capacity of the in-situ soil.

Solution
Reinforcement: Composite geotextile, Rockgrid® PC 100/100, was installed as a separation and reinforcement layer in the bedding of the stormwater pipes.

Drainage: A drainage system comprising 1.6 km of Flo-Drain® was installed alongside the stormwater trench to protect the integrity of the platforms.

Subgrade Stabilisation: The mall platform was mechanically stabilised using TriAx™ TX 160, and bidim® A2 for separation from the soft clayey subgrade. All dump rock could be removed from the layer works (G6 fill at 370 mm, the minimum depth as per TRH14, was compacted to 95% MOD AASHTO) due to use of this combination.

Benefits
The use of Rockgrid® PC helped facilitate a reduction in the layer of dump rock required around the stormwater pipes which minimised costs.
Flo-Drain® was easier to transport, and easier and quicker to install, than...
CASE STUDY

The entire platform was compacted, then stabilised with bidim® and TriAx™ conventional aggregate drains. The flexibility gained in using bidim® as a separation layer, meant up to 50% less fill material was needed.