

CASE STUDY

Roads | Ground Stabilisation | Hanger Street & Harvey Road, Bloemfontein

Sep 2012

Client Department of Public Works, Roads and Transport, Bloemfontein

Contractor Tau Pele Construction

Consultant SSI Engineers and Environmental Consultants

Product **TriAx[®] TX170** | 10 000m²

Rep Byron de Cramer

Problem

Intersecting each other, these two important roads had reached the end of their design life thus requiring rehabilitation.

The conventional method of rehabilitating these roads, which were breaking up and rutting, is by excavating at least 300 mm of the base and rebuilding them with well-graded material. The consultants discovered that unfortunately, the (subterranean) municipal services in Hanger Street and Harvey Road were located at a depth of just over 200 mm.

A further challenge was that, as specified, the rehabilitated roads should have a twenty-year lifespan that could cope with an estimated traffic volume of approximately 30 million E80's.

Solution

Realising that the conventional methods of rehabilitating these roads would not suffice, the engineers opted to use the revolutionary strength of the **TriAx[®] TX170** geogrid. The structural contribution made by **Tensar TriAx[®]** geogrids is to reinforce the unbound layers of roads and trafficked areas to create a mechanically stabilised layer.

Tensar's design method stipulated milling of the existing pavement and base to a depth not exceeding 200 mm, placing of **Tensar TriAx[®] TX 170**, placing and compacting 200 mm ETB followed by a 40 mm layer of asphalt.



Laying down TriAx[®] TX170



200 mm ETB and 40 mm asphalt cover the TriAx[®] mechanically stabilised layer

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Benefits

Although this product did not equate to any substantial cost savings on materials, the cost and time implications of instituting the conventional method of lifting the road or removing and reinstalling the municipal services at a deeper level, did not warrant consideration.