



Case

STUDY

TENAX HM, EKOTEX
UHCW
Staff Car Park



MARKET SECTOR:
Rail



LOCATION:
Clifford Bridge Road
Walsgrave, Coventry



CONTRACTOR:
Montel Civil Engineering



SUBCONTRACTOR:
Barton Plant



MERCHANT:
Keyline Civil Specialist

The BACKGROUND

University Hospital Coventry and Warwickshire was opened in 2006 on the site of the original Walsgrave Hospital.

In an attempt to free up parking for visitors an application was made to construct a 1600 space staff car park on available land to the rear of the existing site boundary.

Our Client's REQUIREMENTS

A sustainable solution for a reinforced staff car park

Montel Civil Engineering were awarded the contract to construct the car park and One Creative Environments were appointed as designers.

Montel approached Geosyn to determine suitability of a geogrid solution to reduce aggregate thickness and excavation / muckaway costs. The approximate area was 36,000m².



Our Value Engineered

SOLUTION

Due to the varied soil test results on the site, it was proposed that the overall area was zoned to optimise the savings in aggregate.

With CBR's ranging from 1% to 10% it was agreed that Geosynthetics would run calculations for 10 zones using both the Tenax Reinforced Soil Raft and AASHTO ESAL design methods. The calculations were able to determine a reduction in aggregate thickness of typically 25-30% when compared to a traditional unreinforced solution.

The geogrids were installed in a single layer directly upon a layer of Ekotex® non woven geotextile. This solution was used in both traditional sub base and permeable sub base areas to incorporate the projects drainage design. By employing a practical approach Geosynthetics working with One Creative were able to reduce the overall depth and stone and associated excavation and muckaway costs.

This collaborative approach was able to generate the results that the main contractor had envisaged and had a positive influence on the earth works strategy.

“The approach taken by Geosynthetics allowed us to optimise the pavement construction and minimise imported granular material, removal and export of surplus soils. Whilst generating cost savings this approach also has a positive influence on time scales and project programme.”

KELVIN LEWIS
Project Manager
Company

