

“Where will our knowledge take you?”

Coastal and Maritime Structures

Physical Modelling



“BMT JFA has considerable experience in the planning, design, operation and management of physical modelling studies and has overseen the testing of both 2-dimensional and 3-dimensional models.”

Physical models are used to simulate the hydraulic and structural responses of coastal and maritime structures. When compared with numerical models and empirical methods, they can provide a more accurate representation of the processes of wave transformation, wave run-up, overtopping and transmission, wave forces, currents and sediment transport. They can also be used in validating numerical model outputs.

BMT JFA has considerable experience in the planning, design, operation and management of physical modelling studies and has overseen the testing of both 2-dimensional and 3-dimensional models. This has included the testing of breakwaters, seawalls, wharf structures, scour protection works and port and harbour layouts. Through analysis and interpretation of the model results, BMT JFA has developed optimised designs that provide improved performance and significant project cost savings.

Key Capabilities:

- Breakwater and seawall structures
- Wharf structures
- Scour protection works
- Port and harbour layouts.

Related Projects:

- Oakajee Port Development
- Cape Lambert 320 Mtpa upgrade
- Gorgon, Barrow Island Pioneer MOF.

Services Offered:

- Review and assessment of physical modelling requirements
- Identification and selection of appropriate laboratories and laboratory facilities
- Specification of testing conditions and testing program to confirm design requirements
- Development of scope of work documents
- Tender preparation, evaluation and contract management
- Supervision and management of laboratory testing
- Review of model results to confirm design requirements
- Interpretation of model results for design optimisation and project cost savings.