

Case

STUDY

ROCKBOX AND TENAX

Forge Bank Co Housing
Reinforced Slope



MARKET SECTOR:
Commercial



LOCATION:
Halton
Lancaster, LA2 6FD



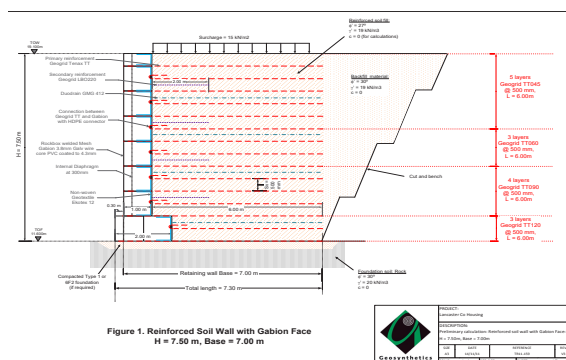
CONTRACTOR:
William Pye Limited



SUBCONTRACTOR:
Ramboll

The BACKGROUND

Forge Bank Co Housing Scheme is made up of 41 houses designed and built to the highest of eco-friendly standards.



Our Client's REQUIREMENTS

A sustainable solution for a reinforced slope.

Due to it being built on a steep slope, the development required a solution for reinforcing the slope whilst maintaining a low carbon footprint and utilising existing materials.

Our Value Engineered **SOLUTION**

The solution provided by Geosynthetics Limited combined site won materials with Tenax Geogrids and Rockbox Gabions to create a strong and reliable structure which maintained the ecological values of the project.

The most challenging structure was "Terrace E". This section of the design called for a 7.5m high reinforced structure. The development also needed to incorporate the column foundations for the 3 bed house above.

Due to the on site soil being a cohesive glacial till it was determined that a reinforced earth wall comprising of Tenax TT uniaxial geogrids would minimise the footprint of the development and more importantly accommodate the column foundations. Due to the distance between the column foundations to the face of the structure a Tenax LBO biaxial geogrid was introduced for secondary reinforcement to eliminate "Bulging" at the face.

The face of the structure needed to fit in with the natural aesthetics of the site to achieve this a single skin of welded Rockbox units were secured to the face of the wall with a series of mechanical connections. Duodrain drainage composites were also placed behind the reinforced soil area to alleviate pore pressure. The solution allowed the use of site won soils and dramatically reduced the footprint of the structure whilst providing a finish in keeping with the rest of the development.

