MARKET SECTOR:
Environmental

LOCATION:
Barry Docks

CONTRACTOR:
Alun Griffiths

Case

STUDY

TENAX LBO 370 GEOGRID
EKOTEX®08 GEOTEXTILE
Barry Docks
Working Platform

The

BACKGROUND

Historically Barry docks were used for the export of coal, and at one point was the largest coal exporting port in the country. The capacity of the docks is being extended and its main use currently is for the shipment of containers.

On completion the station will be the largest in the UK with a box structure 850m long, 70m wide and 20m deep. A subsurface structure of this kind requires extensive ground engineering works.

Our Client's

REQUIREMENTS

A sustainable solution for a reinforced working platform using geogrids.

Reach stackers are used in the port and require a good bearing capacity at the pavement surface.

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Our Value Engineered

SOLUTION

A load transfer platform was required in order to distribute the load of the Konecranes SMV 4545 TB5 Reach stackers used to move shipping containers around the docks.

The subgrade soil was very poor displaying a 0.7% CBR. A build-up of 6F1 was suggested with 2 layers of LBO 370 Geogrid as reinforcement.

There was a requirement for the separation layer used to have a pore size of 60 microns therefore Ekotex® 08 was used. As a verification that the required CBR of 15% at the surface would be achieved CBR tests were conducted.

After the initial layer of LBO 370 Geogrid and 350mm of 6F1 had been laid a plate bearing test was conducted which showed a CBR of 5% had been achieved at this level.

This was in line with the predicted value for this thickness. An acceptable value was achieved at the surface. The DBM flexible pavement was installed and is now in use.

"Our selection of Tenax Biaxial Geogrids was based on a combination of technical support, performance of the Geogrids and a competitive solution received from Geosynthetics Ltd"

MARK ELLIOTT
Project Manager
ABP

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