

Lynnwood Bridge Pavement repairs, Pretoria, South Africa, 2014

Surface deformation caused by poor compaction over buried services repaired using TriAx geogrids



Paving being reinstated following a successful repair of the sagging support layers

BENEFITS TO CLIENT

- The client managed to repair a localised depression in the paved roadway without having to increase the Layerworks depth.
- The Client saved time and money while limiting disruptions to the mall patrons.

THE PROBLEM

- At the time of construction of this corporate park and shopping mall development, large diameter pipelines were installed beneath a portion of the road way. Due to insufficient compaction of the material over the services, the material started to sag resulting in uneven ride quality and poor drainage over the affected area.

THE SOLUTION

- The Engineer advise the contractor to remove 300mm of material, place the TriAx TX 160 geogrid and import G5 material to install over it. The granular G5 material interacted with the TriAx geogrid produced a mechanically stabilized sub-base. The TriAx geogrid helped distribution the applied load minimising the pressure on the lower fill layers.



The paving was removed and existing fill excavated to 300mm depth.



The roadbed was rolled to provide a flat surface to lay the TriAx geogrid.



TriAx TX160 was laid and overlapped by 300mm before end-tipping G5 on it



The G5 material was spread and compacted before relaying the paving.

PROJECT DESCRIPTION

During the initial construction of this mixed use development, the fill placed over buried pipelines was not properly compacted. Over time this uncompacted fill consolidated and resulted in localised surface depressions. These caused ponding of water and a very bumpy ride for passengers have to drive over them.

The Client needed a quick and easy solution to repair this problem as the mall and business park had already started operating and the affected area protruded into one of the accesses to the development.

TriAx geogrids saved the Client having to remove more than the 300mm of material to rebuild a stronger road pavement structure. It was also allowed for a very speedy repair.

"Yes it was easy to use...we used a pruning scissors to cut it, and cable ties to bind overlaps together"; "It's not heavy at all. I was able to collect 120m² from Kaytech in Johannesburg, roll it up and carry it on my bakkie with ease", Said the Contractor.



The completed roadway was back in use without causing major disruption.

CONTRACT DETAILS

Client: Atterbury Properties Developments

Consultant: DG Consulting Engineers

Contractor: Bold Green PTY (LTD)

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