

## Project Info



15 / 07 / 13



CC5™ Bulk Rolls



1,000m<sup>2</sup>



Vertical layers



Zipaquirá-Bogotá  
Highway, Colombia



Undisclosed



CC5™ used as an erosion control measure in order to protect Zipaquirá-Bogotá highways from a washout of fines and other debris



*Completed slope*

In July 2013, Concrete Canvas® GCCM\* (CC) was used as an erosion control measure on a slope adjacent to a section of the Zipaquirá-Bogotá Highway in Chinchilla, Colombia. The slope had suffered from slip and the erosion of fines due to adverse weather in the region, worsened by leakage from a water pipe installed across the slope. There was potential for falling debris to cause an accident on the highway, or block the cycle path alongside it. Shotcrete had been considered, however, there was a concern that the associated rebound may cause damage to the highway and surrounding infrastructure.

Prior to installation the area affected was cleared of vegetation, loose soil and rock and other debris. Bulk rolls of CC5™ were then delivered to site and cut to required length, eliminating material wastage. Each length was fixed to the top of the slope using 400mm steel ground pegs before being unrolled down the slope using a spreader beam and climbing equipment. Adjacent lengths were overlapped by 100mm and screwed together at 200mm intervals. Anchor bolts were used to fix the material to the foot of the slope and a drainage outlet at one end of the slope. The CC was then hydrated.

The 1000m<sup>2</sup> installation was completed in 13 days in inclement weather by an installation team of 6. The client and installation team were impressed with the ease and speed at which CC was installed, as well as the material's "consistency and functionality". Feedback provided by the project's head engineer in November 2013 stated that, after two weeks of very heavy rain, the CC was still stable and the slope had not shown any movement or further loss of fines.

\*Geosynthetic Cementitious Composite Mat







*The slope prior to installation of CC, displaying signs of slip and erosion*



*Spreader beam and climbing equipment were used to install CC*



*CC's flexibility follows slope profile to prevent voids forming below material*



*Adjacent layers of CC were overlapped by 100mm and screwed together*



*CC hydrated using hose and climbing equipment*



*Completed section showing CC tailored around existing infrastructure*