

## CASE STUDY

**Slope Reinforcement | Reinforcement & Drainage | Leisure Bay Retaining Wall, Pretoria**

July 2014

Client Zone Earth Development

Contractor Zoned Earth Tshwane

Consultant GFC Consulting

Product **Flo-Drain™ 2m** | 60m  
**Flo-Drain™ 1.65m** | 90m  
**RockGrid® PC 100/100** | 200m

Rep Christiaan van Wyk

### Problem

The new Leisure Bay development which consists of a 56-unit residential complex, was built in a cutting. This resulted in the need for a retaining wall which was crucial to secure a three to four metre embankment left by the excavation.

Having noticed a significant amount of water seepage from the embankment, the need to reinforce the fill material behind the retaining wall became evident. **Flo-Drain™** and **RockGrid® PC** were recommended as the ideal products to solve the problem.

### Solution

For reinforcement and support behind the retaining wall, **RockGrid® PC 100/100** was installed horizontally in the layer works of the backfill material. This composite, reinforcing geotextile consists of a nonwoven layer in conjunction with high tenacity, bi-axially orientated multi-filament polyester yarns, the combination of which guarantees its unique characteristics. The nonwoven layer provides not only protection to the high tenacity yarns but vital in-plane drainage capacity to relieve pore water pressure in the fill material.

### Benefits

Compared to woven fabrics, polyethylene grids or polypropylene grids, the high tensile modulus of **RockGrid® PC** provides superior reinforcement characteristics with minimum creep deformation. It may be installed wherever low-bearing capacity soils are encountered and, being manufactured in South Africa, **RockGrid® PC** is more economical than any other imported alternative.



*Flo-Drain™ installed behind the retaining wall.*



*RockGrid® PC reinforces the embankment's retaining wall.*