CONCRETE CANVAS®

CHANNEL LINING

Project Info

- 17 / 08 / 17
- CC8™ and CC13™ Bulk Rolls
- 3,705m²
- Transverse layers
- West London Football Club Training Ground
- LJN Groundworks
- CC13™ and CC8™ were used to line a channel at the training ground of a West London football club to prevent erosion and silt generation which was causing drain blockages and limiting pitch and land draining capacity.

Completed installation at Cobham Training Ground

In August 2017, Concrete Canvas® GCCM* (CC) was used to line a drainage channel at a West London football club's training ground. The aim was to prevent erosion and silt generation by improving the existing channel, which was prone to blockages and clogging drains nearby. By doing this, pitch and land drainage capacity would also be improved.

The existing channel, which sat alongside some of the training ground's pitches, was approximately 640m long with shallow falls. As a result, silt and leaves quickly built up, caused drainage issues and required regular maintenance. The client wanted a solution which could not only improve drainage on the site, but also significantly reduce maintenance and make clearing debris and blockages from the channel considerably easier and less time consuming.

Poured concrete had originally been considered for the channel, but restricted access, and the need for the training grounds to remain open for training sessions was critical, and therefore made this solution unsuitable. Creating a plastic half pipe channel was also considered; however, this would have been time consuming and costly as the channel was not straight, requiring a lot of cutting and jointing to follow the path of the channel. As a result, CC was found to be the best solution and was specified for the project, with the design including sump areas which would allow the leaves and other debris to collect in pool-like sections of the channel where there is easy access so it can then be easily removed using an excavator. The works were carried out by LJN Groundworks for a West London football club, with on-site guidance from Concrete Canvas Ltd.

*Geosynthetic Cementitious Composite Mat

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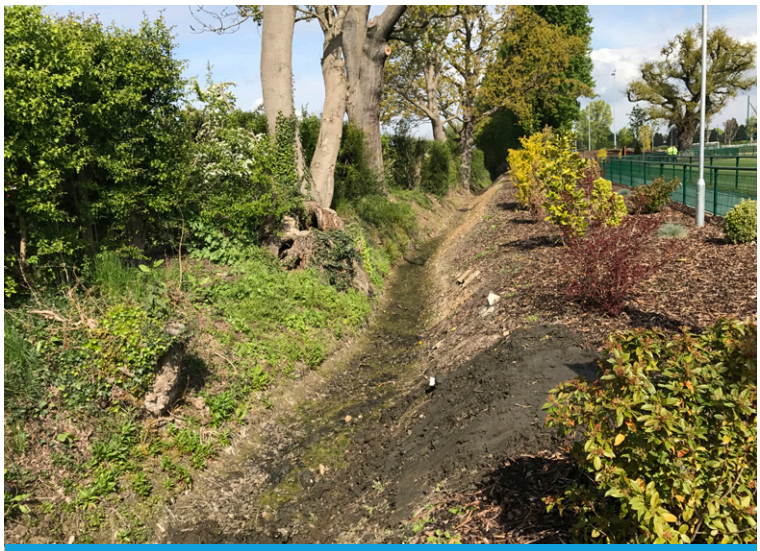
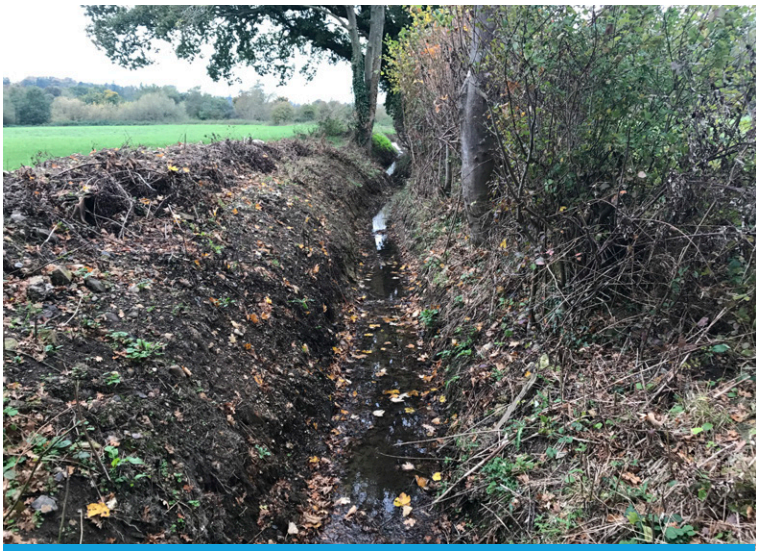
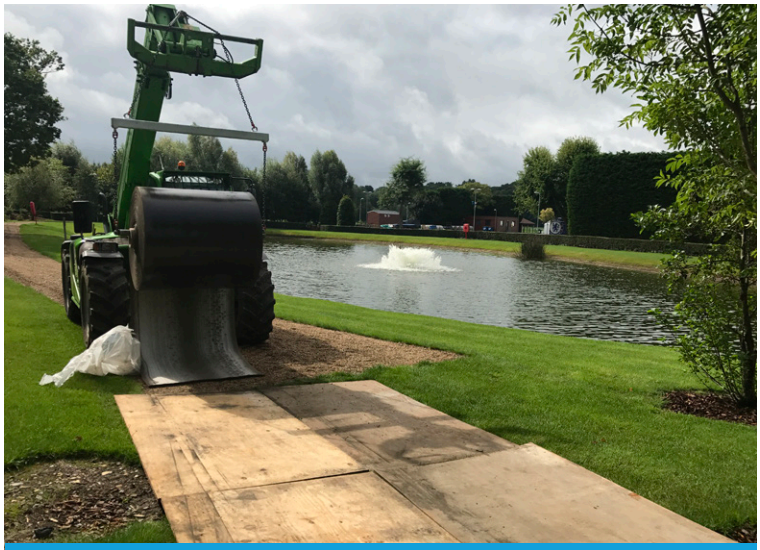


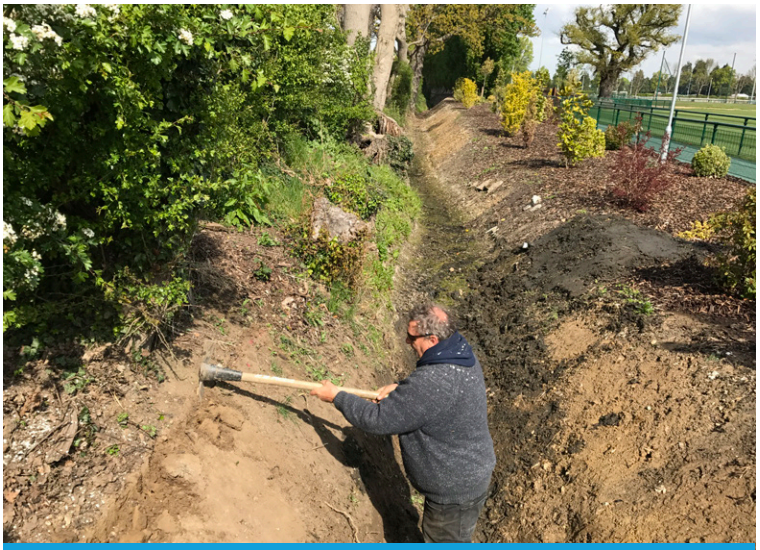
Channel prior to works



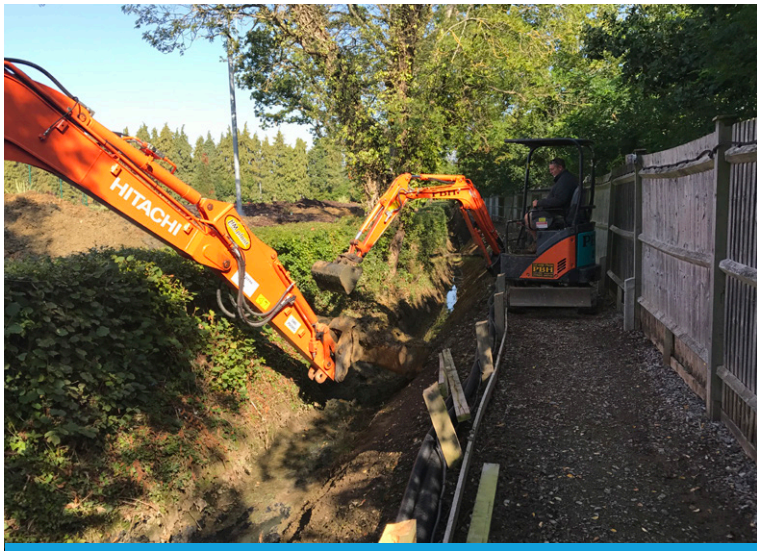
Original channel was causing blockages and poor drainage



CC8 and CC13 Bulk rolls were batched on site



A pick-axe and shovel were used to regrade in restricted areas



Excavators regraded the channel prior to installation

CC8 was laid transversely across the channel

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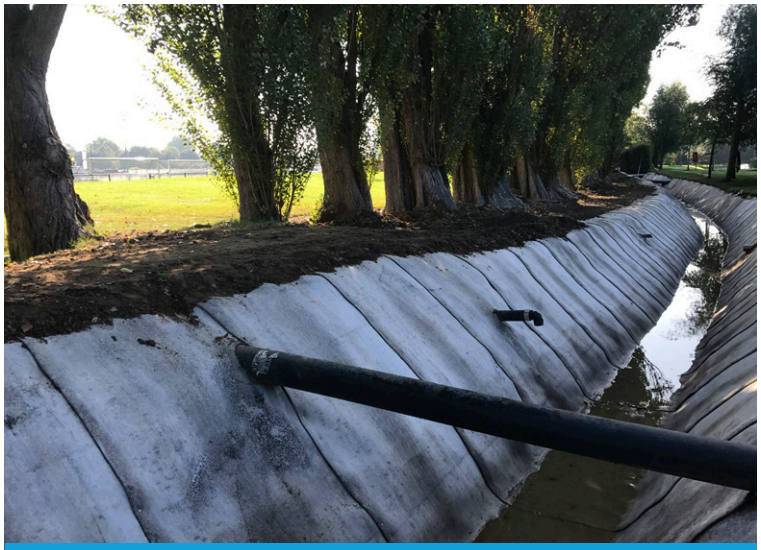
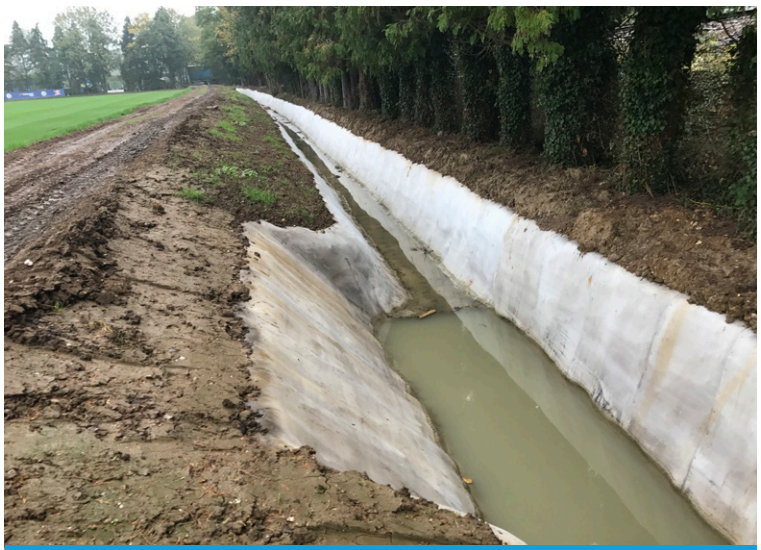
CC was batched and transported by wheelbarrow

Edges were buried in soil anchor trenches or timber edging & bark chippings



CC was cut to accomodate pipes and outfalls

Sump areas were created using CC13



Completed CC13 sump area

CC was jet washed after hydration to remove mud stains on surface

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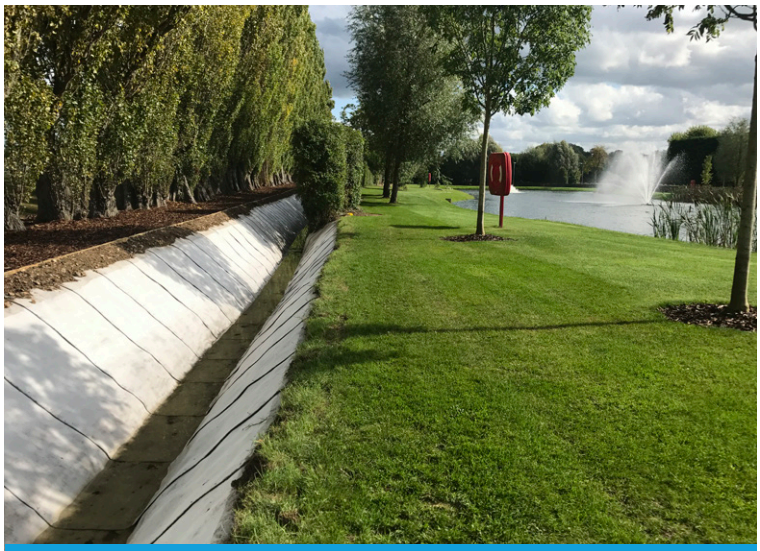
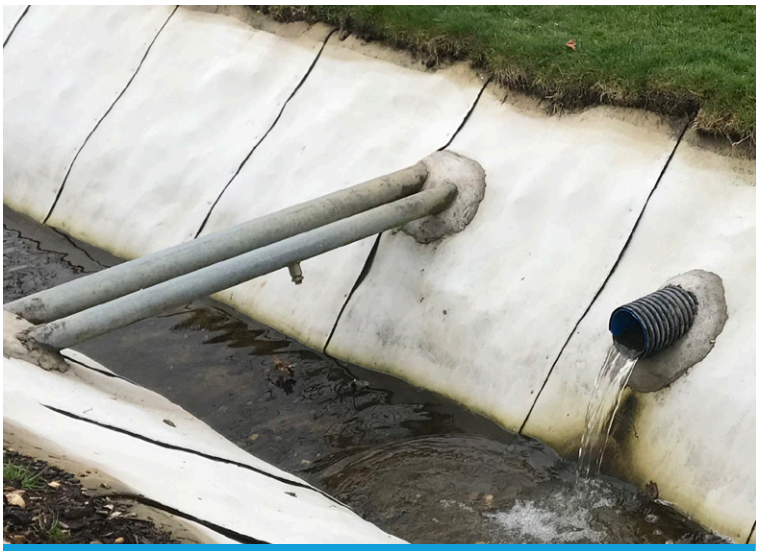
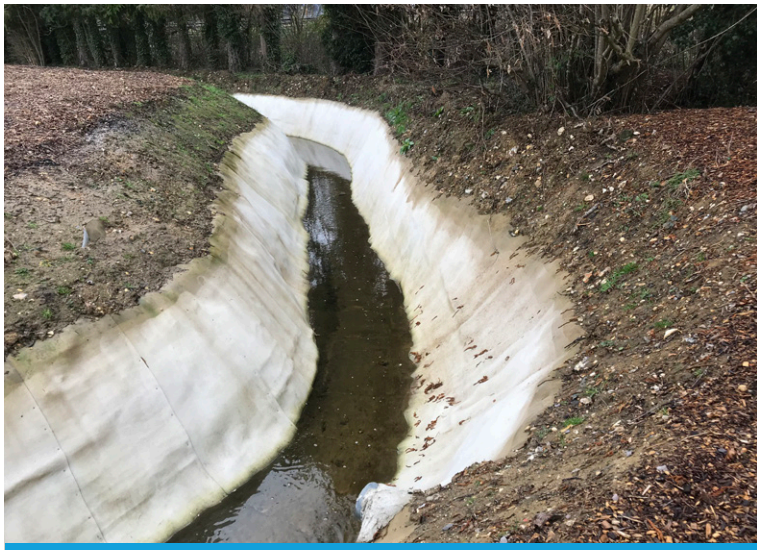


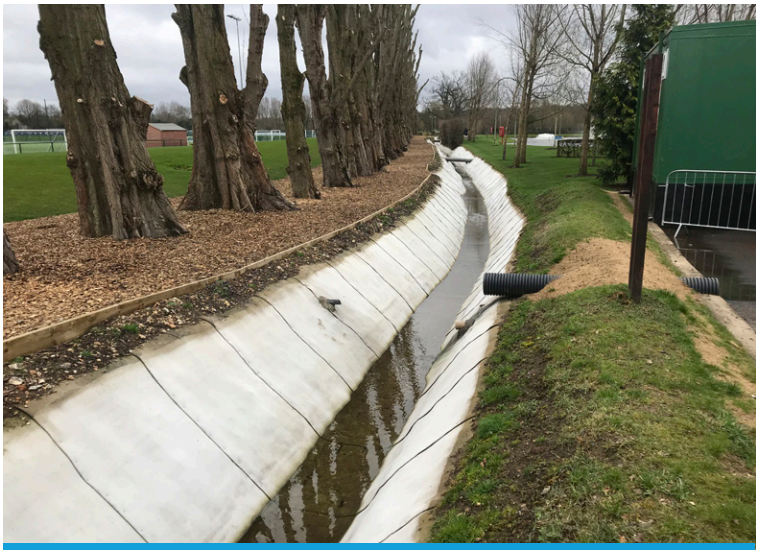
Completed channel



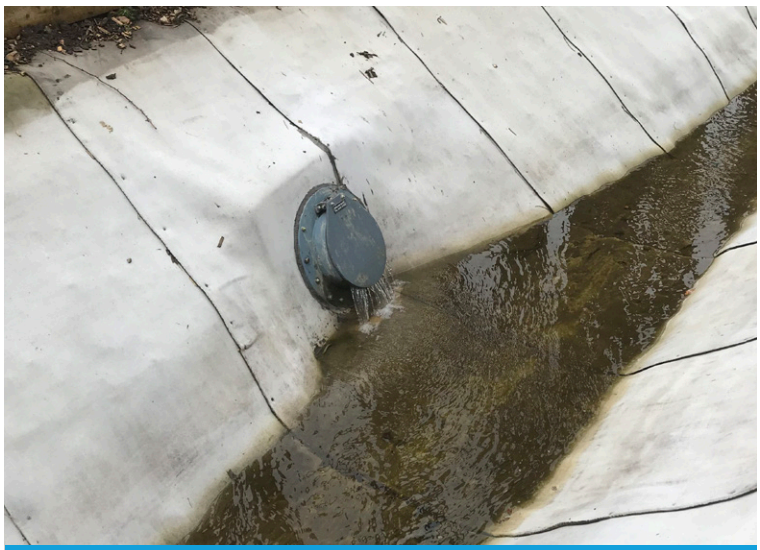
Sealed pipe detail, 9 months after installation



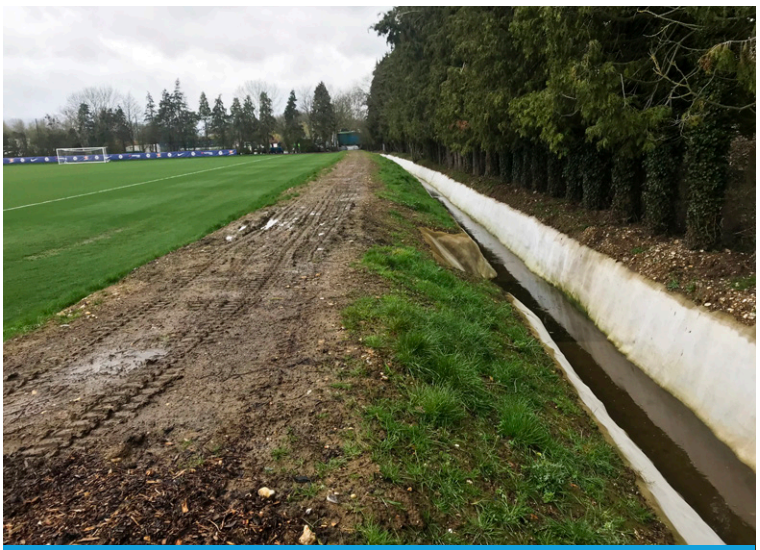
Corner section of channel during re-visit



Outfall pipe and section of completed channel



Capped outfall pipe covered with CC



Sump area and completed channel alongside training pitch (re-visit)

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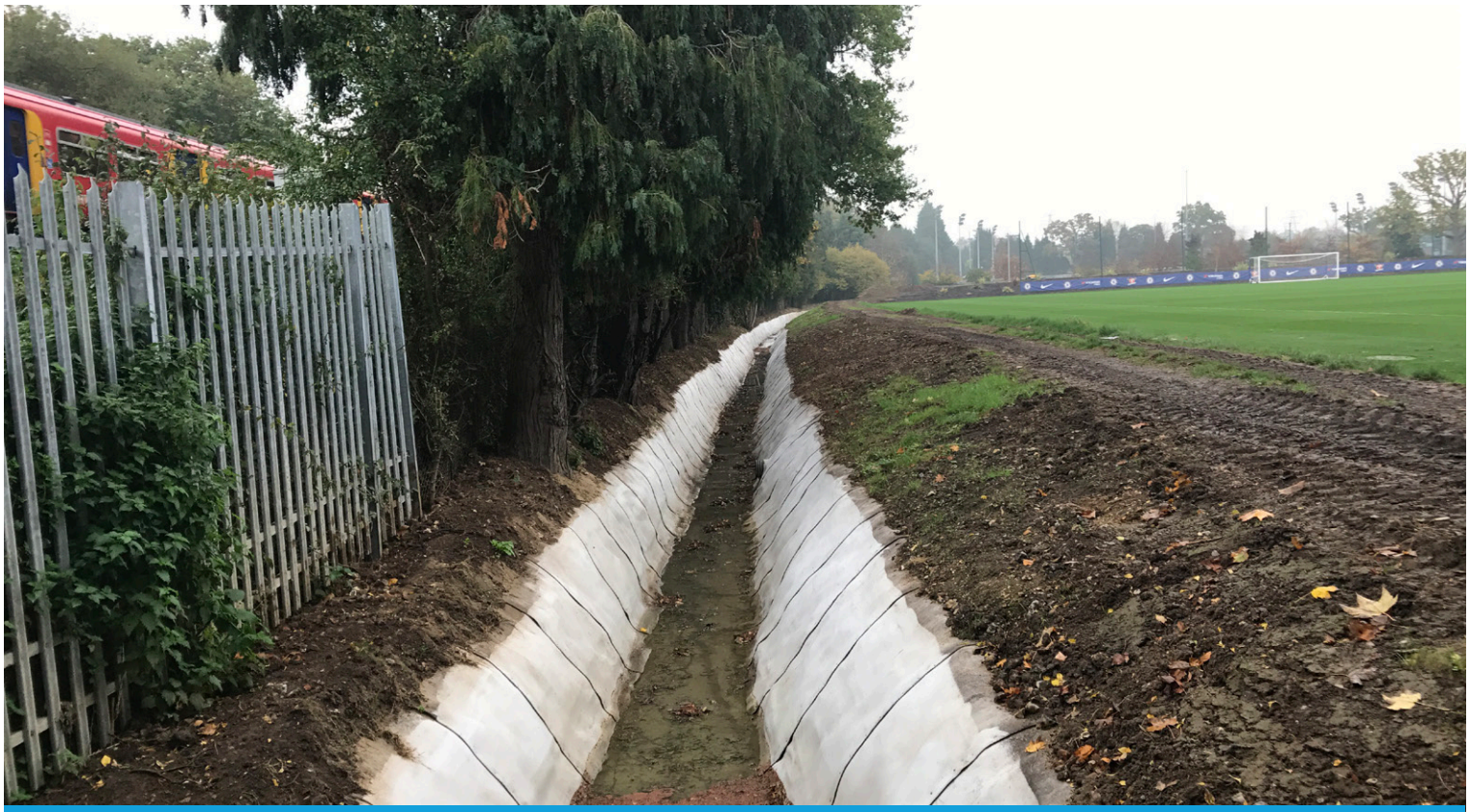
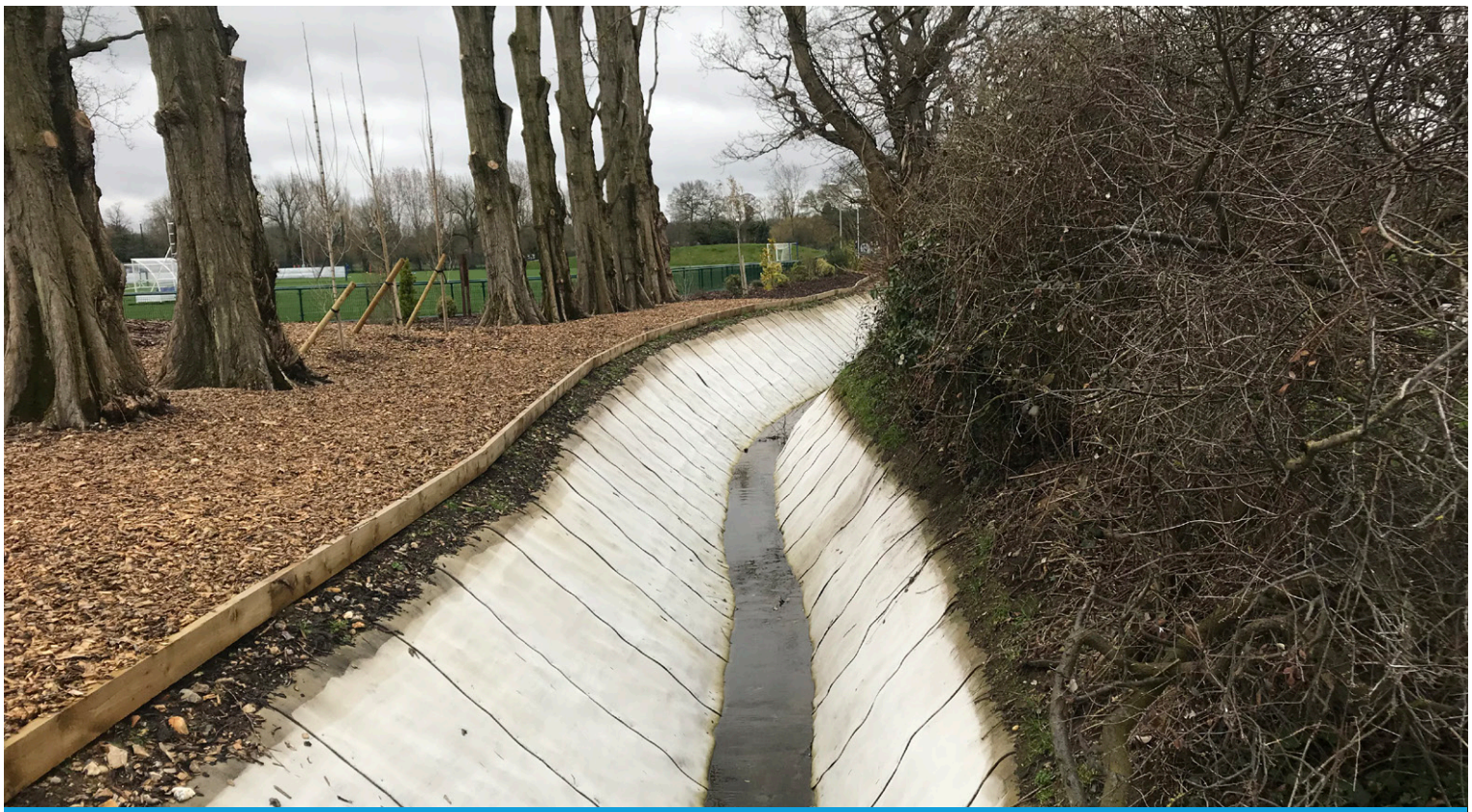


Channel runs along a Network Rail track



Completed channel 9 months after installation

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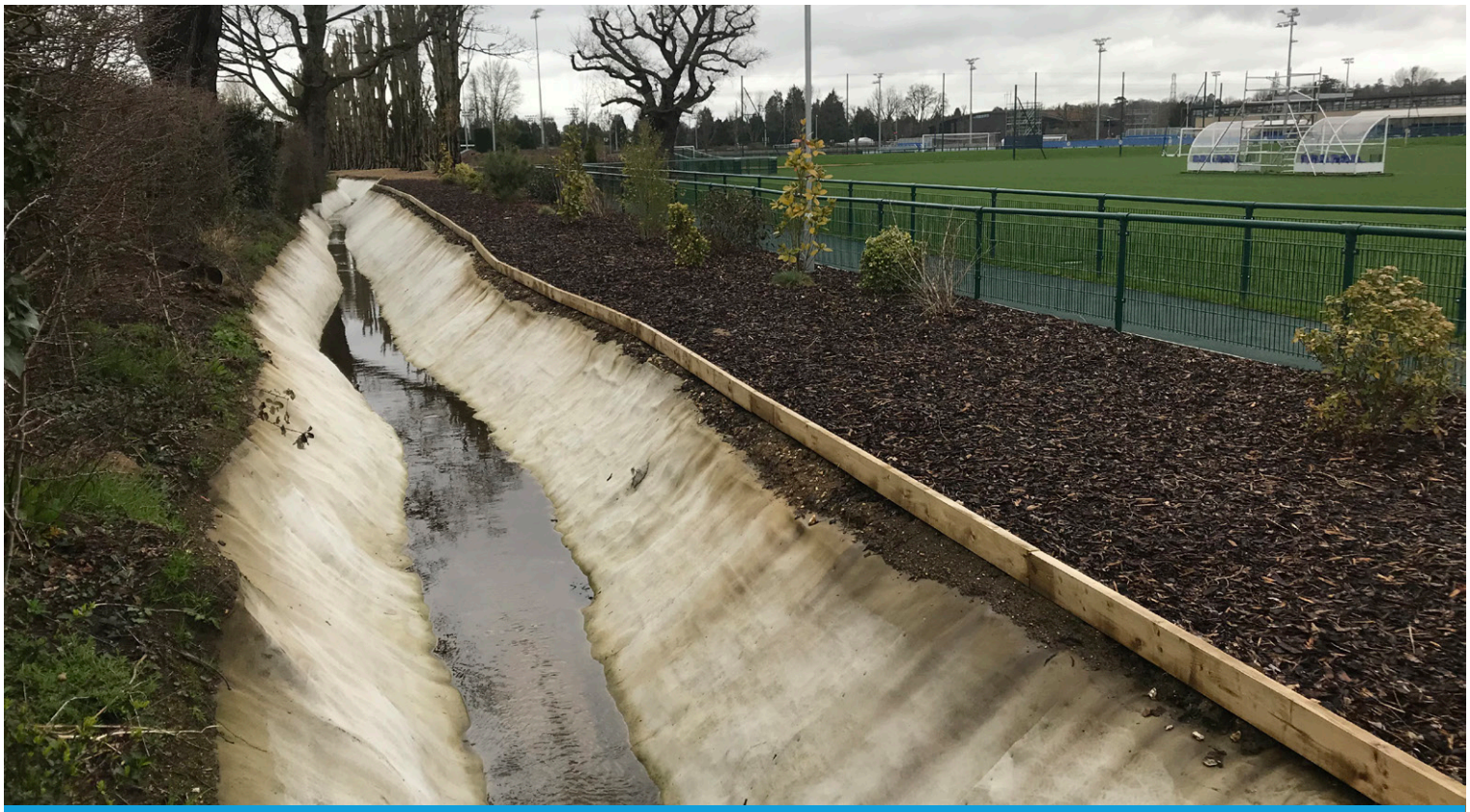

Completed channel installation

In preparation for the installation, the channel was excavated, using excavators or a pick-axe and shovel in areas with restricted access. All vegetation and debris were then removed from the channel, and soft areas of the invert were replaced and filled with crushed concrete. Bulk rolls of CC8™ and CC13™ were then delivered to site, mounted onto a spreader beam on a stand, and cut to profile length before being transported to the channel. The CC was then laid transversely across the channel, the ends laid in pre-dug anchor trenches and fixed using 250mm ground pegs. Additional layers were then laid with 100mm overlaps which were jointed using stainless steel screws and an auto-fed screwdriver. Anchor trenches were then either backfilled using clay, excavated soil, or in some places, gravel boards were placed on top of the CC end, with stakes through the material, and bark chippings placed on top. In restricted areas around footpaths, the edges of the CC were captured in tarmac. Once installation was complete, the CC was hydrated, and when set, the material was jet-washed to remove mud and create a cleaner channel.

A total of 3,625m² of CC8™, and 80m² of CC13™ were installed in 9 weeks by 2–4 people on any given day; this includes preparation works and stoppages to prioritise works elsewhere on site, as well as an agreement with the football club that works would stop when their First Team were training to avoid disruption.

Since the installation, silt generation has been greatly reduced and the creation of the sump areas, using CC13™, has allowed for easy future maintenance for the removal of leaves and other debris.

"I'm really pleased with Concrete Canvas, it has made maintenance much simpler. Every 6 weeks or so our team sweeps the invert moving leaves and debris that has fallen into the channel to the sump areas where they can be easily removed with a machine."

Jason Griffin
Grounds Manager

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