

# NEW RAPID BAY JETTY

## DESIGN SCOPE

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### Primary Criteria

The New Rapid Bay Jetty should have a minimum length of 260m in order to reach reasonably deep waters and a minimum life span of 40 years. Interested parties are to supply a total cost estimate broken down in (a) cost of required geotechnical investigations, (b) cost of final design and associated specification, and (c) cost of construction. Construction costs should be supplied for the minimum 260m length jetty and include a unit rate \$ per length of jetty to extend it past the 260m.

### Project

The new jetty should provide safe access for divers, anglers and tourists to the deep waters of Rapid Bay. The safe access for divers should be right to the water and should provide sufficient deck space for anglers and visitors.

### Location

The jetty is to be constructed east of the existing jetty. The location of the land end of the jetty should be no closer than 30 metres from the existing jetty. The seaward end of the jetty should be approximately 30 metres east of the existing jetty. These locations will depend on the results of the geotechnical investigations and environmental impact assessment. Benchmarks are to be provided by DTEI.

### Design Considerations

The structure is to be a pedestrian jetty. No public vehicular access will be permitted, however it must cater for light maintenance and emergency vehicles.

The length of the jetty will depend on cost but the target should be to reach 300m.

The width of the majority of the jetty should be some 3.6 m. The jetty can be wider at several points along the structure above deep water to accommodate anglers. The last span should be widened to approximately 4.8 meters to accommodate anglers.

An access for divers to safely enter and leave the water is required at the north western end of the jetty – along side and not under the jetty. The access should be in the form of a stair case like structure [not a ladder] and should have two landings. The top landing at jetty deck level should be at least 1.2 m X 1.2 m. The second landing, between the deck and low tide level, should be at least 1.2 m X 3 m; it should be approx 1.5 metres above high tide.

The treads of the stairs should be larger than normal [approximately 300mm tread with 160 mm riser as per AS 1657-1992 Clause 4.3.1] to cater for divers wearing fins. The stair should extend to

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0.5 metre below mean low tide level and have a ladder extending further into the water for approximately 1.2 m below the last step.

The stair and platforms should be made of marine grade mesh to ensure free draining. The stairs and platforms are to have guard rails on both sides. An opening 900mm should be provided on the western side at the second landing. The stairs should be of a material suitable for longevity in the marine environment, e.g. stainless steel. Stairs and ladders shall conform to all relevant AS codes.

The jetty will not have any vessel mooring points associated with the divers' staircase.

A centrally located shelter of at least 5 m length, primarily to provide wind protection, should be provided. Although the location could be within the last span, final location will be decided in consultation with DTEI.

The shelter should include a solid middle dividing wall to provide wind protection and appropriate seating. The roof should be designed to minimise the potential to use the shelter as a diving platform. The location of the shelter shall allow for wheel chair / emergency vehicle access to the end of the jetty.

A guard rail along the jetty is required. The design should meet AS 1657-1992 Clause 3.4 and shall be a post and 3 rail design type that allows people to sit on the edge of the jetty.

Seating at the "wide" sections of the jetty and within the last span should be considered provided this does not impede wheelchair access or emergency and maintenance vehicle access.

Lighting to provide for safe night walking along the jetty is required. In addition, the shelter shed and diver's stair case will need to be lit. Standard of lighting shall conform to relevant AS codes.

A formed path along side the jetty on the foreshore to provide access to the Bay for swimmers is to be considered if it can be constructed at a low cost. The path should extend into the water like a "pedestrian boat launching ramp".

All technical consultation will require the participation of the Marine Facilities Section of DTEI.

### **Quality Assurance**

The design life of the structure should be at least 40 years. The Contractor shall provide an Asset Maintenance Plan covering the design life of the structure.

Durability / design life of the jetty structure is one of the main concerns of this project. It is the expectation not to be conducting major repairs for the first 15 years of the structure's life. Quality Control (especially of any mix design from concrete suppliers and compaction/curing by pre-cast manufacturers – if applicable – for control of shrinkage cracking) is vital to ensure durability of the structure.