

### Project Info



08 / 22



CC5™ Bulk Rolls



1960 sf



Transverse layers



Fort Worth, Texas, USA



GeoSolutions & City of  
Fort Worth



To revitalize a bar ditch  
supporting significant  
channel flow.



*Completed installation works*

In August 2022, installation of 1960sf of Concrete Canvas® CC5™ GCCM\* Bulk Rolls was carried out to revitalize a bar ditch, supporting significant channel flow from the top of a slope in Fort Worth, Texas.

The project was located on a 4:1 downhill slope spanning roughly 160 LF. A 6-7' flume was located at the topside of the project, directing water from the TX-Distillery plant to the bar ditch. The bar ditch was not originally designed to account for the heavy flow created by the flume. City of Fort Worth approached GeoSolutions to help design a long term solution that would allow water to flow down hill and prevent erosion of the bar ditch. CC5™ was specified for this project due to it's ease and speed in which it can be installed, the need for less machinery and man power and it's long-term low maintenance requirement.

Before installation works began, the site had to be prepared. Overgrowth had to be removed and the ditch profile re-graded due to left over rocks and other techniques carried out by the city to combat the erosion issues. Once the ditch was re-profiled into a smooth an uniform shape Bulk Rolls of CC5™ were brought onto site.

\*Geosynthetic Cementitious Composite Mat







Site before works were carried out



Bulk Roll of CC5™ transported via low loading lorry



Bulk Roll of CC5™ lifted using excavator and spreader beam



CC5™ Laid transversely across the ditch



Overlapped layers secured with stainless steel screws





CC5™ hydrated using water truck and hose

Bulk Rolls of CC5™ were rolled out and cut to desired lengths. With full training provided by the Concrete Canvas USA representatives, crews from GeoSolutions and the City of Fort Worth installed overlapped pre-cut sections the of Concrete Canvas® GCCM down the channel in accordance to its flow direction, similar to applying shingles on a roof. Stainless-steel screws positioned every 4-inches, 1.2 - 2 inches from the overlapped edge were used to secure each layer of CC5™. The leading edges of the material were secured in anchor trenches located at the crest of each side of the ditch. Each overlap within the anchor trench was secured using stainless-steel J-pegs and backfilled to prevent water infiltration.

The Concrete Canvas® GCCM made intimate contact with the existing flume by use of Elephant Armor, a fiber- reinforced, quick-setting concrete, to provide successful termination of the system at its entry and exit points. The backfilled anchor trenches to the side slopes were hydroseeded and protected with an erosion control blanket until adequate vegetation was achieved. After completion, the solution passed several heavy water flow tests.

The City's participation in design and construction ensured a controlled, successful installation for Concrete Canvas® GCCM. Once the site was prepared, the channel was constructed with a small crew and in short time.

The City of Fort Worth will be monitoring this project over the course of the next year. Their stormwater department hopes to implement the Concrete Canvas® GCCM as a standard solution for future City repair/maintenance projects.