

Project Info



July 2018



CC5™ Batched Rolls



4,500m²



Transverse and Vertical
layers



Suemasagawa River,
Okayama, Japan



Okaju Co.



CC5™ used to provide
a protective liner to
sand bags used to
rebuild damaged levee
banks



Completed installation at the Suemasagawa River in Japan

In July 2018, Concrete Canvas® (CC) GCCM* was used as an emergency repair solution for embankments of a levee on the Suemasagawa River in Japan.

The levee was originally protected using concrete blocks; however, a heavy flood had damaged the concrete blocks and immediate repair was required to prevent further collapse.

The client specified large sand-filled bulk bags which would be stacked along the damaged section of the channel to provide the required restoration, however a lining solution for the bulk bags was required to protect it from further flooding. CC was chosen to provide the protective liner as it could be installed quickly and easily despite limited access to the site.

Prior to the installation, the damaged concrete blocks were removed and the sand-filled bags were stacked on both sides of the channel. CC was laid over the bags, starting with the lower layer. The CC was captured behind the bags using anchor pegs, and laid transversely across the channel and pinned behind the lower level of bags on the opposite side. Material was then installed vertically down the banks of the channel, with the leading edge captured in an anchor trench at the crest of the levee, deployed down the height of the unlined bank and secured at the bottom. This was repeated along the length of the damaged section, with layers overlapped by 100mm and jointed using stainless steel screws.

*Geosynthetic Cementitious Composite Mat





Channel prior to works



Sand bags in place prior to CC installation



Deployment of CC batched rolls



Placing CC below water



Completed section of installation



CC fixed to remaining concrete blocks using masonry nails & termination bars



Completed installation post-hydration

Water continued to flow through the channel during installation, and was used to hydrate the material post-installation. CC has a working time of around two hours following hydration, allowing the team to install the material without having to stop or re-direct the water flow. CC's low alkaline reserve and washout rate also meant that runoff did not require treatment prior to entering the watercourse.

The works were carried out by three teams of 5 people, along with 5 supervisors from contractor Okaju Co. for the Government of Okayama Prefecture over eight days. A total of 4,500m² of CC5™ batched rolls were installed during the project.