



REINFORCED EARTH EMBANKMENT

NATURE OF INTERVENTION

An earth embankment was included into the design to contain excess water volumes flowing from a natural wetland as part of an infrastructural development for the area.

Historically, these natural structures have incorporated a combination of different materials which together provide for the stability and durability of the intervention over time. Such a philosophy has often required the importation of adequate materials at high costs and prove to be cumbersome to construct given natural low angles of repose which must constitute the side slopes leading to larger footprints and more material utilization.

Through the introduction of various Geosynthetics products, to replace conventional construction materials, durability, cost and performance of earthwork structures has greatly improved leading to lower maintenance requirements and improved efficiencies over the installation period as well as extended operational lifespans.

Location:

Centurion, Gauteng, South Africa

Products:

- X-GRID PET-PVC-0 40/40

Quantity:

35 510 sqm

Application:

Embankment reinforcement.

Date:

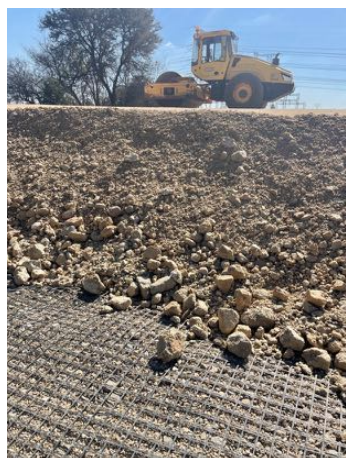
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SOLUTION

X-GRID PET-PVC-0 40/40, TeMa's open aperture, knitted biaxial geogrid from multifilament Polyester with PVC coating was used. The 5.3m wide rolls were placed transversely across the embankment profile and overlapped by 500mm. Where necessary panels were cable tied to secure them in place. Fill layers were then placed and compacted following which the geogrid was wrapped around the embankment face on both sides forming the secure side wall to the embankment.

In this way steeper, more stable side slopes were achieved thus economizing on material quantities and construction times.

The Polyester strands provided the require tensile strength at low elongations thus ensuring maximum durability and protection of the strands during handling and installation of the product.



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