

## Project Info



24 / 02 / 16



CC5™ Bulk Rolls



500m<sup>2</sup>



Vertical layers



Cumbria, UK



JN Bentley Ltd



CC used to provide temporary slope protection during construction of a pedestrian underpass on the A591.



*Completed CC temporary slope protection*

Concrete Canvas® (CC) GCCM\* provides a rapidly applied yet robust material solution for the temporary lining of excavation work. The thin, flexible material means there is a low mass of material to recover at the end of any project, while the fibre reinforcement within CC provides an extremely durable and weather resistant lining solution.

In February 2016, JN Bentley made use of a 5mm variant of CC (CC5™) as part of the construction of a new pedestrian underpass, passing through an existing embankment on a minor trunk road in the Cumbrian National Park. The underpass comprised of a number of 26T concrete sections that were positioned via crane into an excavation within the trunk road. The crane required a substantial base which was close enough to gain the required radius for the lifting of the precast sections, but not too close to the excavation edge or batter so as to cause instability.

Initially, sheet piling was considered, but ruled out due to cost and safety concerns over the ground conditions. Inspections showed that the ground composition of the surrounding excavation included a number of large boulders which could become unstable following adverse weather conditions. A rapidly applied means of 'sealing' the batters of the excavation over a 2-3 week period had to be deployed in order to safely continue works.

Concrete Canvas Ltd, based in Wales, were able cater for rapid reactive works and deliver material to the site the next day. Due to the site being located in a national park and within close proximity of a river course, the fact that CC run-off doesn't require treatment prior to discharging was also a great advantage in the speed of installation.

\*Geosynthetic Cementitious Composite Mat







*Slope prior to install*



*Concrete sections for underpass*



*CC layers overlapped by 100mm and hydrated prior to fixing*



*Excavation and earthworks continuing above CC lined batters*

The installation was completed in less than one hour during the night. The installation crew experienced torrential rain and high wind conditions but were able to continue with the project due to CC's 2-hour workable window post-hydration. CC provided a rapidly applied, hard-wearing, low mass solution for temporary works on the site.

*"The speed of installation and the erosion protection that the Concrete Canvas provided meant that the programme of works on this project was maintained on schedule, if not improved despite the harsh weather conditions. Following the success of Concrete Canvas in this application, I would have no hesitation in using the produce again on similar sites."*

Andrew Young

**Site Manager,  
JN Bentley**