



# HYDROGRAPHIC SURVEYS ENSURE SEA WALL BUILT WITHIN DESIGN TOLERANCES

**PROJECT:** Ocean Reef Marina seawall survey - Ocean Reef, Western Australia **CLIENT:** WA Limestone and Italia Stone

## PROJECT BACKGROUND

Located in Ocean Reef, Western Australia, the 80ha Ocean Reef Marina is a development project which seeks to construct a new marina with commercial and residential areas at the existing Ocean Reef Boat Harbour.

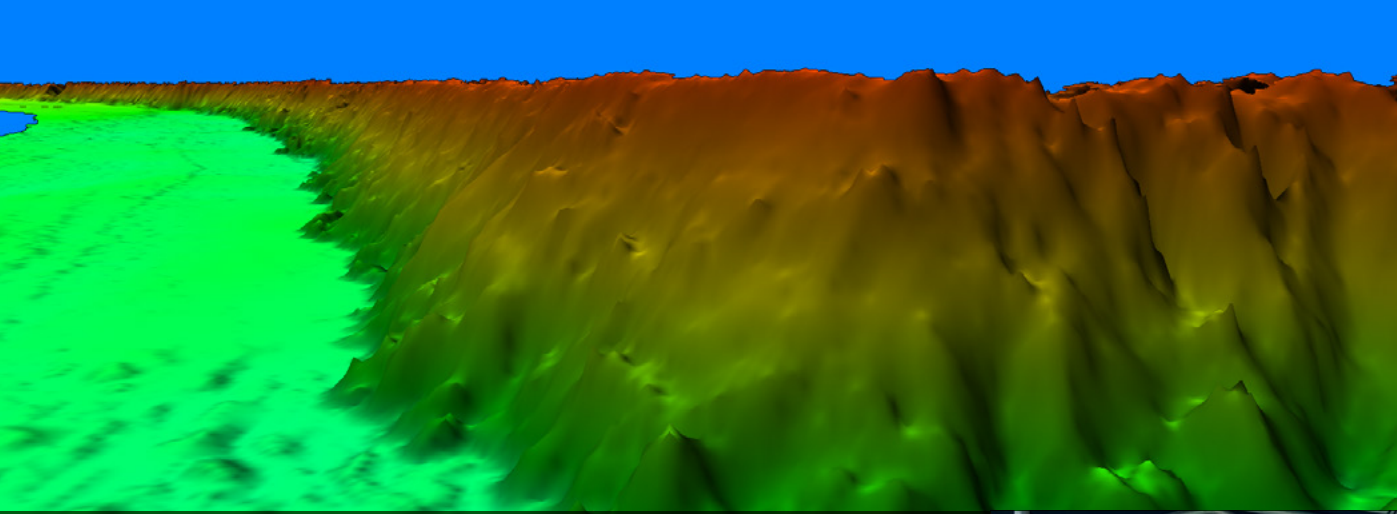
Ocean Reef Marina, located approximately 30km north of Perth, is set to become a world-class waterfront precinct. Estimated to have 550 boat pens and stackers, it will also include Perth's first ever coastal pool. With over a thousand dwellings, the waterfront precinct will provide a range of residential, recreational, tourism, and boating facilities and employment opportunities.

Construction of its two breakwaters started in April 2021 and the overall marina and residential estate project to be fully completed in 2036.

Two overlapping seawalls were to be constructed to protect the marina from the Indian Ocean in an area known for several surf breaks along the coastline. Each seawall was over 600m in length and extended over 400m from the existing shore.

To ensure the seawall was constructed within the design specifications, a series of hydrographic surveys were necessary. The survey information needed to be processed, checked, and presented to the client in an expedient manner to ensure the seawall was within tolerance and progress payments could be claimed.

MNG was engaged to provide the required hydrographic surveys, in support of this joint venture between WA Limestone and Italia Stone Group.



MNG WAS ENGAGED TO PROVIDE THE REQUIRED HYDROGRAPHIC SURVEYS, IN SUPPORT OF THIS JOINT VENTURE BETWEEN WA LIMESTONE AND ITALIA STONE GROUP.

## CHALLENGES

Prevailing ocean conditions with a high swell environment presented challenges for the MNG survey team. Overcoming these challenges required meticulous timing (to ensure the survey was conducted in optimal conditions to achieve project specifications, safely), skilled operators utilising customised equipment, and appropriate methodology.

## SOLUTIONS

Safety on water is paramount for all projects, hence Safe Working Method Statements (SWMS), fully qualified personnel and bespoke equipment were mandatory for the project.

MNG's hydrographic surveyor utilised the purpose-built hydrographic survey boat equipped with a multibeam MultiBeam EchoSounder (MBES) to conduct progress surveys along the offshore and inshore sections of the seawall.

Using customised software, the survey vessel navigated predetermined run-lines using GPS

positioning, while the MBES captured a swathe of the seawall and ocean bed beneath the survey vessel.

Subsequent run-lines were then collated to provide one homogenous model of the seawall which could be checked against the design model and specifications.

## OUTCOMES

Construction of the seawall is ongoing, however MNG provided accurate and high-quality data files of the construction and placement of over 1,000,000 tonnes of rock within the Ocean Reef Marina. The survey is as-constructed to ensure the project met design parameters and was used for progress payments.

## TALK TO US

**MNG provide innovative and personalised solutions for all projects. Talk with us today to find out more. Email [info@mngsurvey.com.au](mailto:info@mngsurvey.com.au) or visit [mngsurvey.com.au](http://mngsurvey.com.au)**