

Retaining Wall Repairs Gwaelod y Garth Lane, Merthyr Tydfil

Client: Building Warranty Provider

Completed: 2015

Case Study No: 246

- Ground Anchoring
- Stabilisation
- Diamond Drilling



The Project:

To repair this 20m long earth retaining wall that had begun to lean outwards towards the public highway and road.



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Gwaelod y Garth Lane - The Problem

This 20m long earth retaining garden wall required strengthening and stabilisation to prevent further uncontrolled leaning.

The rotation had likely been caused by the presence of a soakaway in close proximity which had introduced hydraulic forces and softened the retained earth behind the wall.

It was noted that the wall did not have sufficient weep holes and had been repointed with sand and cement rather than a lime based mortar, which would have allowed the wall to dry naturally.

As the wall had begun to lean out onto a road, Protectahome were contacted by the building warranty provider to solve the problem.



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Gwaelod y Garth Lane - The Solution

In coordination with the ground anchor manufacturer, it was decided that 22 No. Platipus S08 Ground Anchors were to be installed along the full length of the wall in two tiers at 1.5m staggered centres.

A load bearing test was undertaken on site to confirm that the proposed system was suitable and that the ground anchors could bear the required load.

Diamond Drilling was used to form the required holes within the wall to receive the anchors. Whilst drilling was underway, Protectahome were able to preserve the cores intact for future replacement.

The upper tier anchors were machine driven to a depth of 6m at a decline of 15 degrees whilst the lower tier anchors were driven horizontally to a depth of 7m. Following this, the anchors were loaded and tensioned and the terminations fixed with hidden plates within the wall.

In order to improve drainage, 10 No. 50mm weep holes were formed at the base of the wall.

Following the installation of the anchors, the preserved cores were rebbed in lime mortar leaving no sign of the extensive work completed.



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