

Project Info



22 / 08 / 18



CC13™ Bulk Rolls



220m²



Transverse layers



Hanningfield Water
Treatment Works, Essex,
UK



Integrated Water Services
/ Anglian Land Drainage
for Essex and Suffolk
Water



CC13™ used to
provide erosion and
scour protection to an
emergency lagoon
spillway.



Completion of CC installation

In August 2018, Concrete Canvas® (CC) GCCM* was used to provide erosion and scour protection to a spillway at Hanningfield Water Treatment Works in Essex, UK for Essex and Suffolk Water.

The 12m x 12m spillway is situated behind a lagoon, and was created to control water flow from the lagoon. Poured concrete was considered but would have significantly increased the time required on site for installation, particularly in order to create the required smooth finish on the spillway slopes. Integrated Water Services were the Principal Contractor for the project, with Anglian Land Drainage acting as sub-Contractor. Consultancy services were provided by Stantec.

Prior to installation, vegetation was removed from the slope and a vertical concrete headwall poured. The approximate spillway profile was excavated and profiled using sharp sand. This was then compacted with a wacker plate and trowelled to create a smooth surface on which to lay the CC, to prevent void space below the material and establish the spillway slope gradients as specified in the design.

The specified CC13 material was delivered to site in bulk rolls and laid transversely, with overlaps facing the direction of water flow. The overlap joints were screwed at 200mm centres, while the edges of the CC material were sealed and mechanically anchored to the concrete headwall or secured within a 300x300mm anchor trench around the perimeter, depending on requirements. The anchor trenches were then filled with poured concrete to prevent water ingress. Once installation was completed, the CC was hydrated using water pumped from the lagoon.

A total of 220m² of CC13™ was installed in three days, once site preparation was completed, by a team of three people. The contractor liked the speed and ease of use of the material, while the consultant expressed their pleasure with the outcome of the project and are considering putting CC forward for use on other schemes.

*Geosynthetic Cementitious Composite Mat





Sand raked then compacted to create smooth profile



Compacted and troweled to smooth substrate



Installation of first CC layers



Spillway following CC installation



CC edges buried in anchor trenches with poured concrete



CC edges fixed to headwall using Hilti shot fired nails



Completed installation



CC-lined spillway in use