



Tensar®

**ROADS AND
PLATFORMS**

Tensar's pavement designs were used on all roads on the 566ha residential development, which will be home to 22,000 people.

Community support

Tensar's Spectra Pavement Optimisation delivered high-performing and economical roads in the Emirati Neighbourhood, a major residential development at Capital City District, Khalifa City C, Abu Dhabi, that will be home to 22,000 people.

CLIENT'S CHALLENGE

Tensar worked with the client to demonstrate the benefits of using a mechanically stabilised pavement. As a result, Musanada included the requirement for mechanically stabilised pavements in the project specification. Contractors and consultants needed cost-effective designs that met these requirements and approached Tensar for solutions.

TENSAR SOLUTION

Tensar's designs used TriAx geogrids incorporated into unbound granular material, creating mechanically stabilised layers that delivered pavements capable of supporting anticipated trafficking loads. Granular layers were up to 30% thinner than non-stabilised designs, saving time and money during construction, as well as reducing maintenance requirements, by increasing pavement life. Tensar also provided site assistance and trained the contractors' engineers in how to install geogrid correctly.

Emirati Neighbourhood

Pavement optimisation

Abu Dhabi,
United Arab Emirates

BENEFITS

1M.m²
of roads designed
using Spectra pavement
optimisation

30%
reduction in
pavement aggregate
layer thickness

**Faster and
more economical
construction**

REF TEN391



Tensor Spectra Pavement Optimisation resulted in granular layers up to 30% thinner than non-stabilised designs, saving time and money during construction.

PROJECT BACKGROUND

Tensor was asked to design the pavements for three main road types within the Emirati Neighbourhood: boulevards, residential streets (collectors) and single family residential streets (local).

Originally, the client, Musanada had planned to specify conventional road pavement designs but, after demonstrating the cost and time savings offered, Tensor convinced it to specify mechanically stabilised pavements for the project instead.

Following award of the contracts, the contractors and consultants approached Tensor to provide pavement designs, with the aim of meeting the client's requirements and reducing construction costs.

Tensor's designs reduced overall pavement thickness by 30%, delivering roads with a target design life of over 1.2 million standard axles. The use of the Tensor pavement sections saved 7% in life cycle costs and reduced the project's carbon footprint by 20%.

Main contractors:

Nael Bin Harmal and Hydroexport

Saif Bin Darwish

Mohammed Abdumohsin Al-Kharafi and Sons

Consultants:

Mouchel

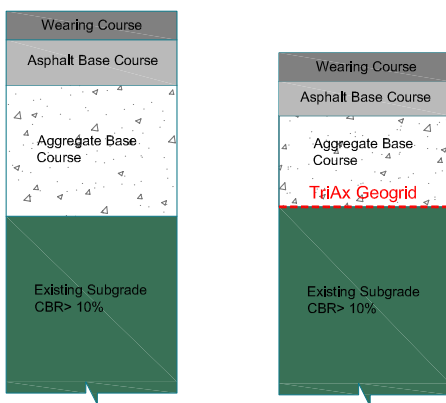
Hyder Consulting

Client:

Musanada

Conventional Design. Non Stabilised

Tensor Design. Stabilised



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