

CASE STUDY

Subgrade Stabilisation | Roads | Bronberg Extension 7, Gauteng

Feb 2014

Client SenCon
Contractor Pavealot
Product **bidim[®] A2** | 3400m²
Tensar TriAx[™] TX 160 | 3400m²

Consultant PVA Consulting
Rep Christiaan van Wyk



An equivalent of **15 621** recycled
2ℓ PET bottles was used in this project

Problem

The construction of a new access road to a housing complex in Bronberg, Pretoria, was required over the in-situ soil conditions where high PI material was found at a depth of approximately 400mm. The conventional method would involve excavation and removal of the substandard material, and the installation of imported dump rock as a pioneer layer. However, the high cost of dump rock would have driven the cost of the project beyond budget limitations and therefore alternatives were considered.



The low bearing capacity substrate was compacted.

Solution

bidim[®] A2 geotextile and TriAx[™] TX160, a multi-axial geogrid, were consequently specified as a composite basal reinforcement layer to effectively solve the problem. During Phase One, bidim[®] A2 was installed as a separation layer between the compacted in-situ ground below and the layer of TriAx[™] above. Once installed, the layer of TriAx[™] TX160 was covered with imported G5 material which was compacted to form a mechanically stabilised load-bearing base layer.



TriAx[™] placed over the separation layer.

After heavy rains, the in-situ soil conditions during Phase Two of the project were found to have even higher PI than the First Phase. But once again bidim[®] A2 and TriAx[™] TX160 were rolled out over the compacted material taking only one hour to complete, after which the geogrid was ready to be covered with imported G5 material.



First cover layer is placed directly over TriAx[™].

Benefits

Using bidim[®] A2 and TriAx[™] TX160 as opposed to the conventional method of transporting and laying dump rock saved the client time and money.