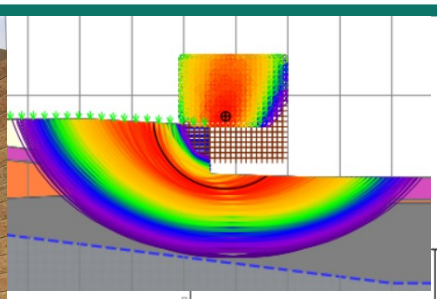
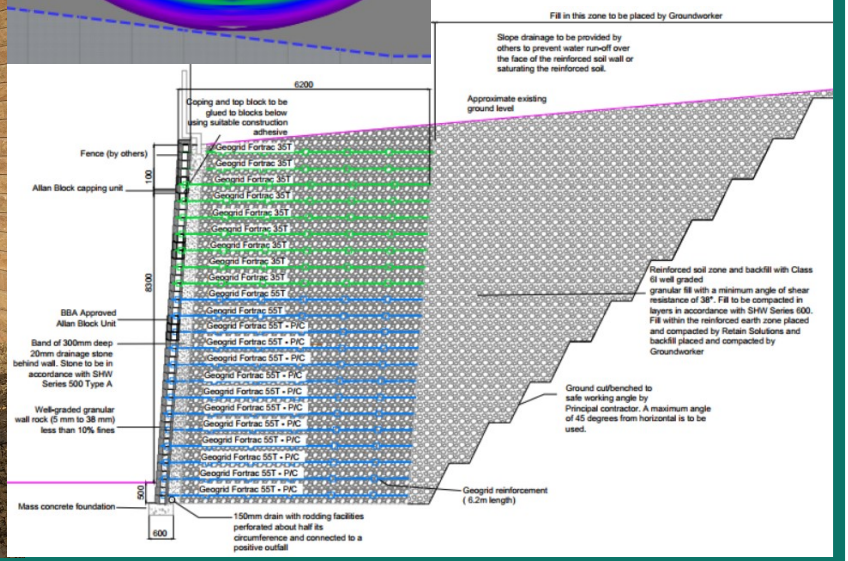


remedy geotechnics



CASE STUDY

Scotswood, Newcastle Upon Tyne

Reinforced Soil Retaining Wall Design

THE PROJECT

A large Keepmoat Homes housing development on a steeply sloping site in the Scotswood Area of Newcastle upon Tyne.

THE PROBLEM

Selection of an appropriate method of ground retention to enable the creation of development plateaus on the sloping site and ensure overall site stability was maintained.

REMEDY'S SOLUTION

Working closely with the Keepmoat Homes and the Principal Designer, Remedy carried out an overall stability analysis of the site and developed detailed designs for reinforced soil walls.

When Keepmoat Homes needed to create a series of development plateaus on their steeply sloping site overlooking the River Tyne, they realised that both the retaining wall design and the overall site stability needed very careful consideration. Keepmoat called in Remedy Geotechnics because of their expertise with this type of development.

The site at Scotswood is part of a larger scheme to develop a sustainable new neighborhood over a 10 to 15 year period. The overall scheme will be developed in five phases and involves the construction of around 1,800 new homes.

In the first phase of work Remedy carried out an overall assessment of the stability of the site, based on six development platforms. The site conditions were complicated by previous ground remediation which left a mantle of poor cohesive made ground overlying stiff glacial till and weathered coal measures. Remedy's analysis of the site showed that overall stability and bearing capacity requirements precluded the use of traditional gravity wall solutions. However a reinforced soil solution satisfied the overall stability requirements and gave lower ground bearing pressures. Opting for an Allan Block reinforced soil wall, Remedy accommodated a range of retained heights between 5.3m to 8.9m over the 300 linear meters of retaining wall. The walls were designed using Remedy's in-house software following the requirements of BS 8006-1, and included Remedy's unique method for analysing geogrid/block facing connection strength. The result was an efficient, yet robust and aesthetically pleasing retaining wall solution for Keepmoat Homes.

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