

Project Info



14 / 06 / 18



CC8™ Bulk Rolls



7,500m²



Transverse layers



Section 1,
A14 Southbound,
Huntingdon, England



A14 Integrated
Delivery Team



CC8™ used to provide
erosion control and
increase impermeability
of open drainage
channels collecting
highway runoff water



Completed section of installation for Section 1 of A14 Southbound scheme

In June 2018, Concrete Canvas® (CC) GCCM* material CC8™ (an 8mm thick variant) was specified to provide erosion control and reduce permeability of open drainage channels as part of the A14 Cambridge to Huntingdon improvement scheme, situated at Section 1 along the southbound side of the A1.

The purpose of the project was to collect highway runoff water from adjacent slipform drainage, providing additional storage capacity if required during storm events. The channels measured approximately 2.7m wide, with varying lengths totalling 2km in total on the Southbound side.

Poured concrete was considered for the project but the A14 Integrated Delivery Team (IDT) proposed lining the channels with CC in order to reduce the amount of material they would have to excavate in preparation for the works, as well as to increase the speed of installation.

The works were carried out during the Summer of 2018 by the A14 IDT for Highways England, with consultancy provided by Atkins CH2M. Commencement of works later in the year would have risked disruption due to the gravelly clay substrate being prone to softening when it rained, which would have made installation more difficult.

*Geosynthetic Cementitious Composite Mat



In preparation for the installation, the channel profiles were excavated, then an excavator created a 'notch' one-third of the way up the side slopes to enable the edges of the CC to be buried.

It is unusual for CC to be used only part way up side slopes, but it was specified as the full height of the channel would be needed for major flood events only, but one-third height was only necessary to contain typical rainwater runoff from the highway.

Depending on the construction sequence, CC was either laid before the slipform was installed, or returned up the slipform before a grout fillet was applied to capture the edge. On the other side of the channel, the CC was extended up to full slope height to create a 'splashback' and prevent possible erosion from water flowing into the channel.

The CC layers were screwed and sealed at the joints, while grout was applied against the slipform channels and sandbag headwalls. Following installation, the CC was hydrated using a bowser at the end of each day.



Site prior to works



Delivery of CC bulk rolls



Excavation of anchor trenches



Completed anchor trenches



CC laid in anchor trench



Deployment of CC and fixing of material in anchor trench



CC extended to full height where slipform drainage enters channel



Headwall termination



CC to slipform drainage termination



Grout fillet termination



Completed section of CC installation

The Southbound installation was completed with over 100m of channel lined on some days, including the work required to excavate anchor trenches.

A total of 7500m² has been installed on the scheme so far, with a further 675m of channel to be lined on the Northbound side in the coming months, when weather permits works to resume with minimal disruption. The client and contractor are happy with the results of the scheme to date, and have also installed another 450m² of CC to line a subsequent channel for Section 2.