



Owners Corporation SP677

Statement of Environmental Effects

Proposed Upgrades to Coastal Protection Works

1120 -1122 Pittwater Road, Collaroy

October 2019

ENGINEERING
PLANNING
PROJECT MANAGEMENT
SURVEYING
CERTIFICATION

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1 Introduction

This report has been prepared on behalf of the owners corporation SP677 and Lamb and Walters Strata Managers.

This application seeks development consent for upgrades to existing coastal protection works forming the eastern boundary of the subject property located at 1120 - 1122 Pittwater Road, Collaroy. The proposed upgrade works are located entirely within the site boundaries and the design is consistent with approved coastal protection works in proximity to the subject site.

The seawall upgrades have been engineered to meet Northern Beaches Council standards provided in the Coastal Zone Management Plan for Collaroy - Narrabeen Beach and Fishermans Beach 2016.

A detailed description of the proposal is provided at Section 3.0.

Development plans are included in the appendix to this report.

This report has determined that the proposal is generally compliant with relevant State and the various Northern Beaches Council Planning Instruments.

2 Background

A significant coastal storm event in June 2016 caused damage to many coastal areas of the NSW East Coast. Sydney's beaches were subject to widespread coastal erosion with Collaroy and Narrabeen foreshore areas among the worst hit in NSW. The subject site located at 1120 - 1122 Pittwater Road was severely impacted, with the eastern boundary of the property subject to continued erosion and inundation as a result of the associated coastal foreshore damage.

As a direct result of the 2016 storm event, the Coastal Zone Management Plan for Collaroy - Narrabeen Beach and Fishermans Beach (2016) was delivered to provide a framework for mitigation of further erosion of the coastal areas. The Plan highlighted that Collaroy- Narrabeen Beach is classified as the most at risk in NSW, and the third most at risk nationally from coastal processes.

Northern Beaches Council undertook emergency coastal protection works upgrades at the adjacent Ramsay Street Reserve in 2016. The emergency placement of boulder style coastal protection works prevented further erosion which may have contributed to structural impacts within the eastern open space area of the subject 'Shipmates' building.

Property owners in the Shipmates building received a letter from Northern Beaches Council dated 29 October 2018 outlining coastal protection funding mechanisms available from Council and the NSW Government. The subsidies will assist private property owners in protection of coastal frontages which are currently being undertaken by Council within public assets including Collaroy Carpark and South Narrabeen Surf Club. Following this commitment from Northern Beaches Council, the Secretary of the Shipmates Strata Committee has been informed by Adrian Turnbull, Manager Coast & Catchments, that Council will attend to coastal protection works at the adjacent Ramsay Street Reserve concurrently to ensure effective tie in with the works proposed in this DA. Coastal engineering plans have therefore been prepared with relevant tie in design to the north.

The owners corporation of the Shipmates building now seek to protect their property assets in line with the CZMP and surrounding approved seawall developments. The seawall design has been engineered according to Northern Beaches Council specifications and complies with the State Environmental Planning Policy (Coastal Management) 2016 and Warringah LEP 2011.

3 Site Analysis

3.1 Site Description

The real property description is SP 87659, located at 1120 - 1122 Pittwater Road, Collaroy.

The subject site incorporates an existing seven (7) storey residential flat building with concrete driveways, communal open space orientated to Collaroy Beach in the east and associated landscaping.

The site has immediate frontage in the east to Collaroy Beach as shown in Figure 1. Vehicular access to the site is available from Pittwater Road and Ramsay Street.

The subject site exhibits relatively flat topography that falls away steeply at the eastern beach frontage. The survey indicates a level difference of approximately 2 metres.

The property exhibits an eastern boundary of 29.07m with the existing terminal seawall spanning the entirety of this eastern property boundary.

The eastern open space element of the site is primarily cleared for development. One pine tree exists in the centre of the rear open space area in addition to ground cover shrubs orientated to the northern and southern boundary. The existing terminal seawall structure is shown in photographs provided in 3.5 below.

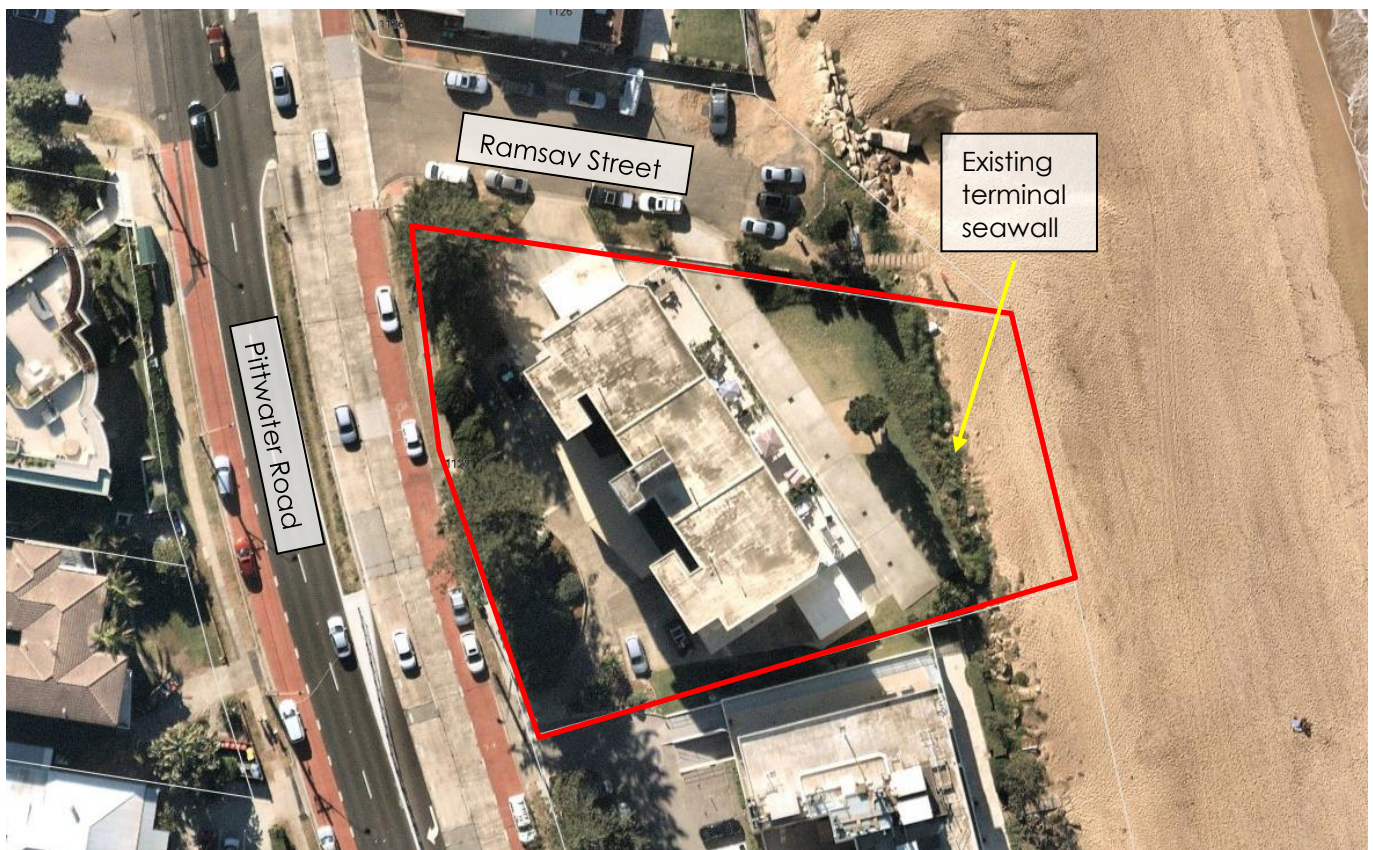


Figure 1: Aerial view of site (Nearmap)

3.2 Locality

The surrounding locality is characterised by a mix of residential and commercial development, open space and parkland areas as shown in Figure 2 below. The immediate surrounds are defined by Collaroy-

Narrabeen Beach and Pittwater Road, with much of the Collaroy and Narrabeen Foreshore having been impacted by coastal erosion events.

Surrounding development includes:

- To the north: Ramsay Street public beach access, Sulman Reserve and further to single and multi-unit residential dwellings;
- To the west: Pittwater Road and low/medium density residential development;
- To the south: Residential flat building at 1104 Pittwater Road and further to single and multi-unit dwellings
- To the east: Collaroy Beach.



Figure 2: Aerial view of locality (Nearmap)

3.3 Infrastructure

The site is serviced by water, sewer, telecommunication and power services.

3.4 Existing Seawall and Coastal Characteristics

The Collaroy - Narrabeen coastal stretch extends approximately 3.6km in length and generally faces approximately east. The beach is the largest in the Northern Beaches Council Local Government Area, and the second largest in Sydney.

The Northern Beaches Coastal Zone Management Plan for Collaroy - Narrabeen Beach and Fishermans Beach 2016 (CZMP) highlights a long history of ad-hoc protection works aimed at mitigating coastal erosion. These works have consisted generally of rocks being placed seaward of properties during, or closely after coastal storm events. It is noted that coastal properties south of Devitt Street, of which the

subject site is included, incorporate limited dunal vegetation and extensive lengths of protection works that become exposed after large swells.

The existing coastal protection works to the east of the subject site consist of a rip-rap style seawall largely covered in *Carpobrotus glaucescens* groundcover vegetation as shown in Photo 1 below. A Geotechnical report was prepared by Crozier Geotechnical Consultants which labelled the existing protection works as 'an informal seawall consisting of large sandstone and concrete boulders which have been informally dumped near the site'. These existing works have provided coastal protection over the last 40 years.

The works are described in some areas as 'undersized and founded inadequately' (CZMP 2016). To address the inadequacy of coastal protection works at 1122 Pittwater Road, the owners corporation seek consent for upgrades to the existing seawall structure to Northern Beaches Council standards.

3.5 Photographs

The following photographs indicate the site and surrounding development.



Photograph 1: Looking south along eastern boundary of the subject site - existing terminal seawall shown.



Photograph 2: Subject site as viewed from Collaroy Beach - existing terminal seawall shown



Photograph 3: Looking north along eastern boundary of the subject site - existing terminal seawall shown



Photograph 4: Adjacent coastal protection works upgrades at Ramsay Street. Note these works were implemented by Council following the 2016 East Coast storm event and were not subject to DA approval

4 Proposal in Detail

4.1 Demolition

Minor works may be required to remove a portion of existing rock from the eastern frontage of the site boundary. This will only be required if the existing rocks cannot be integrated into the proposed upgrade works due to inferior size or quality. The need for rock removal will be determined by construction and engineering personnel based on the material requirements proposed in the Coastal Assessment Report attached in Appendix A.

Where possible, materials will be salvaged for recycling and reuse during the demolition process. The remaining waste will be transported to a recognised waste facility.

4.2 Proposed Development

The proposed development will involve upgrades to the existing terminal seawall as discussed below. The following objectives are provided by coastal engineers:

The objective of the seawall at Shipmates is to:

- *Protect infrastructure and services from erosion (Shipmates, Pittwater Road)*
- *Protect adjacent infrastructure from flanking failure (Ramsay Street End, Flight Deck)*
- *Reduce scour and damage as a result of overtopping.*
- *Provide adequate drainage (associated with the seawall structure).*
- *Maintain public access along foreshore.*
- *Achieve current coastal design standards.*
- *Meet environmental and legislative requirements.*
- *Minimise whole of life costs (including capital, future adaptation and maintenance costs).*

Seawall Overview

The following extract is provided from the Coastal Assessment Report attached in Appendix A:

A rock seawall has been in place at Shipmates since 1967 and has seen multiple storm events. The seawall is a terminal structure, becoming exposed under storm conditions and then buried again as the Collaroy Beach recovers. The seawall became fully exposed during the 2016 storms and has since become mostly buried.

The Coastal Assessment Report and associated Boulder Seawall Plans (refer Appendix D) propose a standard 2 layer configuration to reduce damage during a design event. In accordance with the CZMP, a minimum toe depth of -1.0m AHD has been adopted.

As shown in Figure 3 below, the proposed seawall upgrade works are located entirely within the private property boundaries. The design of the seawall however has incorporated tie in to the Council reserve infrastructure to the north of the site to facilitate integration and longevity of the coastal protection works. This will reinforce the structural integrity of the boulder seawall and reduce any opportunity for zones of weakness during coastal storm events. Northern Beaches Council will be responsible for construction of the seawall to CZMP standards outside the private property boundaries.

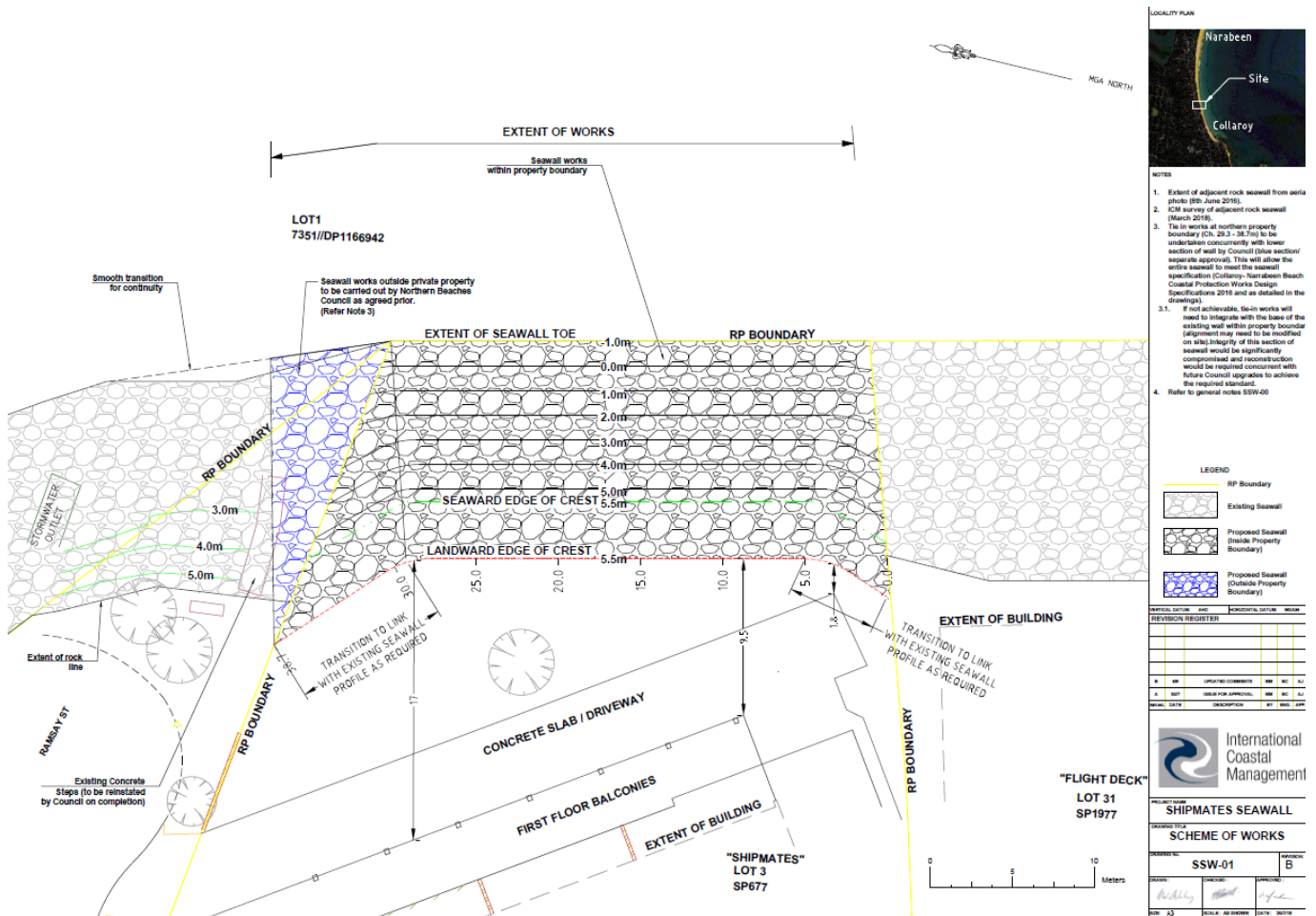


Figure 3: Extract from Proposed Scheme of Works

Crest Level and Detail

The adopted crest level has been taken as being approximately level with the natural surface level at the front of the seawall (RL 5.5m AHD).

Predicted overtopping for the design event (Table 6) has been determined based on EurOtop. These values indicate that:

- Area landward of seawall is not safely accessible by pedestrians during design events. Access is to be restricted.
- Scour of grassed areas may be observed, particularly toward the end of the structure's design life and in instances where grass is not well maintained (typically occurs between 0.1L/m/s – 100 L/m/s depending on condition of the grass).
- No damage to concrete slab/driveway expected (typically occurs at 200L/s/m).

Coastal Protection Works Alignment

The seawall alignment is controlled by the alignment of the toe (at -1m AHD) along the seaward property boundary (Figure 6). To the north, the alignment is controlled by a "smooth transition" (Figure 6) into the adjacent seawall is in accordance with the CZMP (Figure 7).

The seawall extent is from the southern RP boundary to the point where the seawall crest intersects with the northern RP boundary (Ch 29.3 in Figure 6). Tie in works to be undertaken concurrently with lower

section of wall by Council (blue section/ separate approval). This will allow the entire seawall to meet the seawall specification (Collaroy- Narrabeen Beach Coastal Protection Works Design Specifications 2016 and as detailed in the drawings). If not achievable, tie-in works will need to integrate with the base of the existing wall within property boundary (alignment may need to be modified on site). Integrity of this section of seawall would be significantly compromised and reconstruction would be required concurrent with future Council upgrades to achieve the required standard.

The proposed seawall upgrades incorporate best practice engineering design that is consistent with the Coastal Zone Management Plan for Collaroy - Narrabeen Beach and Fishermans Beach (2016). The seawall upgrades have been designed by a specialist coastal engineer and account for site specific elements such as toe foundation, structure footprint and tie- ins.

5 Statutory Matters

5.1 Coastal Management Act 2016 No 20

The Coastal Management Act promotes ecologically sustainable development in areas subject to coastal processes.

The objectives of Clause 27 must be addressed in development comprising coastal protection works. Required controls are identified and addressed below.

27 *Granting of development consent relating to coastal protection works*

(1) *Development consent must not be granted under the Environmental Planning and Assessment Act 1979 to development for the purpose of coastal protection works, unless the consent authority is satisfied that:*

(a) *the works will not, over the life of the works:*

- (i) *unreasonably limit or be likely to unreasonably limit public access to or the use of a beach or headland, or*
- (ii) *pose or be likely to pose a threat to public safety, and*

(b) *satisfactory arrangements have been made (by conditions imposed on the consent) for the following for the life of the works:*

- (i) *the restoration of a beach, or land adjacent to the beach, if any increased erosion of the beach or adjacent land is caused by the presence of the works,*
- (ii) *the maintenance of the works.*

Comment:

(a)(i) The proposed works will be located entirely within the subject property boundaries and the nature of the works is the same as the existing seawall. As such, the works will result in the public foreshore achieving the same public open space and safe access to and along the foreshore as the existing seawall.

(ii) The works are for the upgrade of the existing seawall to a higher standard and being more stable under design conditions will result in an improvement to public safety after storm events. Maintenance is to be undertaken as required by the property owner.

(b) At the end of the design life of the works, a design review is to be undertaken to facilitate any design adaptation required in response to actual and forecast climate change. The proposed works are an upgrade of an existing structure that forms part of a much longer erosion protection strategy that is in accordance with the adopted CZMP. As such, increased impacts associated with these works are not likely and further conditions on the consent are not anticipated to be required. Maintenance of the works as required is already included as part of the design requirements, but could also be included in the consent conditions if desired.

(2) *The arrangements referred to in subsection (1) (b) are to secure adequate funding for the carrying out of any such restoration and maintenance, including by either or both of the following:*

(a) *by legally binding obligations (including by way of financial assurance or bond) of all or any of the following:*

- (i) *the owner or owners from time to time of the land protected by the works,*
 - (ii) *if the coastal protection works are constructed by or on behalf of landowners or by landowners jointly with a council or public authority—the council or public authority,*
- Note. Section 80A (6) of the Environmental Planning and Assessment Act 1979 provides that a development consent may be granted subject to a condition, or a consent authority may enter into an agreement with an applicant, that the applicant must provide security for the payment of the cost of making good any damage caused to any property of the consent authority as a consequence of the doing of anything to which the consent relates.*

(b) by payment to the relevant council of an annual charge for coastal protection services (within the meaning of the Local Government Act 1993).

(3) The funding obligations referred to in subsection (2) (a) are to include the percentage share of the total funding of each landowner, council or public authority concerned.

Comment:

In response to sub clauses 2 (a), 2 (b) and 3 of Clause 27 of the Coastal Management Act requirements outlined above, it is acknowledged that a condition of consent should be included to address the required funding obligations associated with this clause.

It is therefore considered that the proposed seawall upgrades satisfy the relevant requirements of the Coastal Management Act.

5.2 State Environmental Planning Policies

5.2.1 State Environmental Planning Policy No. 55- Remediation of Land

Clause 7 (1) (a) of this policy requires the consent authority to consider whether land is contaminated.

The subject site and surrounds have traditionally been used for residential and recreational purposes and it is considered that the site poses no immediate risk of contamination.

No further assessment is required.

5.2.2 State Environmental Planning Policy (Coastal Management) 2018

This Policy establishes a framework for land use planning in the coastal management areas. The subject site is located within the Coastal Environment Area and the Coastal Use Area as per State Environmental Planning Policy (Coastal Management) 2018 mapping.

Clause 19 (1) of the Policy provides for coastal protection works on land within the coastal zone, and states the following:

Development for the purpose of coastal protection works may be carried out on land to which this Policy applies by a person other than a public authority only with development consent.

Accordingly, the proposed development is permissible subject to development consent.

This Policy also requires that applicants must address relevant clauses relating to specific coastal areas. Discussion is provided below addressing the requirements of relevant Coastal Environment and Coastal Use Areas.

Clause 13 Coastal Environment Area

Clause 13 relates to land within the Coastal Environment Area, and requires the consent authority to consider whether the proposed development is likely to cause an adverse impact on the following:

1)

- (a) the integrity and resilience of the biophysical, hydrological (surface and groundwater) and ecological environment,
- (b) coastal environmental values and natural coastal processes,
- (c) the water quality of the marine estate (within the meaning of the Marine Estate Management Act 2014), in particular, the cumulative impacts of the proposed development on any of the sensitive coastal lakes identified in Schedule 1,

- (d) marine vegetation, native vegetation and fauna and their habitats, undeveloped headlands and rock platforms,
- (e) existing public open space and safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability,
- (f) Aboriginal cultural heritage, practices and places,
- (g) the use of the surf zone.

In response to Clause 13, the following extract has been derived from the Coastal Assessment Report prepared by International Coastal Management.

- 1)
 - a) The proposed works will not increase adverse impacts on the biophysical, hydrological or ecological environment compared to the existing rock seawall protecting the site. The proposed works are constructed using clean rock materials. As they do not extend above natural surface level and existing adjacent walls, they will not impact on drainage patterns. While they extend slightly below the groundwater table, they are permeable.
 - b) The nature, function and footprint of the works relative to the sandy beach is essentially the same as the existing seawall (or within nominated tolerances). As such, the proposed works will not increase impacts on coastal environmental values and natural processes compared to the existing seawall. The design and alignment is in accordance with the CZMP.
 - c) The proposed works are only expected to be partially within the marine estate during significant storm events. The works will be constructed of clean rock materials and will not increase impacts on the marine estate compared to the existing seawall. Sensitive coastal lakes are not in close proximity to the works and will not be impacted.
 - d) Assessed separately.
 - e) The proposed works will be within private property and the nature of the works is the same as the existing seawall. As such, the works will result in the public foreshore achieving the same public open space and safe access to and along the foreshore as the existing seawall.
 - f) Assessed separately.
 - g) Usage of the surf zone is not expected to change in response to the proposed upgrade of the existing seawall.
- 2) The development is designed, sited and will be managed in accordance with the recommendations in the CZMP being largely consistent with the existing seawall and within private property. This results in avoidance of adverse impacts as outlined above.

Clause 14 Coastal Use Area

Clause 14 relates to land in the Coastal Use Area, and requires the consent authority to consider whether the proposed development is likely to cause an adverse impact on the following:

- (i) existing, safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability,
- (ii) overshadowing, wind funnelling and the loss of views from public places to foreshores,
- (iii) the visual amenity and scenic qualities of the coast, including coastal headlands,
- (iv) Aboriginal cultural heritage, practices and places,
- (v) cultural and built environment heritage.

In response to Clause 14, the following extract has been derived from the Coastal Assessment Report prepared by International Coastal Management:

- (i) Existing access will not be adversely impacted as per 13(1)(f) above.
- (ii) The works are upgrading of existing works in the same location and will not increase impacts on overshadowing, wind funnelling and the loss of views from public places to foreshores.

(iii) The works are upgrading of existing works in the same location and will not increase impacts on visual amenity and scenic qualities of the coast.

(iv) Assessed separately - see Heritage impacts in 6.3 below for further.

(v) Assessed separately - see Likely Impacts of the Development in 6.3 below for further.

Clause 15 Development in Coastal Zone Generally - development not to increase risk of coastal hazards

Clause 15 applies to all development in the Coastal Zone, and states that:

Development consent must not be granted to development on land within the coastal zone unless the consent authority is satisfied that the proposed development is not likely to cause increased risk of coastal hazards on that land or other land.

In response to this clause, the following extract has been derived from the Coastal Assessment Report prepared by International Coastal Management:

The proposed works at Shipmates are an upgrade to an existing seawall to a "consistent design standard that provides an appropriate level of protection" as per the objective of the certified CZMP (2016) and acts as a short section of what is effectively a much longer continuous erosion protection seawall. As such, the proposed development is not likely to cause an increased risk of coastal hazards on the private property or other land compared to the existing seawall.

Clause 16 Development in Coastal Zone Generally - coastal management programs to be considered

Clause 16 applies to all developments in the Coastal Zone, and states that:

Development consent must not be granted to development on land within the coastal zone unless the consent authority has taken into consideration the relevant provisions of any certified coastal management program that applies to the land.

In response to this clause, the following extract has been derived from the Coastal Assessment Report prepared by International Coastal Management:

The Collaroy-Narrabeen Coastal Zone Management Plan (December 2016) is a certified coastal management plan in accordance with the Coastal Management Act 2016. The proposed works are designed by a qualified coastal engineer in accordance with this certified CZMP.

Given that the relevant clauses have been addressed above, the proposed development is therefore permissible with development consent according to State Environmental Planning Policy (Coastal Management) 2018.

5.3 Council Strategies

5.3.1 Northern Beaches Coastal Erosion Policy

The Northern Beaches Coastal Erosion Policy guides Council's approach to the protection of public and private property from coastal hazards identified in the Collaroy- Narrabeen Beach and Fishermans Beach Coastal Zone Management Plan (2016). The Coastal Assessment Report prepared by International Coastal Management (refer Appendix A) addressed the Northern Beaches Coastal Erosion Policy and concluded the following:

- The proposed protective works are considered in accordance with the CZMP for Collaroy- Narrabeen Beach.
- The public beachfront amenity in this precinct has been maintained and protected as a result of the proposed works.
- The subject property owner of Shipmates has accepted the responsibility for carrying out works on private property.
- The proposed works are an upgrade to an existing seawall and are within private property and do not have any adverse impact upon beachfront, beachfront assets or nearby beaches.
- Designing and Siting Protection Works. The works at Shipmates have been designed by International Coastal Management in accordance with the CZMP specifications.
- Alignment of Protection Works. In accordance with the certified CZMP, the applicant's property falls within area 2 (Collaroy to Narrabeen – Devitt St). The recommendations for area 2 is that all works are to be carried out within private property. Any protection works are to be constructed to a consistent satisfactory design standard and a continuous overall alignment as agreed to with Council. It is submitted that the proposed protective works meet the relevant criteria and in particular the preferred alignment.
- Approval Process for Protection Works. The proposed new protection works have addressed the requirements of all relevant legislation, guidelines and policies. In accordance with the policy, a technical report addressing the relevant Collaroy- Narrabeen Protection Works guidelines have been duly considered and where relevant have been addressed in this report.
- Funding. In accordance with Clause 8(a) of the policy, the protection works have been designed, constructed within the confines of the subject property and the owners of the land have met all relevant expenses pertaining to the preparation of the Development Application and technical data and also the future costs associated with the construction of the protective works in conjunction with the existing built structures.
- Maintenance of Protective Works. The applicants acknowledge the responsibility of ensuring that the proposed protection works are maintained in a manner that safeguards the ongoing level of design performance.

As determined by discussion from the Report provided above, the proposed development is entirely consistent with the objectives of the Northern Beaches Coastal Erosion Policy. Further, it is evident that amendments to the CZMP after the June 2016 storm were designed to facilitate private upgrades to existing coastal protection works. This was reaffirmed on page 69 of the CZMP where it was noted that "Council will not undertake actions that compromise the ability of private property owners to protect their property." Accordingly, the proposed development is considered to be highly aligned with the strategic direction promoted by Council for the coastal protection of the Collaroy beachfront.

5.4 Local Environmental Plans

5.4.1 Warringah Local Environmental Plan 2011

Under the provisions of the Warringah Local Environmental Plan 2011, the site is zoned R2 Low Density Residential as shown in Figure 4 below. The zone objectives are:

- To provide for the housing needs of the community within a low density residential environment.

- To enable other land uses that provide facilities or services to meet the day to day needs of residents.
- To ensure that low density residential environments are characterised by landscaped settings that are in harmony with the natural environment of Warringah.

It is acknowledged that whilst Environmental Protection Works are permissible with development consent under WLEP 2011, these works do not include Coastal Protection Works. Accordingly, provisions of State Environmental Planning Policy (Coastal Management) 2018 provide for permissibility of the proposed development. Refer to Section 5.2 above for discussion of relevant SEPP permissibility.

The proposal is considered to be consistent with the zone objectives for the following reasons:

- The proposed upgrade works will allow long term protection of residential dwellings within the subject building;
- The works will promote active resident use of the open space frontage adjacent to Collaroy Beach;
- The proposal will be revegetated to remain compatible with the coastal landscape.

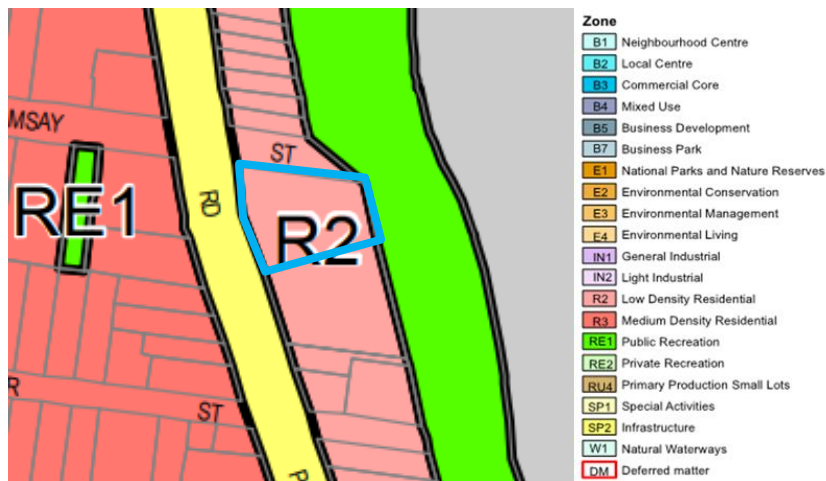


Figure 4: Extract from Warringah LEP Land Use Zoning Map

Other Relevant Clauses:

Clause 6.1 Acid Sulfate Soils

This Clause aims to ensure that development does not disturb, expose or drain Acid Sulfate Soils. Although the subject site and proposed seawall are located within areas of Class 4 and 5 Acid Sulfate Soils as shown in Figure 5 below, the development will not lower the water table and an Acid Sulfate Soils Management Plan is not required.

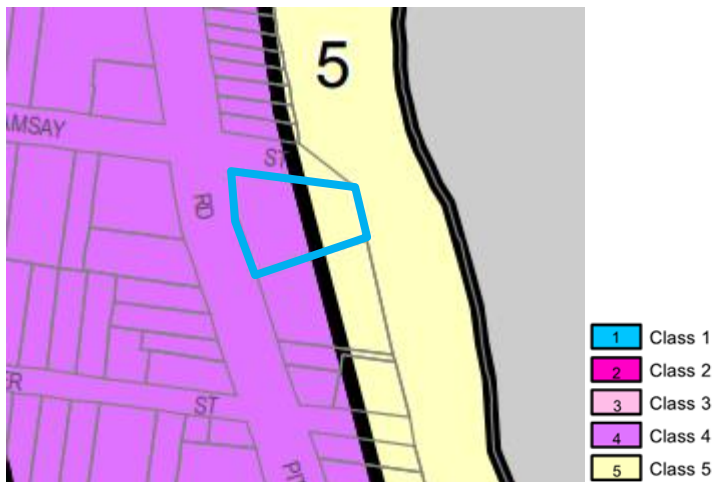


Figure 5: Extract from Warringah LEP Acid Sulfate Soils Map

Clause 6.2 Earthworks

The objective of this clause is to ensure that earthworks will have no detrimental impact on environmental functions and processes.

Although excavation is proposed below existing beach levels along the private frontage, the proposed coastal protection works will not require significant earthworks that can detrimentally impact the coastal zone. As the process of construction is largely characterised by the placement of rocks onto the existing slope to achieve interlocking, the proposed development will not adversely impact on drainage structures or future use or redevelopment of the site. Further, the proposed works are confined to the rear of the property where planning controls and rear setback requirements preclude future residential development in any circumstances.

The proposed development is designed to significantly improve soil stability in the vicinity of the rear boundary and facilitate long term protection of the subject property. The proposed coastal protection works will not adversely impact the amenity of the Ramsay Street reserve area to the north and the residential property to the south.

Clause 6.3 Flood Planning

The subject site is not identified on Northern Beaches Council Low, Medium or High Flood Risk Mapping.

No further assessment is required.

Clause 6.5 Coastline Hazards

The subject site is identified as land subject to Areas of Wave Impact and Slope Adjustment as shown on the Warringah LEP 2011 Coastal Hazards Map. An extract is provided in Figure 6 below.

This clause was addressed in the Coastal Assessment Report prepared by International Coastal Management (refer Appendix A) where it was confirmed that the proposed development is consistent with the intended mitigation of coastal hazard issues raised in this Clause.

The proposed development will not adversely affect areas impacted by coastal hazards. To the contrary, the proposed seawall will reinforce the eastern boundary of the property, thus providing effective site and property protection from future storm events. The works will increase protection of private property from coastal hazards compared to the existing seawall which is of a lower standard. The proposed works are the upgrade of a short section of an existing seawall and will not result in an increase of coastal hazards to any other land.

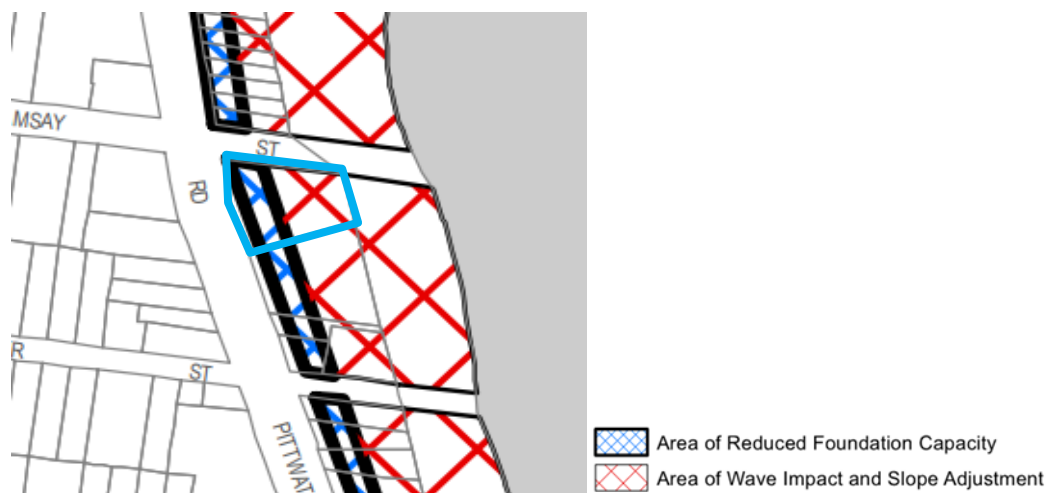


Figure 6: Extract from Warringah LEP 2011 Coastline Hazard Map

5.5 Development Control Plan

5.5.1 Warringah Development Control Plan 2011

Our assessment of the seawall upgrade confirms that the proposed coastal protection works largely satisfy Warringah Development Control Plan 2011 as shown in Table 1 below.

Table 1: Warringah Development Control Plan Matrix

DCP REQUIREMENT	COMMENT
Part A Introduction	Noted
Part B Built Form Controls	
B1 Wall Heights	Complies. The proposed development consists of ground level coastal protection works only.
B2 Number of Storeys	Not applicable.
B3 Side Boundary Envelope	Not applicable.
B4 Site Coverage	Not applicable.
B5 Side Boundary Setbacks	Does not comply. The coastal protection works however are required to be constructed with a nil setback to the side boundary. This variation is considered to be consistent with best practice coastal engineering design principles given the nature of the ground level protection works and the need to implement seawall works along the entirety of the eastern site boundary fronting Collaroy Beach. Further, tie in with the boulder seawall to the north and south cannot be achieved without works adopting a nil side setback design.
B6 Merit Assessment of Side Boundary	See B5 above.
B7 Front Boundary Setbacks	Not applicable. No additional development proposed in the front setback.
B8 Merit Assessment of Front Boundary	Not applicable. As above.
B9 Rear Boundary Setbacks	Not applicable. The ground level coastal protection works upgrades do not protrude above natural surface level. The proposed upgrades to the existing seawall are located in the same site location as previous and additional structures are not proposed.
B10 Merit Assessment of Rear Boundary Setbacks	See B9 above.
B11 Foreshore Building Setback	Not applicable. The site is not located within Warringah DCP Setbacks Special Mapping.
B12 National Parks Setback	Not applicable
B13 Coastal Cliffs Setback	Not applicable
B14 Main Roads Setback	Not applicable
Part C Siting Factors	
C1 Subdivision	Not applicable.
C2 Traffic, Access and Safety	Not applicable.
C3 Parking Facilities	Not applicable.

C4 Stormwater	Complies. The proposed development does not alter the existing stormwater management system.
C5 Erosion and Sedimentation	Complies. The primary objective of the proposed development is to facilitate safe and effective erosion control of the subject site. As concluded in the Coastal Assessment Report attached in Appendix A, the design of the proposed seawall facilitates a consistent design standard that provides an appropriate level of protection. This includes appropriate consideration for sediment runoff into the adjacent public reserve and residential property to the south. The Following extract is provided from the Coastal Assessment Report provided in Appendix A: <i>Sediment controls to be implemented by contractor prior to start of works. Sedimentation sources including imported materials (clean rock with no organics) and excavated materials (beach sand, existing rock). All materials to be stockpiled primarily within private property. Any rock fragments to be removed and all sand sieved to 20mm prior to backfill as per Drawing: General Notes SSW-00.</i>
C6 Building Over or Adjacent to Constructed Council Drainage Easement	Not applicable. No changes to Council's public drainage system are proposed.
C7 Excavation and Landfill	Complies. Although minor excavation may be required to facilitate the seawall upgrade, the proposed development has been designed to comply with the objectives in this clause.
C8 Demolition and Construction	Complies. As the proposed development is primarily upgrading the existing seawall, major demolition and construction works are not required. As such, the proposed seawall upgrades will require minor construction activities that will not create unreasonable impacts on or reduce the amenity of the site and surrounding development.
C9 Waste Management	Complies. Associated waste products from the proposed development will be minimal as rock structures forming the existing wall will be largely retained and integrated into the upgrade works. Additional rock armouring will be provided to the site as required and sandstone will be removed only when the existing rocks do not meet engineering specifications. Accordingly, opportunity for construction waste is low.
Part D Design	

D1 Landscaped Open Space and Bushland Setting	Complies. Generous landscaped rear setback is maintained within the coastal frontage of the subject property and the proposed works do not significantly impact opportunities for outdoor recreational needs or required residential service functions.
D2 - D23	Not applicable.
Part E The Natural Environment	
E1 Preservation of Trees or Bushland Vegetation	Complies. Tree or major bushland vegetation removal is not required.
E2 Prescribed Vegetation	As above.
E3 Threatened Species, Populations, Ecological Communities Listed Under State or Commonwealth Legislation, or High Conservation Habitat	Not applicable. The site is not located within <i>Threatened and High Conservation Habitat</i> areas as per Northern Beaches Council online mapping. A Flora and Fauna Inspection Report is attached in Appendix C.
E4 Wildlife Corridors	Complies. Although the site is located within a Wildlife Corridor, major vegetation removal is not required to facilitate upgrades to the existing seawall coastal protection works. A Flora and Fauna site assessment was conducted on 19 June 2019 and concluded that no evidence was found of any threatened or endangered species within the site boundaries. See Flora and Fauna Inspection Report attached in Appendix C for further information.
E5 Native Vegetation	Not applicable. The site is not located in a Native Vegetation mapped area as per Northern Beaches Council online mapping.
E6 Retaining Unique Environmental Features	Complies. The proposed seawall upgrade is required to protect and maintain the unique foreshore environment of Collaroy Beach. The development incorporates site specific design measures to Council Coastal Zone Management Plan specifications, and when constructed, the upgrade works will continue to promote the coastal environmental features of the immediate site and surrounds.
E7 Development on Land Adjoining Public Open Space	Complies. The subject site is located adjacent to the Ramsay Street Reserve and Collaroy Beach. The proposed design effectively addresses the requirements for development on land adjoining public open space. Specific requirements of this clause are addressed below. 1. The proposed upgrade to the existing seawall is consistent with design requirements outlined in the Coastal Zone Management Plan. The proposed works do not inhibit the public use of the adjacent public reserve, nor do the proposed upgrade works impact on the existing landscape character of the foreshore area.

	<p>2. The proposed upgrade works do not inhibit access to the Ramsay Street Reserve area. Further, the proposed works are located within the private subject site where public access is not permitted regardless.</p> <p>3. No buildings are proposed in this application and this clause is not applicable.</p> <p>4. The proposed development is consistent with other seawall upgrades in the area including approved works at 1106 Pittwater Road and 1 Frazer Street, Collaroy.</p> <p>5. The proposed development does not jeopardise views to and from the Ramsay Street reserve area or Collaroy Beach.</p> <p>6. The subject site is not located within a bushfire prone area and this clause is not applicable.</p> <p>7. Ramsay Street reserve area has been cleared of vegetation fronting Collaroy Beach and the proposed development will not adversely impact any bushland on the public site.</p> <p>8. The proposed development does not inhibit opportunities for casual surveillance of the Ramsay Street reserve or Collaroy Beach. The seawall upgrades are largely situated at ground level, and when constructed, should be covered by sand and integrated effectively into the existing dune system.</p> <p>9. The proposed seawall upgrade will be located within the coastal foreshore environment where landscape screening is not required.</p>
E8 Waterways and Riparian Lands	<p>Not applicable.</p> <p>The subject site is not located within Waterways and Riparian Lands as per Northern Beaches Council online mapping.</p>
E9 Coastline Hazard	<p>Complies.</p> <p>The proposed seawall upgrade works are located within the <i>Area of Wave Impact and Slope Adjustment</i> as per the Warringah Coastline Hazards Map. The following extract is provided from the Coastal Assessment Report:</p> <p><i>The risk of damage from coastal processes has been reduced to an acceptable level in line with the Collaroy – Narrabeen CZMP. The works are compliant with the Collaroy – Narrabeen CZMP.</i></p>
E10 Landslip Risk	<p>Complies.</p> <p>The subject site is located within Landslip Class A, as per Warringah LEP 2011 Landslip Risk Mapping. Accordingly, a Geotechnical Site Investigation was prepared by Crozier Geotechnical Consultants to assess the implications of proposed coastal protection work upgrades. Refer to the Geotechnical Report attached within Appendix B for further details.</p> <p>In addition to the Geotechnical Report discussed above, the Coastal Assessment Report attached in Appendix A also provides justification for the</p>

	proposed engineering design and standards. Further, the proposed upgrades to existing coastal protection works are consistent with the Northern Beaches Coastal Zone Management Plan, and no adverse impacts are expected as a result of the works to existing subsurface flow conditions or stormwater discharge.
E11 Flood Prone Land	Not applicable. The site is not flood prone as per Northern Beaches Council Flood Risk Precinct Maps.
Part F Zones and Sensitive Areas	Not applicable.
Part G Special Area Controls	Not applicable.
Part H Appendices	Noted.

5.6 Water Management Act

Under Part 3 of Chapter 3 a person must obtain a permit for water use approval, water management work approval or activity approval.

No building works are proposed in close proximity to a water course and the integrated approval of Office of Water is not required in this instance.

5.7 Rural Fires Act 1997 & Planning for Bushfire Protection

The subject site is not located within a designated bushfire prone area. The application will therefore not require referral to the NSW RFS for concurrence.

5.8 Biodiversity Conservation Act 2016

The Biodiversity Conservation Act 2016 and its regulations commenced on 25 August 2017 and replaces the Threatened Species Conservation Act 1995.

In accordance with Part 7 of the Biodiversity Conservation Act, the proposal does not require a supporting biodiversity development assessment report because:

- (a) the development is not likely to significantly affect threatened species or ecological communities, or their habitats,
- (b) the development does not trigger any biodiversity offsets schemes; and
- (c) the development is not proposed in a declared area of outstanding biodiversity value.

A Flora and Fauna Inspection Report (refer Appendix C) was conducted by Diane Weisner which concluded the following:

The subject property was inspected on 19 June 2019.

There is no evidence, within the confines of the properties of any threatened or endangered NSW coastal species listed in the EPBC Act 1999 of Threatened Species and Ecological communities including those which would be capable of surviving in sand and the poor quality soil of the subject property.

The foreshore sand is currently stabilized by rocks and coastal pigface (Carpobrotus glaucescens) and a few tufts of kikuyu grass. A small shrub (approx. 0.8m high) , possibly to be coastal Mimosa, mid-way along the property boundary, emerges from the mass of pigface.

Accordingly, no further biodiversity assessment is required.

6 Section 4.15 Assessment

6.1 (a)(i) The provisions of any Environmental Planning Instrument

As outlined in Section 4.0 the proposal has been prepared in light of the relevant environmental planning instruments.

6.2 (a)(iii) The Provisions of any Development Control Plan

The proposal has been prepared having regard for relevant DCP requirements, refer Section 4.0.

6.3 (b) The Likely Impacts of That Development

Environmental Responsibility and Land Capability

Ecological Values

A Flora and Fauna Inspection Report (refer Appendix C) confirmed that the proposed seawall upgrade would not impact the ecological values of the site and Collaroy Beach surrounds. The report concluded that no threatened or endangered species were found to exist within the coastal frontage.

Scenic Values

The coastal protection works upgrades have been designed in accordance with the Northern Beaches Coastal Zone Management Plan. The location of the proposed upgrades is consistent with the existing seawall and no additional impacts to the scenic values of the coastal foreshore area are expected.

Further, the visual design attributes of the proposed upgrades are consistent with the approved DA for seawall upgrade at 1106 Pittwater Road, approved seawall upgrades to the coastal properties spanning from 1126 Pittwater Road - 1144 Pittwater Road and recently constructed seawall upgrades at 1 Frazer Street. The seawall will be regenerated with vegetation species as per the existing circumstances.

Acoustic Impact

The proposed seawall upgrade will have no longer term impact on the surrounding acoustic environment.

Minor construction acoustic impacts will be confined to a period spanning approximately 4 weeks. These potential acoustic impacts are not expected to create unacceptable amenity impacts on surrounding properties or public open space.

Tree Preservation and Management

Tree removal is not required as the existing pine tree located within the rear setback of the subject site will be retained and protected during construction works.

Vegetation management will be confined to removal of the strip of coastal pigface along the existing coastal protection works to facilitate upgrades. The vegetation will be replaced with suitable ground cover species to mitigate opportunities for erosion.

Erosion Prevention and Sediment Control

The proposed development will facilitate long term erosion prevention and sediment control through site specific environmental design of coastal protection works that is consistent with the Northern Beaches

Coastal Zone Management Plan. The works have been designed to allow future adaptation measures to ensure the long-term erosion protection of the subject property.

Current sediment displacement from the subject property onto adjacent sand deposits will be addressed through increased crest details that have been modified to withstand anticipated overtopping rates.

The performance and structural integrity of proposed works are discussed in detail in the Coastal Assessment Report attached in Appendix A.

Overshadowing

Proposed works are located at existing ground level and will not contribute to overshadowing of adjacent properties or public open space.

Privacy

No adverse privacy impacts are associated with the proposed upgrade to existing coastal protection works.

Social Impact & Economic Impact

The coastal frontage that forms the subject of this application provides the primary open space element for residents of the Shipmates building. The upgraded seawall protection of this landscaped frontage is important for the maintenance of resident safety, recreational amenity and opportunities for longer term erosion control. The coastal protection upgrades will assist in the protection of the residential flat building from wave attacks and coastal processes which can be categorised as positive to both residents and the community. Unlike surrounding approved seawall DA's which protect single dwelling development, the Shipmates residential flat building houses over 50 residents in close proximity to a failing seawall. The benefits of best practice engineered coastal protection works for this site are therefore clear to the community and Northern Beaches Council.

Negative social impacts are not foreseen as the seawall upgrade has been engineered to comply with the Northern Beaches CZMP and best practice boulder seawall construction. The design does not impact on use of the beach or public reserve space and the upgrades are generally located within private property. The proposal integrates suitable tie-in to adjacent seawall construction at Ramsay Street Reserve and to the south of the site within 1114 Pittwater Road, Collaroy, thus negating any detrimental impacts on these areas.

The positive economic benefits associated with long term coastal protection of beachfront properties are significant. Collaroy Beach has been subjected to coastal erosion which has severely undermined the structural capacity of coastal frontages, potentially impacted residential property prices and created visual amenity and access issues which have in turn, required private injection of funds to address and maintain. The proposed coastal protection works can allow residents of the Shipmates a level of confidence that further erosion will be prevented through the seawall upgrades. The estimated cost of works and expected maintenance costs of the seawall upgrade are minimal when viewed in relation to the combined property value of the Shipmates building.

Heritage

There are no known European heritage items on or near the site.

An AHIMS search was undertaken and found that no known sites of significance have been registered in the vicinity of the subject land.

Infrastructure and On-site Services

The site is serviced by power, telecommunication, sewer and water.

No changes to existing services are proposed.

Transport, Access, Parking and Servicing

The site is accessed via Pittwater Road and Ramsay Street.

The proposed development will not cause adverse traffic or parking issues.

Amenity

The proposal is of a similar design to approved seawall upgrades in the suburb and is consistent with the existing character of the area.

The proposed development will increase the amenity of the coastal frontage for residents of the Shipmates building through continued protection and opportunities for outdoor recreation along the landscaped rear boundary.

6.4 (c) The Suitability of the Site for the Development

The Statement of Environmental Effects has determined that there are no constraints that would restrict the development proposed. The site is therefore suitable for the development proposed.

6.5 (e) Public Interest

The public interest is best served by promoting sustainable development that is rational, orderly and economic. The proposal will generate positive social, environmental and economic benefits and is entirely consistent with the Northern Beaches Coastal Zone Management Plan for Collaroy - Narrabeen Beach and Fishermans Beach (2016).

During current storm events, the beach width is often reduced, and the existing ad-hoc terminal seawall becomes hazardous to users of the coastal area. In this regard, private upgrades to the existing coastal protection works are entirely consistent with the Coastal Zone Management Plan, and the nature of the proposal allows future integration of the upgraded seawall into the eventual line of coastal protection walls along the Collaroy- Narrabeen stretch.

Accordingly, the proposal is considered to be in the public interest.

7 Conclusion

The Statement of Environmental Effects has been prepared addressing relevant matters outlined in section 4.15 of the Environmental Planning and Assessment Act, 1979 and satisfies all relevant planning legislative requirements.

Our assessment of the proposal confirms:

- The proposed development is permissible according to State Environmental Planning Policy (Coastal Management 2018) and will assist in the long-term protection of private property and beach areas from coastal erosion events and ocean inundation;
- The scale, design and required lifespan of the proposed coastal protection works is consistent with the Northern Beaches Coastal Zone Management Plan (2016) and the approved seawall design at 1104 Pittwater Road and 1106 Pittwater Road; and
- The proposal will not create any unacceptable environmental, social or amenity impacts on surrounding residents or communities.

The proposal represents rational, orderly, economic and sustainable use of the land and should therefore be supported.

Appendix A - Coastal Assessment Report

Appendix B - Geotechnical Site Investigation

Appendix C - Flora and Fauna Inspection Letter

Appendix D- Detail Survey

Appendix E- Boulder Seawall Plans