


Project Info

 November 2017


 CC8 Bulk

 170 sq. m.

 Outfall lining

 Kingston, ON

 5 persons

 The installation took 5 hours to complete



In November 2017, 170 sq. m of Concrete Canvas (CC) GCCM, CC8 Bulk was installed as an outfall lining by Pomerleau of the MTO in Kingston, Ontario.

The outfall for a hwy. 401 drainage system was an ongoing maintenance concern as water and debris would overtopped the normal drainage course banks and dump onto a CN railway line during significant rainfall events. Shattered rock that was previously placed to help slow and control the flow was found to be ineffective in channeling the water during periods of high volume flow. Due to these ongoing issues the ministry looked for ways to strengthen and enhance the outfall banks so that the water would stay within a predetermined path along the CN Rail line.

Due to the limited site access, alternative products that were being considered would require longer railway shutdown periods which would result in major back logs and costs for CN Rail. CC was chosen for it's quick installation time and the ease of installation.

The installation took place in overcast conditions with temperatures around 6 degrees Celsius. Site preparations included compacting the ground and installing Jersey Barriers to create a curve, which would redirect water to flow beside the rail line.

An excavator was used to roll out the heavy CC bulk rolls. The CC was seated into the embankment on one side of the drainage course, laid transversely over the ground and over the jersey barriers on the other side of the drainage course. The CC was then sealed with 2 beads of sealant at the joints. Hydration was completed using runoff water from the existing drainage culvert and from a water tank that was brought into site. The installation was completed in only 5 hours with a crew of 5 workers and 1 excavator operator. Installation time could have been reduced if the excavator wouldn't have been required to stop during each train passage.



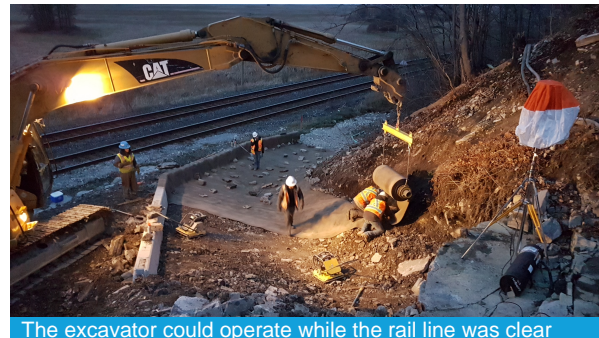
The blasting site prior to installation



Jersey Barriers were installed in a curve to direct water flow



The CC was laid transversely across the outfall



The excavator could operate while the rail line was clear



The CC was covered to retain heat during overnight freezing temps.



The completed project 24 hours later