

# Project Report

DESIGNER	CLIENT
Anchor Systems (International) Ltd	St Astier
CONTRACTOR	INSTALLER
St Astier	St Astier

## Requirement

A residential development in Blackburn required significant re-profiling of rear garden spaces across seven existing properties. The original slope, which had been battered by the developer, was extremely steep—measuring approximately 60–70 degrees—and extended down to the rear doors of the houses. This created both a safety concern and severely limited usable garden space for residents.

To maximise the available garden area while remaining within strict boundary constraints, the slope needed to be re-cut and stabilised at a steep angle. The works were carried out in a live residential environment, meaning the solution had to be non-intrusive, quick to install, and suitable for restricted access. Compounding this challenge, the site was landlocked to the rear, requiring one resident to temporarily surrender their entire garden to enable access for construction activities.

In addition to structural stability, the final design needed to support long-term vegetation and erosion control, despite the works taking place in October when establishing growth is more challenging.

## Testing

Prior to full installation, on-site testing was carried out to verify anchor performance within the existing ground conditions. The upper strata consisted of made ground and building waste, underlain by a cohesive clay layer that provided suitable anchorage for load transfer.

Initial installations of the AS-90 Vulcan Earth Anchors were undertaken without plates, allowing the anchors to be installed efficiently and tested before final load-locking. Proof and load testing were completed to confirm suitability before plates and load nuts were added as part of the final stabilisation system. Testing validated the anchor selection and installation methodology for the slope geometry and ground profile encountered on site.

## Solution

Anchor Systems (International) Ltd designed a bespoke slope stabilisation solution using a combination of Vulcan Earth Anchors and geosynthetic reinforcement to deliver both immediate stability and long-term erosion control. Approximately 250 AS-90 Vulcan Earth Anchors were machine-installed into the clay substrate to provide primary structural restraint. Once installed and tested, plates and load nuts were fitted, and the system was fully load-locked to secure the re-cut slope.

To stabilise the surface and support vegetation, Greenax reinforcement matting was laid over the slope and pinned using approximately 300 AS-05 Geotextile Anchors, ensuring intimate contact with the soil and preventing slippage. A Greenfix Geocell system was then installed, infilled with prescribed material and topsoil. At the crest of the slope, AS-10 anchors were used to restrain and secure the Geocell, preventing pull-back and edge instability. Due to access constraints and the inability to hydroseed, a Cover Mat Fresh pre-seeded blanket was installed as the final layer, ensuring reliable vegetation establishment despite the seasonal limitations.

The anchor-based solution allowed the slope to be stabilised quickly and efficiently with minimal disruption to residents. Installation of the anchoring system was completed within 2–3 weeks, with the overall project delivered in approximately two months. The completed works transformed previously unusable land into safe, functional garden spaces, delivering a durable and visually sympathetic solution tailored to a challenging residential environment.

# Slope Stabilisation

Watling Close, Blackburn

