

## Project Info



11 / 12 / 13



CC8™ Bulk Rolls



4,250m<sup>2</sup>



Transverse layers



A465 (Brynmaur),  
Wales, UK



Carillion for the Welsh  
Government



CC8™ used to line  
drainage channels  
as part of a Highways  
Agency road widening  
scheme



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*A completed section of ditch*

In December 2013, Concrete Canvas GCCM\* (CC) was specified to line drainage ditches along a 7.8km stretch of the A465, between Brynmaur and Tredegar in South Wales.

The ditches form part of the A465 Dualling Project, which is part of the National Transport Plan, and will contribute to upgrading links to businesses and communities whilst improving safety. Primarily commissioned by the Welsh Government, the scheme is under Highways Agency management with Carillion appointed as main contractor who subcontracted Walters UK to complete the principle earth works and pre-earthworks drainage. ARUP provided the design detail specifying CC.

CC8™ was used to line one main ditch and various smaller ditches on site. The main ditch is approximately 250m in length, 7m in width at the crest, and 3m wide at the base. Bulk rolls were deployed using an excavator and spreader beam before being batched to length using hand tools. Subsequent layers were overlapped by 100mm in the direction of the water flow and screwed in place at 150mm intervals. The CC was installed at a rate of approximately 50m<sup>2</sup> per day with a 3 man team (two of the crew laying the material and a third fixing it in place), with a total of 4,250m<sup>2</sup> installed.

Prior to specification of CC, stone pitching with a paving slab invert was considered as a means of lining the ditch, but this would have resulted in a considerably longer install further delayed by weather conditions. In comparison, CC provided a significantly faster and easier installation negating any programme disruption due to the weather.

\*Geosynthetic Cementitious Composite Mat





*The ditch was excavated and graded to profile*



*Plant was used to unroll and place the material*



*Transverse layers with a 100mm overlap were screwed in place*



*Hydration of CC8 via bowser and petrol pump*



*Transverse layers backfilled into the anchor trench along crest*



*The finished ditch*



*CC junction*



*A completed section of ditch*



*CC accommodating a turn*



*CC lined channel shown five years after installation, having required zero maintenance over that period.*



*The CC material has blended in with the surrounding environment, whilst the channel is performing hydraulically, exactly as originally designed.*