



Environment,
Climate Change
& Water



Guide to the Statutory Requirements for Emergency Coastal Protection Works

Cover photographs: main photo – Evans Head entrance, DECCW; other photos top to bottom – erosion at Old Bar, R. Slatter, DECCW; sandbags at Byron Bay, M. Sharpin, DECCW; sandbags at Byron Bay, M. Sharpin, DECCW

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1 Introduction

This guide will help beachfront landowners and people acting on their behalf to better understand the statutory requirements for installing, maintaining and removing emergency coastal protection works. Emergency coastal protection works are sand or sandbags that meet the requirements under the *Coastal Protection Act 1979* (see section 2 for more details).

Emergency coastal protection works allow landowners to reduce the impacts or likely impacts of coastal erosion on a building or buildings that is or are lawfully used for residential, commercial or community purposes. Landowners have full responsibility and liability for constructing, installing and maintaining these works.

Landowners can construct and install these works for a particular parcel of land under specified conditions for up to twelve months, or for longer if a development application is lodged for longer-term coastal protection works. During this period, landowners should develop a longer-term approach for managing erosion risks to their properties.

Emergency coastal protection works can only be installed at specified locations along the NSW coastline where residential dwellings or commercial buildings at risk from erosion have been identified and there is no public road between the buildings and the beach.

Importantly, these works are likely to provide protection from wave action during relatively small storms or swells which may also coincide with king tides. They may also provide a nominal or limited degree of protection from erosion during medium to large storms; however, they are also likely to be damaged during such storms. As a result, these works are not a long-term management option for coastal hazard threats. They must not result in adverse off-site environmental or erosion impacts.

Under specified circumstances, the legislation allows landowners to:

- install, maintain and remove emergency works in accordance with requirements under the *Coastal Protection Act 1979* and avoid the need for any other approvals under other legislation – these allowable emergency works are relatively small-scale, must not result in off-site erosion impacts and can be readily removed
- apply to construct other types of coastal protection works of a larger scale than emergency coastal protection works and which include long-term protection works or alternate temporary or short-term protection works. These works will need approvals under various Acts, including the *Environmental Planning and Assessment Act 1979*. The landowners will need to demonstrate that they (and their successors in title) commit to maintaining the works and managing any off-site erosion impacts.

This guide summarises the legal requirements that apply to emergency coastal protection works under the *Coastal Protection Act 1979*, the *Coastal Protection Regulation 2011* and the *Code of Practice under the Coastal Protection Act 1979* relating to the placement of material as emergency coastal protection works.

For detailed information on the statutory requirements relating to emergency coastal protection works, refer to:

- the *Coastal Protection Act 1979* – available at www.legislation.nsw.gov.au
- the *Coastal Protection Regulation 2011* – available at www.legislation.nsw.gov.au
- the *Code of Practice under the Coastal Protection Act 1979* (DECCW 2011) – available at www.environment.nsw.gov.au/coasts/coastalmgtdocs.htm – it is a requirement under the *Coastal Protection Regulation 2011* to follow this Code

- any coastal erosion emergency action subplan prepared by the relevant local council – these plans are normally available on the council's website.

This guide was correct at the date of publication; however, the statutory requirements may have changed subsequently and the new requirements take precedence over any information in this guide. For information on current legislation, see www.legislation.nsw.gov.au.

The structure of this guide is as follows:

- section 2 defines emergency coastal protection works
- section 3 provides information on how to obtain a certificate to install emergency works
- section 4 describes the circumstances under which works may be installed
- section 5 describes materials allowable for use in emergency works
- section 6 outlines the minimum construction requirements that apply to emergency works
- section 7 contains guidance on safety requirements during the placing, maintaining and removal of emergency works
- section 8 outlines the allowable use of public land when installing these works
- section 9 advises landowners on preparing to install emergency works on ways in which to save time and money
- section 10 summarises other legal requirements that relate to installing the works
- section 11 provides information on other options for landowner-funded protection works.

A checklist to help landowners understand the requirements and procedures relating to emergency coastal protection works is provided in the appendix.

2 Emergency coastal protection works

Emergency coastal protection works are defined as sand, or fabric bags filled with sand, placed on a beach or a sand dune adjacent to a beach under specific conditions at authorised locations. They are placed for the purpose of reducing the impact or likely impacts of coastal or beach erosion where this threatens a lawfully erected building which is being used for residential, commercial or community purposes. No other material can be placed as emergency coastal protection works.

These works can normally be placed for a period of 12 months. However, if the landowner lodges a development application for coastal protection works within this 12 month period, the works can remain until the development application is determined. If the application is refused, the works need to be removed within 21 days. If the application is granted, the works can remain for any further period specified in the development consent. Landowners can repair damaged works at any time during this period.

The *Coastal Protection Act 1979* specifically excludes placement of rocks, concrete, construction waste or other debris. These materials are not permitted as emergency works, as without adequate and site-specific consideration they may exacerbate erosion of beaches and adjacent land, present a public safety risk and be difficult to remove. Significant penalties apply for using unlawful materials and an order may be issued requiring these materials to be removed at the expense of the person(s) who placed them.

Beachfront landowners wishing to install emergency works for coastal protection need to satisfy a number of conditions or requirements as specified in the Act, the Regulations or the Code of Practice, which include:

- applying for a certificate authorising the placing of the works
- meeting the requirements for circumstances under which the works may be placed
- using sand or fabric bags filled with sand for the works
- meeting construction requirements
- meeting safety requirements when installing, maintaining or removing the works.

The landowner is responsible for constructing the works, and managing their installation and maintenance, as well as managing adverse off-site impacts caused by the works such as end scour or increased erosion, and remediating the site after the works have been removed. Maintenance includes reinstalling bags that have been dislodged or split, and removing any bags that have washed onto beaches away from the works.

As the landowner is also responsible for ongoing public safety risks associated with the works, including the construction of the works, it is recommended that all landowners seek appropriate insurance coverage before initiating any form of emergency coastal protection.

In addition to the extra rights afforded to landowners, this Act also includes powers enabling certain authorised officers appointed by a public authority (e.g. a local council or Department of Environment, Climate Change and Water (DECCW) or Land and Property Management Authority (LPMA)) to issue orders that may require emergency works to be removed or modified if, in the opinion of the authorised officer, they:

- are causing or are likely to cause increased erosion of a beach or land adjacent to a beach
- are unreasonably limiting or likely to unreasonably limit public access to a beach or headland

- pose or are likely to pose a threat to public safety
- have ceased to be emergency coastal protection works.

Under the Act, any person who fails to comply with an order issued by an authorised officer is guilty of an offence and may be prosecuted. In such a circumstance, an authorised officer may carry out the actions specified in the order (e.g. removal of the works) and recover the costs from the landowner through court action.

3 Applying for a certificate to install works

To install emergency coastal protection works, a landowner or their authorised representative must apply for a certificate from an emergency works authorised officer with the local council or DECCW. The authorised officer is likely to inspect the site where the works are to be installed when considering the application for the certificate. Once a certificate is obtained, the works can be lawfully installed and there is no requirement to obtain approvals under other legislation which would otherwise apply.

Information on obtaining a certificate from DECCW is available at www.environment.nsw.gov.au/coasts/emrgncycoastalprotworks.htm.

A certificate may be issued unconditionally or subject to conditions, and requires the payment of a \$110 application fee. The certificate is valid for two years from the date of issue and the landowner may install the works at any time during this period. Once placed, the works need to be removed within 12 months, or longer if a development application is lodged for other coastal protection works.

4 Circumstances under which works may be installed

Emergency coastal protection works can only be installed at specific locations along the NSW coastline; these locations are listed in table 1 and defined in the *Code of Practice under the Coastal Protection Act 1979* (DECCW 2011), available at www.environment.nsw.gov.au/coasts/coastalmgtdocs.htm.

Table 1 – Authorised locations for emergency coastal protection works

Authorised locations for placing works	Authorised beach access
Basin Beach, Mona Vale	Beach access track from corner of Surfview Road and Basset Street (alternate access – adjacent to Mona Vale Surf Life Saving Club, Seabeach Avenue)
Belongil Beach, Byron Bay	Childe Street; Manfred Street; Don Street
Bilgola Beach, Bilgola	From north end of Allen Avenue (alternate access – Bilgola Avenue at Allen Avenue)
North of outlet from Cakora Lagoon and east of Ocean Street, Brooms Head	Track from Ocean Street (south of bridge)
Collaroy Beach, Collaroy	Collaroy Beach carpark (opposite Jenkins Street), Frazer or Stuart Streets
Hargraves Beach, Noraville	Elizabeth Drive (north end)
Narrabeen Beach, Narrabeen	Wetherill or Mactier Streets, adjacent to Narrabeen or South Narrabeen Surf Life Saving Clubs, Birdwood Park carpark or Clarke Street
North Entrance Beach, The Entrance (North)	Curtis Parade
Mollymook Beach, Mollymook (between Donlan Road and Mollymook Creek)	Mitchell Parade
Cabbage Tree Harbour Beach, Norah Head	Bald Street boat ramp area
Old Bar Beach, Old Bar	Pacific Parade at Rose Street or adjacent to the Taree Old Bar Surf Club, Ungala Road
Pearl Beach, Pearl Beach	Coral Crescent; Pearl Parade; Gem Road
Wamberal Beach, Wamberal	Adjacent to Wamberal Surf Life Saving Club, Dover Road
Wooli Beach, Wooli	Wooli Road (South Terrace)

Works are only permitted to be installed to reduce the impact or likely impact of coastal erosion on a building being lawfully used for residential, commercial or community purposes. The works can only be installed when the most landward part of an escarpment is within 20 metres of the most seaward wall of the building (see Figure 1).

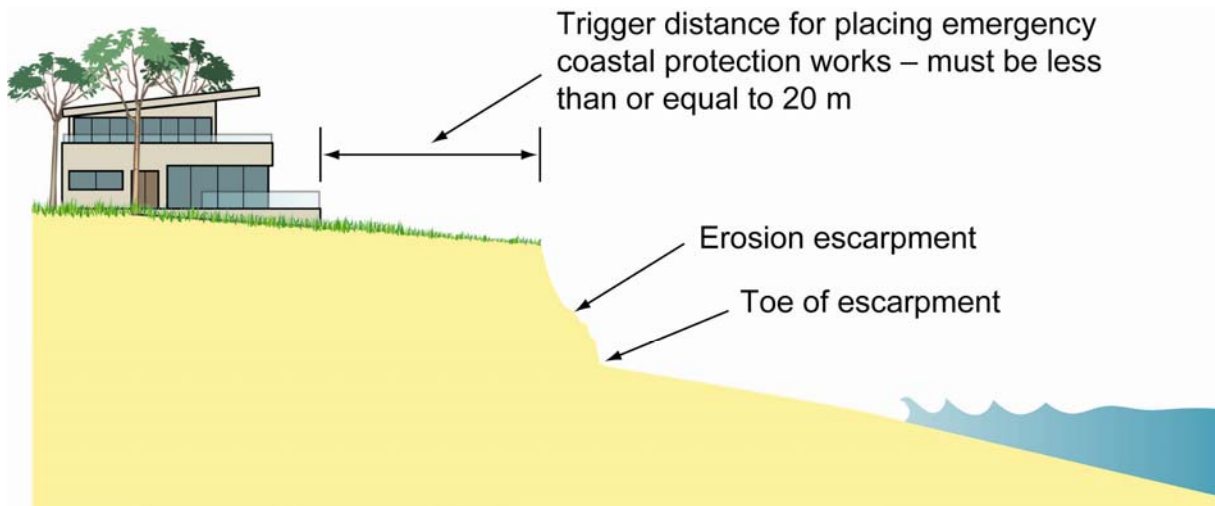


Figure 1 – Trigger distance for installing emergency coastal protection works

A landowner who places emergency coastal protection works where the erosion escarpment is within 20 metres of an eligible building may also place the works on immediately adjacent private land (see Figure 2). Note that permission must be obtained from the landowner of the adjoining property through a lease, easement, right-of-way or other mechanism before works can be placed on this land. The owner of the land on which the building is at risk from erosion is responsible for placing, maintaining and removing the emergency works on any adjacent private land.

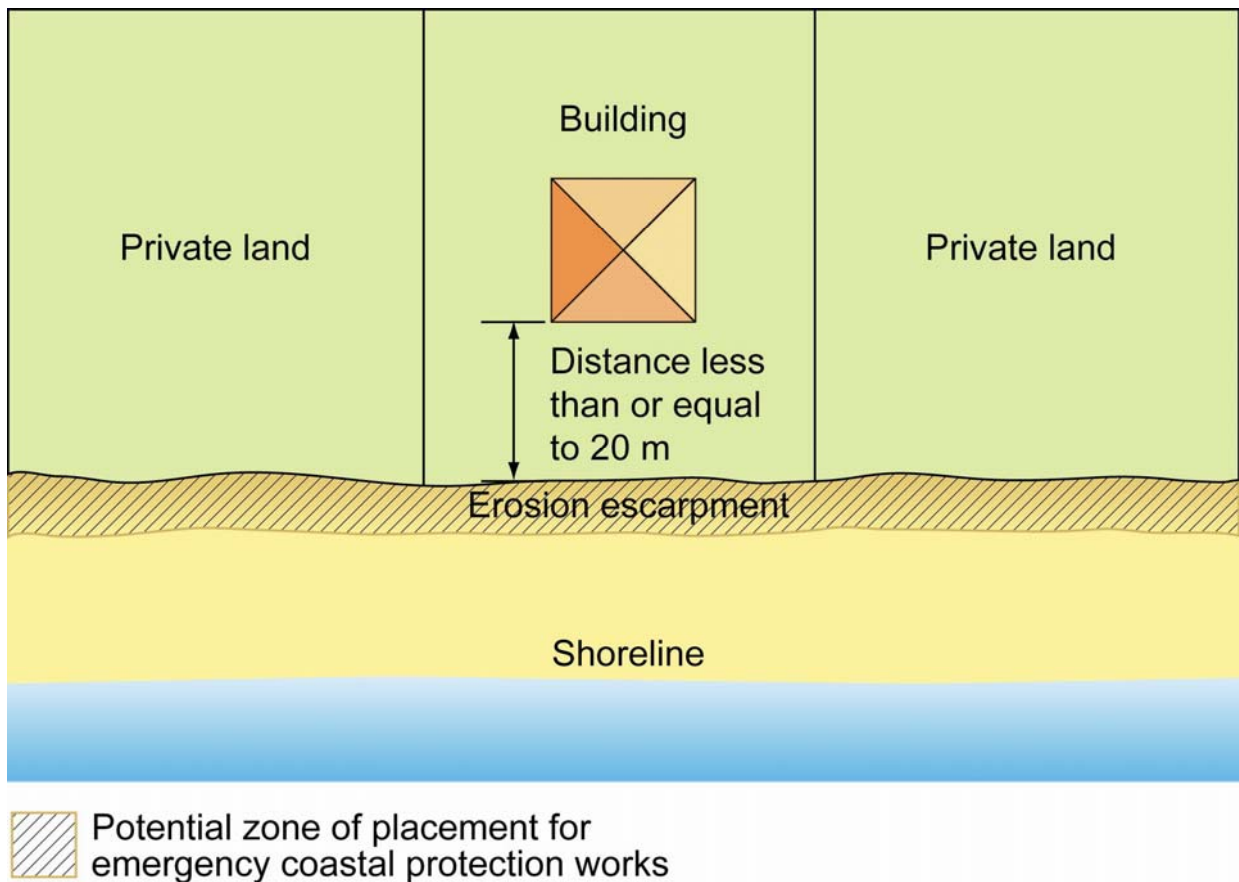


Figure 2 – Example of emergency coastal protection works on adjacent private land

Emergency coastal protection works cannot be installed if any other form of coastal protection (whether lawfully placed or not) exists. This restriction does not apply if a professional engineer has provided a written opinion that the proposed emergency coastal protection works combined with the existing works provide erosion protection equivalent to emergency coastal protection works alone. For example, the engineer may consider that a small number of sandbags placed on top of a very low rock seawall provides erosion protection equivalent to a 1.5 metre high sandbags wall built in accordance with the requirements described in section 6. The professional engineer's opinion must be kept by the landowner until the works are removed.

Emergency coastal protection works may only be installed once on any parcel of land. Any works installed by or on the behalf of the landowner on land that at any time has previously contained emergency coastal protection works to reduce the effects of erosion to a building on that land, are not emergency coastal protection works for the purpose of the Act. They can be classified as illegal structures under this and other Acts, for example, if they do not have development consent under the *Environmental Planning and Assessment Act 1979*.

When the landowner starts placing emergency coastal protection works, they must notify the relevant local council in writing. If the works will also be placed on public land, the landowner must also notify the public authority that owns or has the care, control or management of this land. For example, landowners who use Crown land for installing works must notify the Land and Property Management Authority (LPMA) in writing. To contact the LPMA, call 1300 052 637 during business hours or visit www.lpma.nsw.gov.au/contact_us.

To help landowners in deciding when to install these works, the following information may assist:

- for the NSW coast, severe coastal storms likely to result in coastal erosion most typically occur during winter (June–August)
- other periods of increased likelihood of erosion are associated with rarer astronomical events such as king tide cycles which generally occur around December and June–July in NSW, which if combined with storms can further increase erosion impacts.

It is recommended that planning and initial preparation for emergency protection works begin before the period scheduled for installing the works, to ensure adequate time is available to obtain the necessary materials and suitable contractors (see section 9 for more details).

An authorised officer may inspect the works at any time after they have been installed, to check that they comply with the requirements under the Coastal Protection Act, Coastal Protection Regulation, and Code of Practice. If the works do not comply with the requirements, the authorised officer may order the landowner to modify or remove the works (see section 2).

5 Material requirements

Sand

Sand for emergency coastal protection works must not be taken from a beach or a sand dune adjacent to a beach. The sand is normally to be imported to the site from a lawfully approved source. Sand must not contain heavy metals or other toxic contaminants in accordance with the criteria under the *Natural Environment Protection (Assessment of Site Contamination) Measure 1999* (see www.ephc.gov.au/contam) – this requirement does not apply to quarried sand. Landowners may also obtain sand from their own land (other than from a beach or a sand dune adjacent to a beach), provided all necessary approvals have been obtained before commencing work (e.g. development consent under the *Environmental Planning and Assessment Act 1979* may be required).

In addition to this criterion, the imported sand must comply with the requirements in table 2:

Table 2 – Requirements for sand used in emergency coastal protection works

Criteria	Requirement
Main constituent	Silica (in the form of quartz)
Median sieve size (d50)	0.15–0.5 mm to Australian Standard 2758
Fines content (<75 µm)	5% or less to Australian Standard 2758
Colour	Similar to the colour of the sand of existing dunes in the vicinity of the works

If sand used in the works is obtained from a sand supplier, the landowner must obtain a written statement from the supplier certifying that the sand meets the above requirements. This statement must be kept for the life of the works. .

Geotextile fabrics and sandbags

Sandbags used for emergency coastal protection works must be made of geotextile fabric or woven polypropylene fabric (not hessian) and have a maximum volume of 0.75m³ when filled.

Geotextiles used for sand bags in emergency protection works must be non-woven, staple fibre and needle-punched. Geotextiles must also have a minimum tensile strength of 21 kN/m (tested to Australian Standard 3706.2) and a minimum CBR burst strength of 5400 N (tested to Australian Standard 3706.4). Woven polypropylene fabric must have a minimum tensile strength of 3 kN/m (tested to Australian Standard 3706.2). The landowner must obtain a written statement from the supplier of the sandbags certifying that the fabric meets these requirements, and keep this for the life of the works.

6 Construction, maintenance and removal requirements

For landowners that have applied for certification and been granted permission to install emergency coastal protection works, the following criteria apply when designing and constructing the works.

For emergency coastal protection works constructed using sandbags:

- the height of the works must not exceed 1.5 metres from the base (or toe) of the escarpment
- the works must be placed against the seaward side of the escarpment and be within 4 metres of the escarpment
- the slope of the face of the works must not exceed 34 degrees from the horizontal plane
- there are to be no voids on any exposed faces of the works, or between the escarpment and the works, of a size that may present a public safety risk (e.g. large enough for a child to place their hand in)
- limited excavation of the beach (other than the escarpment) may be undertaken to enable the bottom layer of sandbags to be placed approximately horizontally. Any excavated sand is to be placed elsewhere on the beach
- all sandbags used in the works are to be sewn or tied closed before placement.

Figure 3 illustrates the requirements for placing these works. Landowners may seek advice from a coastal engineer on the most effective arrangements for sandbags to provide the greatest degree of erosion protection within these criteria.

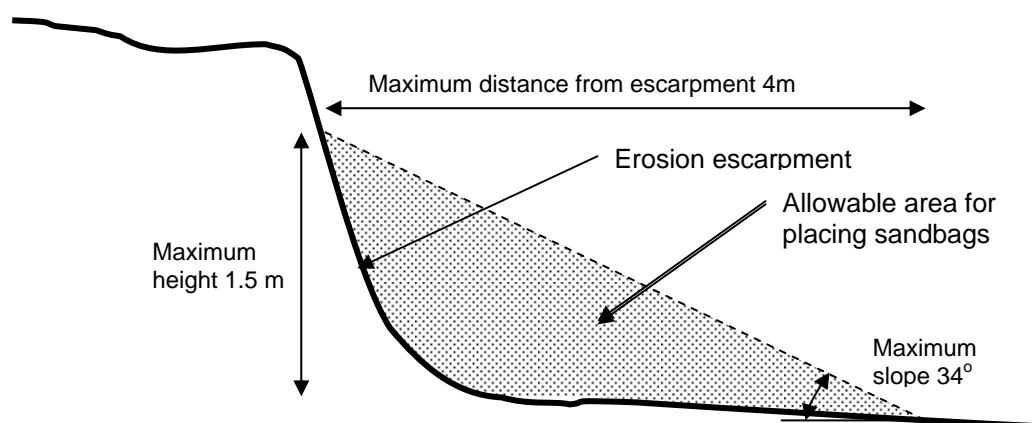


Figure 3 – Allowable area for placing sandbags

For emergency coastal protection works constructed using sand:

- the sand must be placed against the escarpment on the seaward side
- the slope of the face of the works must not exceed 34 degrees from the horizontal plane.

Emergency coastal protection works that are constructed using sandbags must be maintained so they continue to meet all the above requirements. Any works that do not meet these requirements must be replaced in the right location or removed from the beach as

soon as practicable. Such works include sandbags located elsewhere on the beach which were originally placed as part of the works. Works damaged by tides or waves during a storm are to be repaired or removed as soon as practicable after the storm conditions cease.

When emergency coastal protection works comprising sandbags are to be removed, the sandbags are to be opened and the sand distributed on the beach to achieve a reasonably even beach terrain. Emptied sandbags are to be removed from the beach.

Land disturbed during the placement, maintenance or removal of emergency coastal protection works is to be restored to a condition as close as is reasonable to the condition that existed before the works were placed. Any sand that has fallen from the escarpment to the beach is to be distributed on the beach, resulting in a reasonably even beach terrain.

Restoration of damaged dunes is to be carried out in accordance with the document entitled *Coastal dune management: A manual of coastal dune management and rehabilitation techniques* (NSW Department of Land and Water Conservation 2001). A dune escarpment should be restored in accordance with this document to the extent to which this is reasonable for the particular escarpment.

7 Safety requirements

There are significant safety risks associated with the installation, and to a lesser extent maintenance and removal, of emergency coastal protection works. To minimise safety risks, the following minimum requirements must be followed when placing emergency coastal protection works:

- (i) Before any works are placed, maintained or removed, a temporary safety fence must be erected around the area where works are to be placed or are located and any additional area used by earthmoving equipment or other vehicles for the purpose of placing, maintaining or removing the works. The safety fence must be removed after the the works have been placed, maintained or removed.
- (ii) In addition to the requirements under (i), if the escarpment concerned exceeds one metre in height, an additional temporary safety fence must be erected before any works are placed, maintained or removed. The safety fence must be erected on the landward side of the escarpment at a distance of at least 2.5 times the greatest height of the escarpment. For example, if the escarpment is 2 metres high at its highest point, then the safety fence must be erected 5 metres from the escarpment on its landward side. The area between the safety fence and the escarpment must not be used during the placement, maintenance or removal of the works. The safety fence is to be removed after the works have been placed, maintained or removed.
- (iii) Sand or sandbags comprising the works must be placed and maintained to minimise the likelihood of the escarpment collapsing. Should the escarpment collapse, an authorised officer may require the landowner to obtain, before continuing with placing the works, a written opinion from a professional engineer that the placement of the works does not present a significant safety risk. This opinion must be kept by the landowner until the works are removed.
- (iv) Excavation of the escarpment for the placement of the works is not permitted, with the exception of limited/minimal excavation of an escarpment to place sandbags horizontally.
- (v) Routine maintenance or removal of the works or restoration of land following removal of works must not be undertaken during storm conditions. Emergency repairs to the works may be undertaken where the landowner has obtained a written opinion from a professional engineer that the repairs do not present a significant safety risk. This opinion must be kept by the landowner until the works are removed.

Note that emergency coastal protection works must not be installed during storm conditions unless the landowner has obtained a written opinion from a professional engineer that states that the placement of the works under these conditions do not pose a significant safety risk. This opinion must be kept by the landowner until the works are removed.

Landowners should take all other reasonable actions to minimise safety risks associated with emergency coastal protection works.

8 Using public land

Landowners must take all reasonable measures to avoid using public land for placing emergency coastal protection works. Landowners must place these works on their land or adjacent private land (see section 4). An exception to this requirement applies if it is not reasonable under the specific circumstances to place the works fully or partially on private land. The use of public land is permissible under these circumstances. Such public land may include a beach on Crown land, or a reserve located on a beach or sand dune adjacent to a beach, where there is no road through or in the reserve.

When site constraints on private land prevent access for relevant machinery to install the works, access will be permitted via public land using designated beach access points. Landowners should contact the local council and LPMA to arrange suitable access. Access will also be granted to remove or remediate adverse off-site impacts relating to emergency coastal protection works. Landowners or their contractors may occupy and use public land to install and maintain emergency coastal protection works without obtaining a lease, licence or permit, provided they have taken all reasonable measures to:

- avoid using or occupying public land for installing and maintaining works
- avoid damage to assets and vegetation on public land
- minimise risks to the public on public land
- maintain reasonable public access (including access for local and public authorities) to and through the beach
- minimise disruption of the public use of the beach.

The landowner or any person acting on their behalf will be responsible for ensuring the safety of the public when using any public land for placing, maintaining or removing emergency coastal protection works. The landowner will also be responsible for restoring any damage to public land.

9 Landowner preparations

Emergency coastal protection works may be required during an emergency storm erosion situation which could develop very quickly, often with limited advanced warning. The landowner's level of preparedness to implement works may improve the level of success achieved in reducing the erosion threat through effective placement of emergency works. Where beachfront property owners are likely to meet requirements for undertaking such works (see section 4), all reasonable measures should be taken in advance to limit potential time delays, including:

- pre-purchasing and stockpiling relevant resources, such as geotextiles, sandbags and sand, on the landowner's property. Avoid stockpiling material within a distance from the erosion escarpment equal to 2.5 times the maximum height of the escarpment, particularly when the escarpment is more than 1 metre high.
- gathering knowledge of relevant plant and equipment suppliers who are aware of requirements for installing the works.
- identifying appropriate personnel to place the works.

Storms can occur with limited warning and not all ocean storms will result in significant beach erosion. Generally, more substantial beach erosion can be expected when large ocean waves coincide with high elevated ocean water levels, particularly king and high spring tides. Beach erosion could be anticipated when the offshore wave height approaches 5 metres, is directed onshore and coincides with predicted tides higher than 1.8 metres (at Fort Denison).

Although tide predictions are known well in advance, forecasting of storms and associated ocean wave conditions are generally only available with a reasonable accuracy some 2–4 days in advance. Weather forecasts are generally provided no more than 180 hours (7.5 days) in advance. These are available from the United States National Oceanic and Atmospheric Administration Wave Watch III forecast model (visit http://polar.ncep.noaa.gov/waves/main_int.html). The Australian Bureau of Meteorology (visit www.bom.gov.au) issues forecasts from wave modelling up to 48 hours (two days) in advance.

It should be noted that these forecasts for wave and water level conditions typically improve nearer the time of the event being predicted.

10 Other legal requirements

The failure to install emergency coastal protection works in accordance with the requirements under the *Coastal Protection Act 1979* is an offence and may result in penalties under the Act or an order to remove the works. The maximum penalty under this Act is \$247,500 for an individual and \$495,000 for a corporation.

Such a failure could also result in penalties for development without consent under the *Environmental Planning and Assessment Act 1979*, and for unauthorised use of Crown land (if the works are located on Crown land) under the *Crown Lands Act 1989*.

All other relevant statutory requirements apply for installing, maintaining and removing emergency coastal protection works, including:

- the *Occupational Health and Safety Act 2000*, in ensuring that placing, maintaining and removing the emergency coastal protection works does not present a safety risk. The landowner or any persons carrying out works on their behalf may have responsibilities under this Act relating to safe work practices and safe workplaces. This is particularly important given the potential risks from installing these works. Note that the landowner also has a duty of care under common law to ensure the works do not result in injury to contractors or beach users.
- the *State Emergency and Rescue Management Act 1989*, including powers allowing a police officer to direct a person to leave or not enter a specified danger area in an emergency. This may include an area where emergency coastal protection works are being or are intended to be installed. These directions must be followed, which may impact on the installation of these works.

A police officer may also direct the taking of safety measures in an emergency, including the removal of material presenting a public safety risk or interfering with the operations of emergency services. Such a direction may include the removal or modification of emergency coastal protection works.

11 Other coastal protection works by landowners

Landowners may consider applying for development consent under the *Environmental Planning and Assessment Act 1979* for constructing other coastal protection works in circumstances when:

- a landowner who has already installed emergency coastal protection works once for a particular property may wish to use more sandbags
- sand or sandbags contain materials that differ from those allowable for emergency coastal protection works
- the use of sandbags is required for longer than permitted as emergency works
- longer-term hard engineering works such as seawalls are required.

The landowner will need to satisfy the consent authority that suitable arrangements will be in place to maintain the works and manage any off-site erosion impacts – the construction of seawalls at the back of a beach may increase beach erosion and periodic beach nourishment may be required to manage these impacts.

If a development application is lodged while emergency works are in place, they do not need to be removed until the development application is determined.

Further information on the development application process is available on the Department of Planning's website at www.planning.nsw.gov.au.

Glossary

Term	Meaning
Authorised officer	A person who is appointed as an authorised officer under section 7 of the <i>Coastal Protection Act 1979</i> .
Beach	The area of unconsolidated or other readily erodible material between the highest level reached by wave action and the place where tidal or lake waters reach a depth of 10 metres below Australian Height Datum.
Coastal protection works	Activities or works to reduce the impact of coastal hazards on land adjacent to tidal waters. Such works include seawalls, revetments and groynes, and such activities include beach nourishment.
Emergency coastal protection works	Sand or sand-filled fabric bags installed on a beach to reduce coastal erosion threats to beachfront buildings, placed in accordance with the requirements of the <i>Coastal Protection Act 1979</i> .
Erosion escarpment	The eroded seaward face of a sand dune located landward of the location of the proposed works, where the seaward face of the dune is as steep as 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 installed.
Geotextile sand container	A pillow shaped sandbag made from synthetic geotextile fabric used to restrict the movement of sand.
King tide	The highest tides of the year. Along the NSW coastline, these tides usually occur around December and June–July.
Professional engineer	A person with qualifications and experience suitable for registration 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 <i>Professional Engineers Act 2002</i> .
Public land	Crown land within the meaning of the <i>Crown Lands Act 1989</i> or land within a reserve as defined in Part 5 of that Act, or land owned by or under the care, management or control of a council or a public authority, but does not include any land reserved under the <i>National Parks and Wildlife Act 1974</i> or land acquired under Part 11 of that Act
Relevant local council	<p>In relation to emergency coastal protection works, means:</p> <ul style="list-style-type: none">• if the works are within the area of a council, that council• if the works are not within the area of any council, the council with the area nearest to the works. <p>Note: Parts of some beaches in NSW are not within the boundaries of any local council area.</p>
Residential building	A building (such as a house or residential flat) that is solely or principally used for residential purposes.
Revetment	Sandbags, rocks, concrete or other material placed to form a wall with a sloping face to protect land or structures from erosion
Spring tide	Tides with the greatest range between highs and lows, usually occurring during the full or new moons.

Appendix – Checklist for landowners

Before placing emergency coastal protection works:

- Check that you are in an authorised location for placing emergency works (see section 4)
- Obtain a certificate from the local council or the Department of Environment, Climate Change and Water
- Arrange access to the beach (if required) with the relevant public authority (e.g. the local council)
- Arrange for the necessary supplies, equipment and personnel to place the works
- Decide when the works will be placed

When emergency coastal protection works are about to be placed or being placed:

- Check that your certificate is still valid (certificates are valid for 2 years)
- Place the works when storm conditions are not occurring or obtain a written opinion from a professional engineer if considering placing works during storm conditions
- Notify the local council when placing of the works has started. Also notify the Land and Property Management Authority if the works are on Crown Land
- Erect a safety fence before placing any works if the escarpment is more than 1 metre high
- Commence placing works where the erosion escarpment is 20 m or less from the most seaward wall of a building being lawfully used for residential, commercial or community purposes
- Place work in accordance with the requirements under the Coastal Protection Act, including the requirements under the Coastal Protection Regulation and the Code of Practice. These include:
 - the maximum slope of the works must be 34° from the horizontal
 - where works are constructed from sandbags, ensure the works are no higher than 1.5 metres and are within 4 metres of the escarpment, and there are no voids that may risk public safety.
 - any conditions in the certificate that was issued allowing the works to be placed

After placing emergency coastal protection works:

- Maintain the works to the required standard
- Consider longer term options for managing coastal erosion threats to the property
- Remove all emergency coastal protection works within 12 months or longer if a development application is lodged for other coastal protection works (see section 2)
- Restore all land disturbed by placing, maintaining and removing the works

