MARINE

BUNBURY PORT AUTHORITY

BUNBURY PORT AUTHORITY BERTH 1 & 2 REMEDIATION PROJECT

INFORMATION

PROJECT NUMBER
14.10.8030

LOCATION
Western Australia

CONTRACT DURATION
Feb 14 - Jul 16

VALUE
$2,250,000

CLIENT CONTACT
Kevin Wheeler
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SERVICE OFFERING

Concrete repair
Cathodic protection
Design & construction

PROJECT SUMMARY

Duratec was awarded a five-year design and construct contract by the Bunbury Port Authority for the remediation of the outer harbour's berth's 1 and 2.

SCOPE OF WORKS

The project involved a structural analysis of the deck capacity, technical condition survey of the reinforced concrete wharf piles, a review of the land-back reinforced concrete retaining wall, and a geotechnical review and remediation of the land-back embankment.

The pile survey resulted in the repair of the piles and included hydro-demolition of the outer concrete, repair of the steel reinforcing, the addition of sacrificial anodes and the reinstatement of the cover concrete.

In total 77 piles will be remediated over the five year contract with 14 being completed in the first year.

Corromap analysis was performed to determine the likelihood and potential of corrosion.

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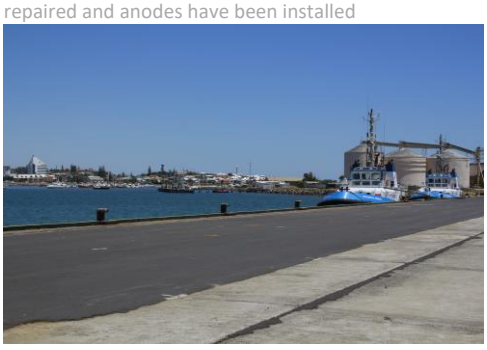
HIGHLIGHTS

- Challenges included working in a sensitive marine environment, high tides and storm surges and accommodation of shipping movements.
- A complex scaffolding system was installed to provide access to all work fronts.
- Custom design steel formwork was used to reinstate the cover concrete.
- A highly fluid, shrinkage compensated micro-concrete was pumped by a grout pump through access holes drilled into the wharf's deck and into the formwork.
- The project will continue until 2019.
- This project won an ACRA Award for Excellence in 2014.

Completed pile ready for further protection with the application of a silane siloxane.

Degraded concrete has been removed, reinforcing repaired and anodes have been installed

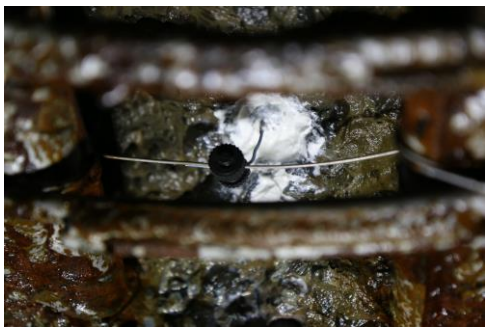
Overview of the piles that require remediation.



Overview of the wharf deck.

Custom-made steel formwork was used to reform the cover concrete.

Welding of reinforcing and ligatures.



Anodes were installed and wired up to the reinforcing steel.

Complex scaffolding arrangement allowed full access to the work front.

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