Operational policy

Coastal Protection and Management Act 1995

Building and engineering standards for tidal works

Operational policies provide a framework for consistent application and interpretation of legislation and for the management of non-legislative matters by the Department of Environment and Heritage Protection. Operational policies are not intended to apply inflexibly in all circumstances. Individual circumstances may require a modified application of policy. This policy provides the minimum building and engineering criteria for tidal works approved under the Sustainable Planning Act 2009.

Policy issue

This policy provides the minimum building and engineering criteria for tidal works approved under the *Sustainable Planning Act* 2009. The works are to be certified by a Registered Professional Engineer of Queensland (RPEQ) or equivalent. This policy is not relevant to the assessment of prescribed tidal work[1], as local governments will assess this component of the application against the prescribed tidal work code in their role as assessment manager.

Determination

The minimum standards or solutions for tidal works are set out in a code which is contained in the table below.

The code is complied with if the performance criterion in column 1 is met or exceeded by the minimum requirements set out in column 2.

Column 1 Performance indicators	Column 2 Minimum acceptable standards
Design and safety - All work	
The tidal works are structurally adequate for its intended location and anticipated usage.	Certification from an RPEQ stating that the works: • are suitable for the intended usage; • are structurally adequate for the intended location and anticipated usage; • are structurally adequate to allow for the scour resulting from flood and tidal conditions; • do not impose loads on existing structures that would exceed the design capabilities of the existing structures (It should be noted that structures includes walls without limiting the definition of structures.); • would not adversely affect the stability of the bed and the banks of the waterway in which the works would be constructed and works designed for significant scour; • are designed and constructed in accordance with all appropriate Australian standards and guidelines except as detailed in the minimum design criteria listed

[1] For a definition of prescribed tidal work, refer to Schedule 4A of the Coastal Protection and Management Regulation 2003.

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Column 1 Performance indicators	Column 2 Minimum acceptable standards
	below; • do not adversely affect the use of adjacent structures; and have a non-slip surface. The plans submitted with the application are signed by an RPEQ or equivalent. The design criteria are detailed either on the plans or on the Engineer's Certificate.
The boundary of the structures will be visible.	Jetties, pontoons and other structures shall be provided with adequate clearance above the highest astronomical tides. Markers are installed to indicate the extent of the works when inundated. The deck level of the jetty is a minimum of 300mm above the level of the highest astronomical tide at that location, unless fender piles and other markers indicate the presence of the structure when inundated.
Any work does not adversely affect the management of a foreshore by a local government.	A letter from the relevant local government confirming that the works will not adversely affect the management of a foreshore.
Any work situated in a canal shall not adversely affect or restrict the maintenance of the canal profile and associated works.	A letter from the relevant local government confirming that the works will not restrict the maintenance of the canal profile and associated works.
Minimum design criteria	
Tidal works for private purposes is designed in accordance with the minimum design criteria listed opposite.	**A. Private purposes** **1.0 Piled structures for maritime usage** ***Size restrictions***: The piles structure shall have a minimum width of 900 mm and a maximum width of 3000 mm on any part of the deck area. ***Design live loads with no vehicular access***: Single users (single residence): 2.0 kPa Multiple users or structure abutting State Land (esplanade, reserves, etc.): 3.0 kPa **Design live loads with vehicular access:** As per the above design loadings with the addition of the loadings for the maximum sized vehicle to use the structure **2.0 Piled or cantilevered structures for non maritime usage** Design loads to be in accordance with the relevant codes for proposed type of

Column 1 Performance indicators	Column 2 Minimum acceptable standards
	structure. **3.0 Pontoons and gangways** ***Design live loads:*** Single users: 1.5 kPa Multiple users or structure abutting State Land (esplanade, reserves, etc.): 2.0 kPa Location of access gangways: A minimum of 500mm from any edge of the pontoon. ***Stability:*** The pontoon must be stable at all times. Where the specified live load is distributed over half the width of the pontoon and over the walkway, there shall be not less than 75 mm of reserve buoyancy; the bottom corner will not emerge from the water and the angle of tilt will not exceed 15^{o}. *Note: There must be a suitable physical barrier to prevent unrestricted access to structures for private purposes which abut State Land.*
Tidal works for other than private purposes is designed in accordance with the minimum design criteria listed opposite.	**B. Other than private purposes excluding commercial marinas** **1.0 Piled structures for maritime usage** ***Design live loads with no vehicular access:*** 5.0 kPa Distributed 4.5 kN Concentrated ***Design live loads with vehicular access****:* As per the above design loadings with the addition of the loadings for the maximum sized vehicle to use the structure **2.0 Piled or cantilevered structures for non maritime usage** Design loads to be in accordance with the relevant codes for proposed type of structure. **3.0 Pontoons and gangways** *Design live loads:* Unrestricted access: 3.0 kPa Distributed 4.5 kN Concentrated Restricted access (e.g. Clubs, Schools, Residential Units, etc): 2.0 kPa Distributed 4.5 kN Concentrated Location of access gangways: A minimum of 500 mm from any edge of the pontoon. ***Stability:*** The pontoon must be stable at all times. Where the specified live load is distributed

Column 1 Performance indicators	Column 2 Minimum acceptable standards
	over half the width of the pontoon and over the walkway, there shall be not less than 75mm of reserve buoyancy; the bottom corner will not emerge from the water and the angle of tilt will not exceed 15^{O}. **Note:** There must be a suitable physical barrier to prevent unrestricted access to structures which are designed for restricted access.
Tidal works that is a rowing pontoon is designed in accordance with the minimum design criteria listed opposite.	**C. Rowing pontoons with restricted access** Pontoons that are to be used for rowing clubs or schools, solely for activities associated with the sport of rowing (i.e. involving the launching and retrieval of rowing vessels and small dinghies which are used by rowing coaches) and where access can be managed/controlled. ***Design live loads:*** For structural design: 3.0 kPa For flotation and stability: 1.5 kPa ***Stability:*** The pontoons must be stable at all times. Where the specified live load of 1.5kPa is distributed over half the width of the pontoon and over the walkway, there is positive buoyancy at the edge of that part of the pontoon, on which half of the design load is applied. The bottom corner will not emerge from the water and the angle of tilt will not exceed 15^{o}.
Tidal works that is a boat ramp is designed in accordance with the minimum design criteria listed opposite.	**D. Boat ramps for vehicular use** (For both private and other than private purposes) ***Minimum width:*** 3.6 metres ***Gradient:*** Between 1 in 8 and 1 in 10
Tidal works that is a retaining wall is designed in accordance with the minimum design criteria listed opposite.	**E. Retaining walls** (For both private and other than private purposes) ***Factor of safety for overturning and sliding:*** 1.5 minimum ***Allowance for erosion at toe of wall:*** Minimum depth of 600 mm
Tidal works that is a pipeline or underground service connection is designed in accordance with the minimum design	**F. Pipelines and Underground Services** (For both private and other than private purposes) ***Depth of embedment:*** A minimum of 1.2 metres below the natural or design bed level (whichever is deeper)

Column 1 Performance indicators	Column 2 Minimum acceptable standards
criteria listed opposite.	of that area of tidal water.
Tidal works that is a seawall is designed in accordance with the minimum design criteria listed opposite.	**G. Seawalls** (For both private and other than private purposes) ***Design storm event:*** Seawalls must be designed to withstand wave and water level conditions corresponding to the 2% Annual Exceedance Probability (AEP) event, or better – 2% AEP is equivalent to the 50 year average recurrence interval. The seawall is to be designed to not suffer major damage in this event – the proportion of armour units dislodged should not exceed 5%. ***Overtopping:*** Overtopping of the wall by waves is permitted but the design must be such that the structural stability of the wall is unaffected. ***Toe of the wall:*** The toe of the wall must be designed to accommodate potential long term erosion for at least 50 years. As a minimum the toe of the wall needs to be located at or lower than lowest astronomical tide (LAT). ***Water levels:*** Design water levels must allow for a Greenhouse sea level rise of 0.3 metre. ***Other considerations***: The slope of the seawall is to be designed to minimise wave reflection. The end of the seawall must be designed to minimise “end” effects: - effects of the seawall on the adjacent coast. ***Variations:*** The approving authority may relax the criteria for the design storm event subject to the applicant providing adequate justification and information for doing so. Issues that may be considered include, but are not limited to, the importance of the asset begin protected, the consequences of failure of the seawall, implications for public safety, and other local conditions and constraints.

Disclaimer

While this document has been prepared with care it contains general information and does not profess to offer legal, professional or commercial advice. The Queensland Government accepts no liability for any external decisions or actions taken on the basis of this document. Persons external to the Department of Environment and Heritage Protection should satisfy themselves independently and by consulting their own professional advisors before embarking on any proposed course of action.

Approved By

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Signature	Date

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