

Project Report

ENGINEER	DESIGNER	CLIENT
Mesh Engineering	Tellus Design	Bath & North East Somerset Council
CONTRACTOR	INSTALLER	
NKS Contracts	Site 7 Construction	

Requirement

The project at Cleeve Court Community Resource Centre was initiated to stabilise a failing timber crib retaining wall that had begun to show signs of structural distress. Rebuilding the wall was considered impractical due to the high costs and restricted site access, which prevented large machinery from reaching the area. These limitations made a conventional rebuild unviable and prompted the need for a more efficient, low-impact solution.

Following site assessment and collaboration between NKS Contracts, and Mesh Engineering, the Vulcan Earth Anchor system from Anchor Systems (International) Ltd was selected as the preferred solution. The decision was based on its proven effectiveness in stabilising retaining structures with minimal disruption and its ability to be installed using compact equipment suitable for tight-access sites.

Testing

Before full installation commenced, a series of on-site proof tests were carried out to confirm the performance of the chosen anchors. The design required the anchors to achieve a 42kN load capacity during initial calculations. These tests were conducted using a 20-tonne hydraulic ram, and the required load was successfully achieved within five pulls, validating the system’s capability and reliability.

Following the testing phase, Tellus Design refined the global stability analysis, confirming that the design could be optimized to a 20kN proof load and 13kN lock-off load, ensuring both safety and efficiency while meeting all engineering requirements.



Solution

The final installation incorporated AS-50 Vulcan Earth Anchors (x95) for primary stabilisation, alongside AS-05 Geotextile Anchors (x44) used to secure DELTAX mesh (two rolls) to the face of the wall for erosion control and surface protection. Due to the challenging access conditions, all installation equipment—including a 5-tonne excavator fitted with T38 drive equipment—had to be craned over a hedge and manoeuvred carefully down the side of the care home. Despite these constraints, the installation was completed efficiently within three weeks.

Where the original timber wall had completely failed, Anchor Systems worked closely with Site 7 Construction and Mesh Engineering to design and install 13 metres of gabion baskets, providing both structural reinforcement and an aesthetically natural finish to the repaired section.

The result was a durable and cost-effective stabilisation solution that avoided the disruption and expense of a full wall rebuild. The use of the Vulcan Earth Anchor system provided long-term ground stabilisation with minimal environmental and operational impact, restoring stability and safety to the site.

Retaining Wall

Cleeve Court, Bath Spa

