

Project Info



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CC5™ Bulk Rolls



1200m²



Longitudinal layers



Lucknow, New South Wales, Australia



Champion Construction



CC5™ used to line a crest drainage channel and prevent runoff infiltrating a slope and causing slip



Completed section of installation in Lucknow, NSW

In July 2018, Concrete Canvas GCCM* (CC) was used to line a bench level dish drain in Lucknow, New South Wales, Australia.

Lining of the dish drain was required to prevent rainwater runoff from the surrounding catchment from infiltrating into the slope and increasing the potential for localised slip or slope failure. The constructed channel was between 3.5m and 1.5m wide and approximately 395m long.

Shotcrete had been considered but would be costly and time consuming, which in turn would lead to significant road possession. As a result, CC was specified, reducing time on site and costs.

In preparation for the installation, the drainage channel was excavated and trimmed in weathered basalt, a firm subgrade. CC was then laid longitudinally with 380mm pegs inserted at 500mm intervals on the upslope, and at 2m intervals on the downslope to fix the material.

Subsequent layers were overlapped by 100mm and jointed using 8mm beads of adhesive sealant and stainless-steel screws at 200mm intervals. Due to the inability to create an anchor trench at the crest, Concrete Canvas Ltd recommended an upslope termination method using a combination of a cement fillet with pegs to prevent ingress. Following installation, the CC was hydrated.

*Geosynthetic Cementitious Composite Mat





Deployment of CC5 bulk roll



Application of sealant to joints



Fixing CC with pegs



Hydration of CC



Section of completed drainage channel



Junction termination



Completed section of CC lined drainage channel prior to anchor trench detailing

A total of 1200m² of CC5™ were installed in 2 and a half days, a significant time saving on the team's estimate for installation. The works were carried out in cold weather conditions, despite periods of rain and sleet.

The installation was carried out by Champion Construction, with a team four workers and utilised a 50 tonne crane and operator. The crane allowed the CC bulk rolls to be moved 30m either side of the crane, allowing 60m lengths to be installed before moving the crane.

The client, Roads and Maritime Services, was very happy with the outcome of the project. The client has seen the many benefits and applications possible with the use of CC and will look into using the material again in future projects.