

Project Info

DEC

14

14 / 12 / 2020

CC

CCH8™ Bulk Rolls

#

110m²

V

Transverse and Horizontal layers

G

Great Oxendon, England

H

Barhale / GeoPro Lining Solutions

i

CCH used as a containment liner solution to line a disused tank

IOS

INTEGRATED
OPERATIONAL
SOLUTIONS

B

Barhale

G

GeoPro
PROFESSIONAL LINING SOLUTIONS



Completed CC Hydro™ installation in Great Oxendon

In December 2020, CC Hydro™ GCCB* was specified as a containment solution for a project undertaken in Great Oxendon, near Market Harborough in England.

The Great Oxendon Water Recycling Centre (GOWRC) had a requirement to increase capacity for wastewater treated at the site from the Environment Agency (EA). The requirements involved increasing storage capacity by 23m³.

The GOWRC site had a disused trickle tank which was involved in the plans for increasing capacity. The idea was to line the disused tank with an impermeable liner to provide the additional capacity in accordance with the EA requirements.

Anglian Water engineers produced a design for the scheme which specified CC Hydro™ as the impermeable lining solution for the trickle tank.

The works were carried out by Barhale as part of the IOS Alliance (Anglian Water, Barhale, Kier Group and Morrison Utility Services) and GeoPro Lining Solutions for Anglian Water.

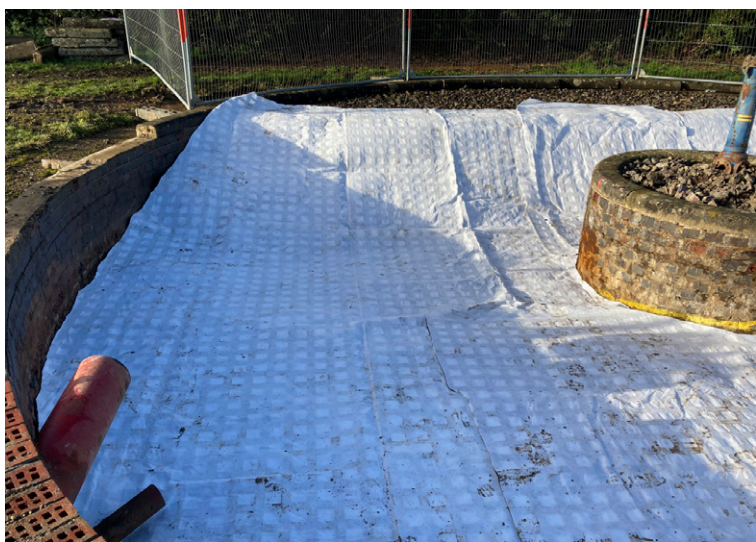
*Geosynthetic Cementitious Composite Barrier



Section of tank prior to CCH installation



Sloped section of tank created with stone and sand



Non-woven geotextile laid before the CCH was installed



Thermal welding of the CCH around the tank wall



Thermal welding of CCH lengths along tank floor



Completed installation following hydration



CC termination into stone backfilled anchor trench

Prior to the installation of CC Hydro™, approximately two-thirds of the stone from the trickle tank was removed. The remaining stone was profiled to create a 1:1 batter at the rear of the tank and also level the floor of the tank. This was then sanded and compacted with a whacker plate to create a smooth and stable base on which to install the CC Hydro™. A non-woven geotextile was laid on top of the compacted stone. An 8mm thick variant of the CC Hydro™ material, called CCH8™, was specified for the project. As this was a containment application, the lengths of CC Hydro™ were thermally welded together by third-party welding contractor, GeoPro Lining Solutions.

The CC Hydro™ was installed in linear strips across the width of the tank, with a continuous strip used to line the circumference of the tank and welded to the strips at the bottom. Around the inlet and outlet pipes, grout was used for the termination detail where the CC Hydro™ material was cut to accommodate the infrastructure. The edges of the CC Hydro™ material at the top of the tank wall were either secured in an anchor trench with the existing stone, or grouted and flagstones from the original trickle tank placed on top for a neater termination. At the end of the work day, the material was covered with plastic sheeting to prevent freezing overnight as temperatures dropped to below zero. Once the installation was completed, the material was hydrated using a water bowser.

The works were completed in just two working days, with a total of 110m² of CCH8™ installed by a team of two people.

“We are continually looking for smart ways to deliver solutions. Installing CC Hydro™ GCCB at Great Oxendon is a great example of that approach. Through innovation, we’ve been able to achieve a result faster and more sustainably. It will improve the resilience of Anglian Water’s asset base and reduce pollution incidents via storm spills. The Concrete Canvas team adopted a highly collaborative approach throughout and we are grateful for their input and insight. It was a pleasure working alongside them.”

Neil Baird
Design Manager
Barhale IOS