

Green Roof

Extensive, Field Garth House, Ambleside, UK



CASE STUDY



Project Description

The Field Garth residence was constructed in 2017 and features a sloping green roof design from the back to the front of the house.

The Challenge

Due to the lack of a substrate stabilisation system being specified in the original installation, the green roof had begun to slip, with the substrate slumping to the lower part of the building. This exposed the geosynthetic drainage board and caused material to fall into the guttering and onto the ground.

ABG Installs were approached by the homeowner to inspect the roof and following a site visit to report on the overall condition, orientation and gradients on the roof, a remediation plan was submitted and accepted by the property owners.

The Solution

The issues with movement of substrate and poor plant growth were resolved by stripping the roof and reinstalling the green roof components. Firstly a new 20mm thick ABG Roofdrain geocomposite layer was installed to adequately drain the vegetation and growing media. The layer provides a combined drainage function to prevent oversaturation of growing media during spells of wet weather and the small cusps also act as a reservoir / water storage board during periods of drought. The layer includes two integral geotextiles, one on top of the cusps to prevent soil intrusion, and one underneath to protect the waterproofing layer.

Project Information

Client	Field Garth House
Contractor	ABG Installs
Products	ABG Roofdrain 20SRXSSg Trigrid EX40/40 Erosaweb GWX 75/300
Quantity	120 m ²
Benefits	<ul style="list-style-type: none">• Retention system suitable for pitched roofs up to 45°• Combined reservoir and drainage board layer• Smart timer irrigation system



ABG Roofdrain 20SRXSSg

ABG LTD

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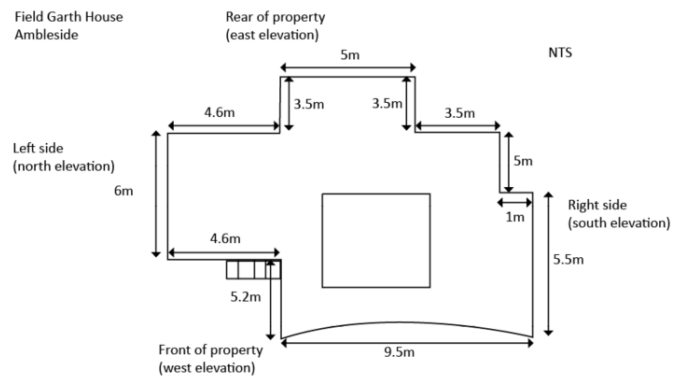
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Since the majority of the roof design features a steep sloping pitch, and to solve the previous issues with the slumping substrate, a geogrid (Trigrid EX40/40) and a geocell (Erosaweb GWX 75/300) stabilisation system was fixed in place above the drainage board to retain the depth of substrate. New sedum matting containing 16 sedum plant species was then installed onto the substrate to complete the installation.

The ABG Installs Service

Despite the Lake District having above average rainfall per annum in excess of 2,000mm in relation to the National average of 1,154mm there was still a consideration to incorporate an under surface irrigation system for use in times of high summer temperatures and long periods of drought, as have been encountered over the last few years. We chose to install a Bradas porous pipe layout over the roof surface, with added smart timer and automated rain sensor that can be controlled from a computer, tablet or smart phone. ABG Installs are undertaking ongoing maintenance of the roof.



Roof area and orientation



The sedum extensive green roof in Autumn



ABG Trigrid geogrid & Erosaweb geocell

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