

## REINFORCED SLOPE SUPPORTING DEVELOPMENT GLASGOW, SCOTLAND, UNITED KINGDOM

### Reinforced Soil Walls and Slope Reinforcement

#### Problem

A combination of poor ground and a tight footprint meant that a project to build new homes, closely overlooking Panmure Street in Glasgow, needed extra support from soil reinforcement and geosynthetics.

The main contractor and client St Andrews Homes (Scotland) is developing the land to provide two apartment blocks, but the gentle slope beside the street had to be made steeper to reclaim much-needed land. In addition, one of the planning requirements stipulated that the new slope must be landscaped. As a result, the developer called on consultant Woolgar Hunter, who in turn brought in Maccaferri, to come up with a detailed design for the new embankment.

#### Solution

Maccaferri designed a new 180m long retaining slope reinforced with Green Terramesh® units and additional Paragrid geogrids.

This embankment is being reinforced as it is built up with pre-assembled Terramesh® units, which arrive on-site flat-packed. Sub-contractor, Allma Construction installed the 600mm high and 2m long sections built one on top of the other to create a retained height of between 4.8m and 6.6m.

To reduce the amount of imported structural backfill and export of unsuitable site material, Maccaferri designed the structure to accommodate the use of site-won soils as structural backfill. Selective use of the glacial tills on site, which were overlain with unsuitable made-ground, was one of the great successes of the project in managing to create very little spoil that had to be disposed of off-site. The site-won material was compacted in layers on top of the reinforcing geogrid tails of the Green Terramesh® units; these were 6m long in the lower embankment and 4m long higher up.

**Client:** St Andrew's Homes (Scotland) Ltd

**Designer / Consultant:** Maccaferri Ltd

**Contractor:** St Andrew's Homes (Scotland) Ltd

**Products used (Qty.)**

**Date of construction:** 03/2008 - 09/2008

[Google Maps](#)

[Google Earth](#)



Detail of Green Terramesh® unit



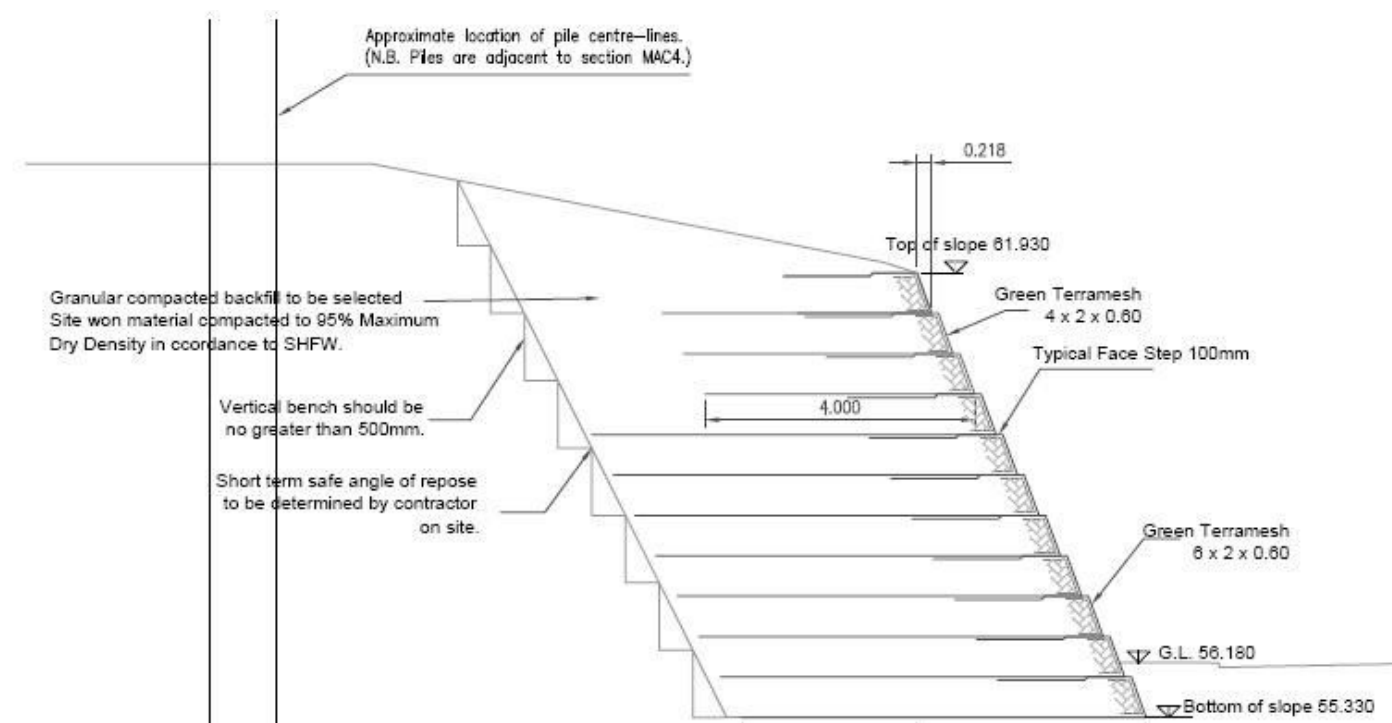
Green Terramesh® geogrid installation



First Green Terramesh® layers being installed



Structure nearing completion



Typical cross section