



Carbonation had combined with low concrete cover to cause severe concrete deterioration



The Preservation Technologies team used hydrodemolition to expose and clean the steel



The finished job met expectations of the client and project managers

PRESERVATION TECHNOLOGIES

CASEFILES

Site team repairs and gives long-life protection to four-cell culvert

The problem: Large scale deterioration of the concrete in the lower half of all walls within the four cell, 80 m long culvert. Corrosion was driven by high levels of carbonation and low concrete cover.

The constraints: The culvert was subject to flooding and also strict EPA guidelines were to be adhered to. Not all cells could be worked on at one time due to OH&S requirements. A civil contract was also undertaken at the same time as the repair works. Debris and mud from the culvert floor was difficult to remove.

The solution: Comprehensive site management plan was developed to deal with the major constraints in undertaking the works. Safe work lighting and ventilation fans were installed to conform to OH&S issues. Continuous project planning, regular site meetings and co-operation with the civil project contractor enabled the project to be delivered to a high level of quality.

The methodology: All deteriorated concrete

areas were marked out by the RTA/Transfield representative.

The team used hydrodemolition to breakout the defective concrete and clean exposed steel until non-corroding steel was reached.

New reinforcing steel was installed and all exposed steel coated with a primer. Sacrificial anodes were placed in specific areas close to the floor and wall interface. A sprayed gunite was used to repair all defective areas. Finally two coats of an abrasive resistant epoxy coating system were applied to all cell walls and soffits.

The results: All four cells repaired and protected for the long term without any OHS&E incidents. The client was extremely happy with the outcome.

Client project manager: Transfield Services/RTA.

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Completed: August 2005.

30th November 2005



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John

The purpose of this correspondence is to pass on my gratitude for the works recently completed by Preservation Technologies at Blacktown Culvert near Seven Hills Railway Station. Operations included;

- Project scoping and consultation
- Hydro-demolition
- Treatment of reinforcement and concrete substrate
- Installation of Galvashield XP sacrificial anodes
- Shot patching
- Anti-carbonation coating

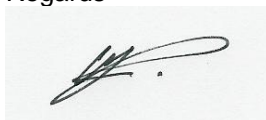
As part of our core road maintenance contract with the NSW Roads and Traffic Authority, Transfield Services have been regularly engaged to manage many major civil infrastructure improvement projects over the past ten years. In this instance, Preservation Technologies were the successful tenderer and engaged on a subcontract basis to assist project procurement. In addition to competitive pricing, success was based on Preservation Technologies' industry-wide reputation of providing a consistent and professional commitment to quality, safety, environmental management and productivity.

Given the numerous constraints and restrictions that abound works adjacent to Sydney's main roads, Transfield Services openly encourage cooperation in developing innovative and economical solutions. On this occasion, proposed methodologies and product choices were refined through a partnering approach, which assisted Transfield Services in delivering a superior end product to our client.

As safety is our primary focus, whether it be process, personnel or public, your crews demonstrated a rare professionalism in the execution of their duties. They worked side by side with our crews in a cooperative and harmonious manner with zero disputes or incidents. Their skill, timeliness and flexibility contributed highly to the successful procurement of this project. Please pass on my personal thanks to those involved.

Thank you also John and Peter for your involvement and valuable advice. We look forward to future dealings with Preservation Technologies.

Regards



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