



Environment,  
Climate Change  
& Water

Draft

Minister's Requirements under the  
*Coastal Protection Act 1979*

---

## Submissions invited

Comments are invited on the four sets of questions in this draft and on any other concerns with the draft. Where concerns are raised, recommended changes to address these concerns would be valued.

Please send your submissions on this consultation draft by email to:

[coast.flood@environment.nsw.gov.au](mailto:coast.flood@environment.nsw.gov.au)

or by post to:

Executive Officer  
Waters, Wetlands and Coast Division  
Department of Environment, Climate Change and Water  
PO Box A290  
Sydney South NSW 1232

## Closing date for submissions

Submissions must be received by **5 pm, Friday 10 September 2010.**

Published by:  
Department of Environment, Climate Change and Water NSW  
59–61 Goulburn Street  
PO Box A290  
Sydney South 1232

Phone: (02) 9995 5000 (switchboard)  
Phone: 131 555 (environment information and publications requests)  
Phone: 1300 361 967 (national parks information and publications requests)  
Fax: (02) 9995 5999  
TTY: (02) 9211 4723

Email: [info@environment.nsw.gov.au](mailto:info@environment.nsw.gov.au)  
Website: [www.environment.nsw.gov.au](http://www.environment.nsw.gov.au)

© Copyright State of NSW and Department of Environment, Climate Change and Water NSW. The Department of Environment, Climate Change and Water and the State of NSW are pleased to allow this material to be reproduced for educational or non-commercial purposes in whole or in part, provided the meaning is unchanged and its source, publisher and authorship are acknowledged.

Disclaimer: Although every reasonable effort has been made to ensure that this document is correct at the time of publication, the State of NSW, its agencies and employees, disclaim any and all liability to any person in respect of anything or the consequences of anything done or omitted to be done in reliance upon the whole or any part of this document. No representation is made about the accuracy, completeness or suitability of the source material included in this document for any particular purpose. Readers should consult the source material referred to and, where necessary, seek appropriate advice about the suitability of this document for their needs.

ISBN: 978 1 74232 896 6  
DECCW 2010/706  
July 2010

# Contents

<b>Note for consultation draft</b>	<b>ij</b>
<b>Explanatory notes</b>	<b>ij</b>
<b>Definitions</b>	<b>v</b>
<b>1 Requirements under section 55P(2)</b>	<b>1</b>
1.1 Circumstances where the works are permitted	1
1.2 Allowable emergency coastal protection works	2
1.3 Material specifications	2
1.4 Construction requirements	3
1.5 Use of public land	5
1.6 Removal of works	5
<b>2 Requirements under section 55R(1)(c)</b>	<b>5</b>
<b>3 Requirements under section 55Y(1)(a)</b>	<b>6</b>
<b>4 Requirements under section 55ZA(3)(a)</b>	<b>6</b>
<b>5 Requirements under section 55ZC(4)(a)</b>	<b>6</b>

## Note for consultation draft

This draft document has been prepared to support the *Coastal Protection Act 1979* once amended by the *Coastal Protection and Other Legislation Amendment Bill 2010*, which is currently being considered by the NSW Parliament. The document refers to sections of the *Coastal Protection Act 1979* that this Bill proposes to include and/or amend. The section numbers referred to in this draft are those in the Bill as introduced into Parliament.

This document has no statutory basis and current statutory requirements relating to the placement of sand or sandbags on beaches by landowners to reduce coastal erosion impacts should be followed. This may include requirements under the *Environmental Planning and Assessment Act 1979*, the *Crown Lands Act 1989*, the *Roads Act 1993*, the *Coastal Protection Act 1979*, the *Fisheries Management Act 1994* and the *Marine Parks Act 1997*. Details of these Acts can be found at [www.legislation.nsw.gov.au](http://www.legislation.nsw.gov.au).

## Explanatory notes

**Note:** These explanatory notes do not form part of the gazetted Minister's Requirements and are provided for guidance only.

The primary purpose of this document is to detail the Minister's Requirements related to the following sections of the *Coastal Protection Act 1979*:

- placing material that forms part of emergency coastal protection works under the provisions of section 55P(2)
- maintenance of emergency coastal protection works under the provisions of section 55R(1)(c)
- removal of emergency coastal protection works under the provisions of section 55Y(1)(a)
- removal of certain material and structures unlawfully placed on beaches under the provisions of section 55ZA(3)(a)
- restoration of land, including public land, under certain circumstances under the provisions of section 55ZC(4)(a).

These requirements are to be read in conjunction with the Act and any regulations under the Act.

These Minister's Requirements were published in the Government Gazette of [date to be inserted when gazetted] by the Minister for Climate Change and the Environment for the purposes of the above sections of the Act.

These Minister's Requirements may also be useful for local councils and other public authorities considering the use of emergency coastal protection works, although the statutory requirements relating to these works relate specifically to works by private landowners or their agents.

## Definitions

The following is a list of definitions for terms used in these Minister's Requirements.

**Beach, emergency action subplan, emergency coastal protection works, public land and residential building:** have the same meaning as in the *Coastal Protection Act 1979*.

**Professional engineer:** a person registered by the National Engineering Registration Board as a professional engineer in the civil engineering general area of practice or the equivalent registration under the *Queensland Professional Engineers Act 2002*

**The Act:** the *Coastal Protection Act 1979*

**The works:** emergency coastal protection works

**Section:** a section of the Act

In the event of inconsistencies between these requirements and the Act or a regulation under the Act, the Act or the regulation take precedence.



# 1 Requirements under section 55P(2)

## 1.1 Circumstances where the works are permitted

For the purposes of section 55P(2)(b), it is likely that beach erosion is imminent or likely to be imminent when the distance between the most seaward part of a wall of an existing residential building or commercial building on or adjoining the site and the most landward extent of the sand dune erosion escarpment is less than 10 metres. This distance is to be confirmed in writing by a registered land surveyor or an authorised officer under the Act before the placing of works is to commence.

### Questions for consultation draft:

This draft proposes that erosion is imminent or reasonably likely to be imminent based on the distance of a building from the erosion escarpment. Various combinations of tidal conditions and weather forecasts have been investigated as potential definitions of imminent erosion; however, no suitable combination has been identified that allows for the safe placement of the works. Is the proposed definition of imminent erosion appropriate? If not, what definition should be adopted?

In addition to the requirements under section 55P(2)(e), the works can only be placed:

- at the authorised locations noted in Schedule 1 of these Minister's Requirements
- using the authorised beach accesses noted in Schedule 1 of these Minister's Requirements, where the works are to be placed on or adjacent to public land that is a beach
- without disturbing the exclusion areas noted in Schedule 1 of these Minister's Requirements
- where no form of coastal protection such as a seawall, constructed lawfully or unlawfully, exists seaward of the building, unless the landowner provides an authorised officer with a letter from a professional engineer certifying that these works will provide a lower degree of erosion protection than emergency coastal protection works; this letter is to be provided with the application for a certificate under section 55T
- without disturbing fenced and signed dune restoration areas, unless prior written approval is obtained from the public authority managing the area
- without disturbing vegetation other than grass or other non-woody vegetation on public land, unless prior written approval is obtained from the public authority managing the area.

For the purpose of these requirements, sand dune erosion escarpment refers to the eroded seaward face of a dune located landward of the location of the proposed works, where the seaward face of the dune is at or steeper than the natural angle of repose of dry sand (1 vertical to 1.5 horizontal or 34° to the horizontal) and is more than 0.5 metres high where the works are to be placed.

Works can only be placed during a period of beach erosion when a senior police officer, as defined in the *State Emergency and Rescue Management Act 1989*, advises that the area is not unsafe for placing the works and a professional engineer certifies that the escarpment has a low likelihood of failure.

**Questions for consultation draft:**

The Bill intends to amend the Act to allow for works to be placed during a period of beach erosion. To minimise safety risks, this draft proposes that works only be placed when considered not unsafe by a senior police officer and a professional engineer. It is recognised that this will result in only rare occasions when works could be placed during beach erosion. It is important that the Minister's Requirements specify the conditions relating to placing works during a beach erosion period, otherwise no requirements beyond those in the Act will apply. Are these requirements appropriate? If not, what requirements should be adopted?

## 1.2 Allowable emergency coastal protection works

There are four acceptable types of works for emergency coastal protection:

- geotextile sand-container toe protection works (type 1)
- placed sandbag toe protection works (type 2)
- sandbag toe protection (type 3)
- beach nourishment (placed sand) (type 4).

## 1.3 Material specifications

### 1.3.1 Sand

Sand for all works (including filling of geotextile containers, sandbags and direct placement) is not to be obtained from the landowner or occupier's land, public land, dune excavation, beach scraping of foreshores, or dredging unless all necessary approvals are obtained under applicable legislation.

Sand for use in the works shall not contain heavy metals or other toxic contaminants exceeding the criteria under the National Environment Protection (Assessment of Site Contamination) Measure 1999 and is to comply with the following additional requirements:

Sand origin	marine or riverine
Main constituent	silica (in the form of quartz)
Median sieve size (d50)	0.15 to 0.5 mm
Fines content (<75 µm)	≤5%
Colour	not dissimilar to the colour of the sand of existing dunes within the vicinity of the works

Grading curves for sand are to meet the Australian Standard (AS) 2758 (1996–2009).

A written statement from the sand supplier certifying that the sand meets these requirements and stating that the sand source is to be provided to the local council within seven days of placing the works is required.



### 1.3.2 Geotextile material

Geotextile material used in the works is to have the following minimum characteristics to meet the AS 3706 series (2000–2004):

Thickness	5 mm
California bearing ratio burst strength	5.5 kN
Tensile strength in machine direction	20 kN/m
Tensile strength in cross-machine direction	45 kN/m

Non-woven, staple fibre, needle-punched geotextile is to be used. Containers manufactured from geotextile material meeting these requirements are to have a nominal volume of 0.75 m<sup>3</sup> when filled with sand.

### 1.3.3 Sandbags

Sandbags used in the works are to be made of woven polypropylene and comply with the following requirements:

Tensile strength in all directions	≥3 kN/m to AS 3706
Nominal weight when filled with dry sand	≥18 kg

## 1.4 Construction requirements

### 1.4.1 Safety requirements

No materials or equipment are to be placed on the dune landward of the erosion escarpment for a distance from the escarpment of at least 1.5 times the height of the erosion escarpment. A safety fence is to be located at this location and personnel are not to use this area while placing the works. Excavation of the escarpment is not permitted. All construction equipment is to be operated by experienced and appropriately trained personnel.

The placement of the works is to be carried out in a manner that minimises the likelihood of subsidence or collapse of the escarpment. Should a significant collapse of the escarpment occur, work is to cease until the escarpment is stable. If the escarpment is greater than approximately 2 metres in height, works are to be placed particularly carefully against the escarpment. If a significant collapse of an escarpment greater than 2 metres in height occurs, works are to be suspended until the landowner provides a report to the authorised officer who issued the certificate under section 55T prepared by a professional engineer stating that in their opinion, there is a low likelihood of failure of the escarpment.

When works are placed under imminent or reasonably likely to be imminent criteria in section 55P(2)(b), works must:

- be placed within 3 hours either side of low tide
- not be placed when the Bureau of Meteorology has issued a severe weather warning for large waves or damaging surf.

When works are placed under the criteria in section 55P(2)(b) that erosion is occurring, the works are to be placed in accordance with the requirements specified by the senior police officer and professional engineer under clause 1.1.

**Questions for consultation draft:**

Minimising safety risks during the construction and maintenance of these works is important. This draft includes generic safety requirements – site-specific requirements can be included in an emergency action subplan. Are the proposed requirements in this draft appropriate? If not, what changes should be made?

**1.4.2 Geotextile sand-container toe protection works (type 1 works)**

Geotextile containers are to be filled with sand to as close as practical to 100 per cent capacity. The containers are to be placed (where this is practicable) with the long axis perpendicular to wave action in a single-layer stretcher bond pattern against the erosion escarpment. All sand-filled containers are to be placed by mechanical equipment, not by manual labour. Limited excavation of the beach is acceptable to enable the bottom course of geotextile containers to be placed horizontally.

A double-layer of geotextile containers is to be placed seaward of the bottom course of the revetment (where practical). A geotextile underlayer is not required between the containers and the backing slope for these works. The works are to be a maximum height of 1.5 metres.

**1.4.3 Placed sandbag toe protection works (type 2 works)**

Sandbags are to be filled with sand with the assistance of a mechanical filling machine or a hand-filling device. Sandbags are to be filled to approximately two-thirds of their capacity and tied. Sandbags can be placed by mechanical equipment or manually. The sandbag revetment is to be made (where practical) using alternate courses of 'headers' and 'stretchers' against the toe of the escarpment, similar in arrangement to English Bond brickwork. 'Headers' are sandbags placed end-on to the wave direction, with the neck facing away from the wave direction; 'stretchers' are placed side-on to the wave direction, with the seam opposite the wave direction. The bottom course of sandbags is to be laid as 'headers', with the necks folded over and facing away from the direction of wave action.

Minimal excavation may be required to set the bottom course of sandbags on a level platform to improve stability. A double-layer of sandbags is to be placed seaward of the bottom two courses of the revetment. The works are to be a maximum height of 1.5 metres.

**1.4.4 Sandbag toe protection (type 3 works)**

Sandbags are to be filled and tied in accordance with the requirements for type 2 works. The filled sandbags are then to be lifted and dropped into place manually at the toe of the escarpment. There is no required placement pattern. Works are to be a maximum height of 1.5 metres.

**1.4.5 Beach nourishment (type 4 works)**

Sand is to be placed adjacent to the dune escarpment to act as a sacrificial 'buffer' against erosion processes. Imported sand is to be placed directly against the erosion escarpment. Sand may be tipped against the erosion escarpment by a truck or progressively placed by an excavator from below or seaward of the escarpment.

## 1.5 Use of public land

A person may use public land to access the location where works are to be placed or for the purpose of placing or maintaining the works. When there is no certified emergency action subplan for the area where the works are to be placed, the following conditions are to be met for the use of public land:

- where authorised access routes are blocked by a gate or similar structure, prior arrangements are to be made with the relevant public authority to unlock the gate for use of the access routes
- damage to assets on public land is to be rectified to the satisfaction of the relevant public authority within 30 days
- the location where the works are being placed and associated earthmoving equipment, or other vehicles operated for the purpose of placing or maintaining the works, are to be surrounded by an effective safety fence until the placement or maintenance is complete
- public safety risks from the use of earthmoving equipment and other vehicles involved in placing the works are to be minimised.

### Questions for consultation draft:

Minimising impacts on public lands is important. This draft includes generic requirements – site-specific requirements can be included in an emergency action subplan prepared by council. Are the proposed requirements in this draft appropriate? If not, what changes should be made?

## 1.6 Removal of works

In addition to other requirements under the Act, the works are to be removed within seven days if the alignment of the sand-dune erosion escarpment adjacent to the works:

- is located more than 3 metres landward of the works
- is, in the opinion of an authorised officer, reasonably likely to move from public land onto private property (other than the property benefiting from the works), without the written permission of the owner, where the escarpment was not located on this property when the works were begun.

## 2 Requirements under section 55R(1)(c)

The prerequisites under clause 1.4.1 of these requirements apply to the maintenance of the works, where reference to placing the works is to be taken as a reference to maintaining the works.

The landowner is to maintain the works to meet the following criteria:

- For type 1 and 2 works, the geotextile sand-containers and sandbags are to remain on or within 2 metres of the base of the erosion escarpment on or directly seaward of the landowner's property.
- For type 3 works, the sandbags are to be located as close as practical to the toe of the erosion scarp (maximum distance from the scarp of 2 metres) on or directly seaward of the landowner's property and on private land as far as possible. If the structure shows signs of collapse or is not within 2 metres of the erosion escarpment, it is to be removed as soon as practicable after the cessation of storm conditions.

- Bags that do not meet the above criteria are to be removed as soon as practical, including bags located elsewhere on the beach which were placed as part of the works.
- Type 1 and 2 works must be maintained such that there is no evidence of structural failure of the works (e.g. slumping), which presents a public safety risk.
- Split bags are to be repaired or replaced. Replaced bags are to be removed and lawfully disposed of off-site.
- Structures that fail, or are damaged by wave action, should be maintained and repaired or removed as soon as practicable after the cessation of storm conditions.
- Dislodged bags are to be moved back to their original position, or if this is not reasonable, removed from the beach and lawfully disposed of as soon as practicable after the cessation of storm conditions.

### **3 Requirements under section 55Y(1)(a)**

When works are to be removed in accordance with the Act, all geotextile containers or sandbags are to be opened and the sand distributed against the escarpment or on the beach resulting in a relatively even beach terrain. Geotextile containers and sandbags are to be removed and disposed of lawfully. No excavation of the dune is to occur during the removal of the works.

Areas disturbed during the removal of the works, including access to the site through public land for the purpose of removing the works, are to be rehabilitated to their pre-existing condition to the greatest extent practical.

Clauses 2.4.1 and 2.6 of the requirements under section 55O(2)(e) are to be followed, where reference to placing works is to be read as a reference to the removal of works.

### **4 Requirements under section 55ZA(3)(a)**

Land, assets or vegetation damaged indirectly or directly by the unlawful placement of material or structures are to be rehabilitated to the condition in which they existed prior to the work placement to the greatest practical extent. Works conducted on dunes adjacent to the beach are to comply with clause 2.4.1 of the requirements under section 55O(2)(e) and the use of public land is to comply with clause 2.6 of the requirements under section 55O(2)(e) for circumstances where no emergency action subplan is in place. Access to private property is to be arranged with the landowner.

Rehabilitation is to be completed within 30 days or another time period agreed to by the applicable landowner. The landowner is to be advised in writing when rehabilitation is to commence and within three business days of the completion of the rehabilitation.

Where rehabilitation involves restoration of damaged dunes, this rehabilitation is to be in accordance with the document entitled "Coastal dune management: a manual of coastal dune management and rehabilitation techniques" published by the NSW Department of Land and Water Conservation in 2001.

### **5 Requirements under section 55ZC(4)(a)**

The requirements under section 55U(3)(a) are applicable, where reference to unlawful placement of material or structures is to be read as a reference to placement of emergency coastal protection works.

**Schedule 1 – Authorised locations, beach accesses and exclusion areas**

<b>Authorised locations</b>	<b>Authorised beach access*</b>	<b>Exclusion areas*</b>
Basin Bay/Beach, Mona Vale		
Belongil Beach, Byron Bay		
Bilgola Beach, Bilgola		
Brooms Head, north of the outlet from Cakora Lagoon		
Collaroy Beach, Collaroy		
Hargraves Beach, Noraville		
Narrabeen Beach, Narrabeen		
North Entrance Beach, The Entrance (North)		
Mollymook Beach, Mollymook		
Pearl Beach, Pearl Beach		
Wamberal Beach, Wamberal		
Wooli Beach, Wooli		

\* Note: These details will be developed in consultation with relevant councils and the Land and Property Management Authority during the consultation period of these draft guidelines.