

Integrity Of Heritage Sea Wall Restored

INDUSTRY

Heritage

STRUCTURE

Seawall

PROBLEM

Void filling and sealing

LOCATION

Victoria, Australia

DURATION / YEAR

15 days / 2011

TECHNOLOGY

Structural Grouting

BUSINESS UNIT

Mainmark Australia



Summary

On the notorious “shipwreck coast” in Southwest Victoria, Australia, the heritage-listed Warrnambool Sea Wall, built by hand in 1880 takes the full force of the Great Southern Ocean. Over the years, the water action undermined the structure of the wall and eroded the concrete blocks, allowing large volumes of water to travel right through the wall body and exit out on the harbour side of the wall.

A system needed to be found to protect the wall’s integrity for future generations, and our method of injecting engineered structural resin was selected.

Objectives

The project design was to deliver Uretek resin directly into the face of the wall, penetrate the joints and seal the wall.

Solution

An initial trial was conducted and proved to be successful. Council set up a crane on the wall to have the works done from an elevated basket, which was instrumental in achieving a good outcome for the works, as well as for the safety of our Operations people.

A 50mm floating containment boom was used to prevent the escape of any cured Uretek resin.

This was a difficult and challenging job, and eventually it was decided to deliver the material through the back of the first row of blocks and drill through the top block to locate the voids.

Drilling was tough going and very abrasive on the drill bits, due to the blue ballast rock, and the presence of an old railway line running through the site, but eventually the Operations Crew succeeded in detecting and filling all the significant voids.

The sea wall works to prevent further erosions were successful and any excess cured material liberated during injection was easily contained by the use of a floating boom, and recovered from the ocean.

Above: The sea wall built by hand in 1880 was eroded by the force of the ocean and needed a great deal of sealing by Uretek Deep Injection.