

CASE STUDY

Barrier | Canal | N4 Watervalboven, Mpumalanga

Sep 2016

Client TRAC N4

Contractor WBHO

Product **Concrete Canvas CC5** | 50m²

Consultant SMEC

Rep Christiaan van Wyk

Problem

Gradual degradation of the galvanised layer of the corrugated steel culvert had led to corrosion of the exposed steel measuring 48 m in length and 900 mm in diameter, was in need of remediation.

The culvert was situated between steep side slopes with its inlet lying approximately 6 m below road level and the outlet a further 6 m lower, making it difficult to access to repair by conventional methods.

Solution

Prior to installation of **Concrete Canvas CC5**, the culvert was cleaned of all debris and standing water. The head wall at the inlet end, was chipped away in order to create an exposed edge for attachment of the GCCM material. Man-portable rolls of **Concrete Canvas** were cut to more manageable lengths of eight metres and carried down the slopes to be manually drawn through the culvert.

Once in position, each length and its 100 mm overlap were pop riveted onto the existing steel culvert. To complete installation, the **Concrete Canvas CC5** was well hydrated by hose. Within 24 hrs, 80% strength (30MPA) was attained and after ten days, the **Concrete Canvas** was fully set.

Benefits

The decision to use **Concrete Canvas** for this project instead of completely replacing the culvert, meant heavy equipment wasn't necessary and no disruptions to traffic were incurred.



Concrete Canvas was manually pulled through the culvert



Concrete Canvas was pop-riveted to the existing steel culvert



Once hydrated, 80% of the strength was achieved in 24 hours