



GEOFABRICS CASE STUDY



CONCRETE CANVAS PROTECTS THE ARMIDALE STATION FROM EROSION

PRODUCTS USED

CONCRETE CANVAS®

- The original Geosynthetic Composite Cementitious Mat (GCCM) and the first product to declare conformance to ASTM D8364-Standard Specification for GCCMs
- Used in a variety of civil infrastructure applications, such as ditch lining, slope protection and capping secondary containment bunds
- Allows concrete construction without the need for plant or mixing equipment
- Simply unroll and position Concrete Canvas, and then just add water (any type of water, including sea water) - Concrete Canvas has no impact on the pH of runoff water
- Compared to traditional concrete solutions, Concrete Canvas is faster, easier and more cost effective to install and has the additional benefit of reducing the environmental impact of concreting works by up to 95%
- Available in bulk and smaller batch rolls

PROJECT DESCRIPTION

Armidale Station is a heritage-listed railway station that has been operating since 1883.

The well-established rail corridor was at risk of being compromised by erosion from the adjacent slope. When advising the right solution for this erosion control project, our team were required to take into consideration site access limitations to the 2:1 angle slope and potential disruptions to the railway station operations as a result of the construction works.

OUR SOLUTION

Concrete Canvas Geosynthetic Composite Cementitious Mat (GCCM) was chosen because of its timely and easy installation on projects with site access limitations. Another consideration at the time was shotcrete, however it can be prone to cracking from hydrostatic pressures.

The project commenced by trimming the face of the slope and removing some vegetation so that the installation could begin with a clean slate. Stainless steel screws were fitted every 100mm along the overlaps of Concrete Canvas GCCM where adhesive had also been applied. Slope pins were installed at every three-metre centre along the edges to safely secure the Concrete Canvas GCCM to the slope. A water truck was then used to hydrate the Concrete Canvas GCCM - the entire installation took only four days.

The client was pleased with the speed, ease and cost-effectiveness of the installation - our recommendation to install Concrete Canvas GCCM opposed to another product reduced the line possession time from two weeks to eight days, decreasing labour and the project cost.

The slope was secured and protected from future erosion and the trains at Armidale Station returned to running as per their standard schedule.



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