48 Kalang Road
Elanora Heights NSW 2101
02 9913 3997

STATEMENT OF ENVIRONMENTAL EFFECTS

OF

PROPOSED NEW BOATSHED

FOR

SUE HOLLIDAY

AT

16 CABARITA ROAD
AVALON BEACH

Section 4.55 MODIFICATION TO
DEVELOPMENT CONSENT No. 2018/1968
DECEMBER 2020

Amendment text highlighted, below

www.envirotecture.com.au
Nominated Architect: Andy Marlow #9597
Accredited Building Designer: Dick Clarke #6029

This Statement of Environmental Effects describes a proposal to amend the previous Development Consent for a new boatshed at 16 Cabarita Road, Avalon Beach.

The proposed amendment covers two features of the design:

1. A sandstone retaining wall to stabilize the base of the slope adjacent to the swimming pool, with a 6.4sq.m increase in the paved area immediately adjacent; and
2. Clarification of the height of an upturned beam on the roof of the boatshed (not the roof height itself), which is increases the overall height by 310mm.

It should be read in conjunction with the architectural drawings and documents outlined below:

Application Form
Statement of Environmental Effects – this document, prepared by Envirotecture
Survey Plan - by C.M.S Surveyors
Architectural Plans - architectural plans prepared by Envirotecture
A4 Notification Plans - plans prepared by Envirotecture
Geotechnical Report for new retaining wall - prepared by White Geotechnical Group

Other documents that formed the previous Development Consent and which remain unchanged, are:
Landscape Plan - prepared by Elke Landscape Architect
Solar Access Diagrams/Elevations - included in architectural plans
Geotechnical Risk Management Report - prepared by White Geotechnical Group
Estuarine Risk Management Report – prepared by Dr David Wainwright, Salients
Structural and Stormwater Report – prepared by AS Consulting Engineering
Subsurface Utility Information Photo Report – prepared by EarthRadar
Water Management Plan - prepared by Envirotecture
Colour and Materials Schedule - prepared by Envirotecture

A. DEVELOPMENT APPLICATION

A.1 Site details and description

Lot No.5 in DP 17704

16 Cabarita Road

Site area 629.2m2

Zone E4 Environmental Living;

Current use is residential;

Rear aspect is north-east across Careel Bay;

Rear boundary adjoins Pittwater Waterway

Slope is extremely steep and falls ~20m to the foreshore of Careel Bay.

Vegetation includes terraced landscaping and shelves to the rear of the existing dwelling;

Affected by the following hazards:

- geotechnical hazard,
- estuarine hazard and
- Acid Sulfate Soils Class 5

(figure 1 – source Six Maps)

Currently the site contains a two storey dwelling with a separate garage on the upper front (street) boundary. At the rear (waterfront) boundary of the property is an existing concrete swimming pool, a jetty and timber boat ramp.

A.2 Proposed development description

Proposed structure

The proposed development is for a new 31.3m^2 boatshed to the rear of the existing dwelling facing Careel Bay. This boatshed will be used to store boats and boating equipment.

Proposed structural amendment

1. Retaining wall: The proposed amendment covers the construction of a sandstone log retaining wall at the base of the slope adjacent to and to the west of the boatshed. This was necessitated by the removal a large unstable floater discovered during excavations, which left a void that needed stabilising, and a retaining wall was the most logical option after engineering advice was sought.

   This created an extra space of approximately 1.0m width and height, adjacent to the original garden wall, which is paved at the same level as the existing paving.

2. Upturned beam on boat shed roof: this was created to provide a consistent roof edge detail that both retains the soil in the green roof, and acts as lintel over the openings in the wall below.

Orientation and footprint

The orientation of the proposed boatshed is lateral (parallel to slope) rather than longitudinal (as per the sketch in the Pittwater 21 DCP 2014) because of the steep slope of the site and the need to minimise excavation depth.

The orientation and building footprint are not subject to this Amendment application.

Bulk and scale

The boatshed has been designed expressly to minimise the bulk and scale of the building's public elevation, being the north east elevation facing Careel Bay, and any impact on neighboring properties especially when viewed from the adjoining houses above.

It achieves this by incorporating a green roof and the use of natural colours to blend with the surrounding landscape.

The bulk and scale are not subject to this Amendment application.

Impact on adjacent properties

The properties to the east and west (Nos. 14 and 18 Cabarita Road) do not have their views or solar access impacted by the proposed boatshed (the Shadow Diagrams that formed part of the original Development Application have not been altered).

There is no additional or modified impact on adjacent properties as a result of this Amendment application.

Setbacks

The proposed boatshed complies with the required front and side setbacks but seeks a variation to the rear setback with reference to the Foreshore Building Line (see section D1.9 Side and rear building line).

The existing setbacks are not subject to this Amendment application.

Height

The proposed boatshed complies with the maximum height allowance under the Pittwater LEP 2014.

The increased beam height is a structural change, the green roof height remains unchanged in this Amendment application. Refer to the consulting engineer's' detail attached.

B. RESPONSE TO PITTWATER LOCAL ENVIRONMENT PLAN 2014

This section considers the aims and relevant controls contained in Pittwater Local Environment Plan 2014, and responds as appropriate.

Note that numbering below is taken from the Pittwater LEP 2014.

2 Permitted and prohibited development

The site is zoned E4 - Environmental Living.
The proposal is for a new boatshed, which is permitted with consent in the Pittwater LEP 2014.
The proposal is therefore is permissible.

4.3 Height of buildings

Objectives

(1) The objectives of this clause are as follows:
- (a) to ensure that any building, by virtue of its height and scale, is consistent with the desired character of the locality,
- (b) to ensure that buildings are compatible with the height and scale of surrounding and nearby development,
- (c) to minimise any overshadowing of neighbouring properties,
- (d) to allow for the reasonable sharing of views,
- (e) to encourage buildings that are designed to respond sensitively to the natural topography,
- (f) to minimise the adverse visual impact of development on the natural environment, heritage conservation areas and heritage items.

Response

The site is located on Map HOB_015 in Area I, which has a building height limit of 8.5m.

The proposed boatshed has a maximum height of 3.96m above the existing ground level and complies with the LEP Height limit and also the height limit for boatsheds of 4.5m outlined in the Pittwater DCP Clause D15.15 Waterfront Development.

Refer to the following architectural plans for accurate CAD modeling of compliance of the proposed building forms (all details and levels are in accordance with the survey):
Drawing Nos.: ***H69-DA s4.55 40.01 – Sections***

5.10 Heritage conservation

Objectives

The objectives of this clause are as follows:
- (a) to conserve the environmental heritage of Pittwater,
- (b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,
- (c) to conserve archaeological sites,
- (d) to conserve Aboriginal objects and Aboriginal places of heritage significance.

Response

The subject site is not on the register of buildings or sites of the NSW Heritage Office.
The subject site is not on the register of places of Aboriginal significance.
The proposed development will have no detrimental affect on the cultural or natural heritage values of Avalon Locality and so the objectives are achieved.

No change from previous Development Consent.

7.1 Acid sulfate soils

Objectives

The objective of this clause is to ensure that development does not disturb, expose or drain acid sulfate soils and cause environmental damage.

Pittwater Council acid sulfate soil mapping shows the subject property to be a Class 5 site.

Development consent is required for any proposed works within 500 metres of adjacent Class 1, 2, 3 or 4 land that is below 5 metres Australian Height Datum by which the water table is likely to be lowered below 1.0m Australian Height Datum on adjacent Class 1, 2, 3 or 4 land.

Response

There is no evidence that the water table is going to be affected. Experience of the locality indicates that the water table is lower than the depth of excavation proposed.

No change from previous Development Consent.

7.2 Earthworks

Objectives

The objective of this clause is to ensure that earthworks for which development consent is required will not have a detrimental impact on environmental functions and processes, neighboring uses, cultural or heritage items or features of the surrounding land.

Response

The proposal contains excavation of 78.0 cu.m to recess the proposed boatshed into the slope of the site. This extent of the proposed excavation will not prevent the objective being achieved.
The excavation spoil will be removed by barge to the Careel Bay boatramp, and trucked to an appropriate recycling facility such as Kimbriki's sand processing mill. The bulk of the spoil will be high value sandstone and will be processed and resold by Kimbriki.

No change from previous Development Consent.

7.3 Flood Planning

Objectives

(1) The objectives of this clause are as follows:
- (a) to minimise the flood risk to life and property associated with the use of land,
- (b) to allow development on land that is compatible with the land's flood hazard, taking into account projected changes as a result of climate change,
- (c) to avoid significant adverse impacts on flood behaviour and the environment.

Response

The boat shed is a non-habitable space. No habitable space is proposed in an area at risk of flood. There are no floor waste drains and the toilet pan is at RL2.45 and therefore not at risk of flooding.

No change from previous Development Consent.

7.5 Coastal risk planning

Objectives

(1) The objectives of this clause are as follows:
- (a) to avoid significant adverse impacts from coastal hazards,
- (b) to ensure uses of land identified as coastal risk are compatible with the risks presented by coastal hazards,
- (c) to enable the evacuation of land identified as coastal risk in an emergency,
- (d) to avoid development that increases the severity of coastal hazards.

Response

The site is not identified on the LEP Coastal Risk Planning Map as an area of concern.

No change from previous Development Consent.

7.6 Biodiversity protection

Objectives

(1) The objective of this clause is to maintain terrestrial, riparian and aquatic biodiversity by:
- (a) protecting native fauna and flora, and
- (b) protecting the ecological processes necessary for their continued existence, and
- (c) encouraging the conservation and recovery of native fauna and flora and their habitats.

Response

The proposed boatshed will be situated amongst the existing landscape and vegetation. The proposal with its green roof will incorporate local endemic planting and enhance the habitat for small birds and biodiversity, thus satisfying the objective.

No change from previous Development Consent.

7.7 Geotechnical hazards

Objectives

(1) The objectives of this clause are to ensure that development on land susceptible to geotechnical hazards:
- (a) matches the underlying geotechnical conditions of the land, and
- (b) is restricted on unsuitable land, and
- (c) does not endanger life or property.

Response

This clause applies to the subject site, which is identified as “Geotechnical Hazard H1” on the Geotechnical Hazard Map.

A specialist geotechnical consultant has been engaged to ascertain the actual risk of the proposed building design, and to advise on the means of making foundations and structural connections consistent with that managing that risk. Their report forms part of this Development Application - please refer.

It is considered that if the construction is carried out in accordance with the Geotechnical Report that this objective will be achieved.

7.8 Limited development on foreshore area

Objectives

(1) The objectives of this clause are as follows:
- (a) to ensure that development in the foreshore area will not impact on natural foreshore processes or affect the significance and amenity of the area,
- (b) to ensure continuous public access along the foreshore area and to the waterway.

Response

The proposed boatshed is compatible with the natural foreshore processes and recreational water activities and is permissible within the Foreshore Area pursuant to Cl. 7.8(2)(b) of the LEP.

As defined in the PLEP 2014 a boat shed is "a building or other structure used for the storage and routine maintenance of a boat or boats and that is associated with a private dwelling or non-profit organisation, and includes any skid used in connection with the building or other structure."

The site is affected by the Foreshore Building Line (FBL) and the proposed boatshed will be located within the foreshore area. However, it will not impact on public access along the foreshore or to the waterway and therefore satisfies the objectives.

No change from previous Development Consent.

7.10 Essential services

Development consent must not be granted to development unless the consent authority is satisfied that any of the following services that are essential for the development are available or that adequate arrangements have been made to make them available when required:
- (a) the supply of water,
- (b) the supply of electricity,
- (c) the disposal and management of sewage,
- (d) stormwater drainage or on-site conservation,
- (e) suitable vehicular access.

Response

The proposed development does not alter or limit the extent to which any or all of these essential services are already provided to the subject site, thus achieving the objective.

No change from previous Development Consent.

C. RESPONSE TO PITTWATER 21 DCP 2014

This section considers the aims and any controls contained in Pittwater 21 Development Control Plan - 2014, and responds where relevant.

Note that numbering below is taken from the Pittwater 21 DCP - 2014.

Section A Shaping Development in Pittwater

A1.7 Considerations before consent is granted

Before granting development consent, Council must be satisfied that the development is consistent with:
- Pittwater Local Environmental Plan 2014; and - the desired character of the Locality; and - the development controls applicable to the development.

Council will also have regard to Section 79C of the *Environmental Planning and Assessment Act 1979*.

Before granting consent for development within a Locality, Council may consider the provisions of a neighbouring Locality to the extent to which it affects the subject site.

Response

It is considered that the proposal fully achieves or is consistent with the Pittwater Local Environmental Plan 2014, the desired character of the Locality, and the development controls applicable to the development.

No change from previous Development Consent.

A4.1 Avalon Beach Locality

The subject site sits within the Avalon Beach Locality.
The relevant key elements of the Desired Future Character Statement contained in the Pittwater 21 DCP - 2014 for this locality are summarised as follows:

- Provide an informal relaxed seaside environment
- Remain primarily a low-density residential area
- Dwelling houses a maximum of two storeys in a landscaped setting, integrated with the landform and landscape
- Future development is to be located so as to be supported by adequate infrastructure, including roads, water and sewerage facilities, and public transport
- Future development to be below the tree canopy, minimise bulk and scale.
- Existing and new native vegetation integrated with the development.
- Contemporary buildings will utilise facade modulation and/or - incorporate shade elements, such as pergolas, verandahs and the like.
- Building colours and materials will harmonise with the natural environment.
- Development on slopes stepped down or along the slope to integrate with the landform and landscape, and minimise site disturbance.
- Development will be designed to be safe from hazards.
- Balance landforms, landscapes, natural environment, and development of land.

- Locally native tree canopy and vegetation will be retained and enhanced
- Domination of vegetation over built form,

Response

The proposed boatshed is consistent with the desired future character of Avalon Locality in the following ways:

- Maintains the low density single residential character.
- The boatshed will be integrated with the sloping site.
- The proposal sits below the tree canopy.
- Bulk and scale are commensurate with the residential character of the locality.
- The modulation in the walls, and variation in cladding pattern and colour reduce apparent bulk and add visual interest.
- The colours and textures will harmonise with the colours of the surrounding bush and rock faces.

In response to the clause "Development on slopes stepped down or along the slope to integrate with the landform and landscape, and minimise site disturbance", the proposal necessarily involves a high proportion of excavation as a proportion of its modest size because of the need to provide a floor level as close to water level as is practicable inside the rear (waterfront) boundary and beyond the main sewer line.

The control's objective is therefore achieved. No change from previous Development Consent.

A5.1 Exhibition, Advertisement and Notification of Applications Outcomes

Outcomes

To achieve desirable and reasonable planning outcomes for development on the Northern Beaches; to provide the opportunity for public participation in the planning process that is appropriate to the type, location and form of development proposed; to provide transparent, consistent and efficient procedures for the exhibition of applications.

Response

The required signage will be posted on the street frontage as is normally required.
All applications will be available online via Council's website. The posting online of information relating to applications will be consistent with relevant legislation. The Development Application will meet the required minimum standards for notification outlined in the DCP.

Section B General Controls

B1.3 Heritage Conservation - General

Controls

If a property, the subject of a development application, is identified as possibly meeting any of the criteria for heritage listing (encompassing the four values of the Burra Charter, being historical, aesthetic, scientific and social significance) then additional independent information

on the potential heritage significance may be requested. If the property meets the criteria for heritage listing then development control B1.1 of this DCP will apply.

Response

The subject property has no heritage listing. No change from previous Development Consent.

B1.4 Aboriginal Heritage Significance

Controls

If a property, the subject of a development application is identified as possibly meeting any of the criteria for being a potential Aboriginal place or containing an Aboriginal object then additional independent information on the potential heritage significance may be requested.

If a property, the subject of a development application, is in the vicinity of an identified or potential Aboriginal place of heritage significance or Aboriginal object then additional independent information on the potential heritage significance may be requested.

Response

The subject site has no record of any Aboriginal artifacts, carvings, paintings or other items of archeological, cultural or historical interest.

The site analysis plan (included in this Application) indicates that the features listed (creek line/watercourse, foreshore, a cliff line/boulders higher than 1m, overhangs in any of the cliff lines/boulders, level sandstone outcrops greater than 2 square metres) are not present on the subject site. No change from previous Development Consent.

B3.1 Landslip Hazard

Controls

All development on land to which this control applies must comply with the requirements of the Geotechnical Risk Management Policy for Pittwater.

Development must be designed and constructed to ensure that every reasonable and practical means available is used to remove risk to an acceptable level as defined by the Geotechnical Risk Management Policy for Pittwater for the life of the development.

The development must not adversely affect or be adversely affected by geotechnical processes nor must it increase the level of risk for any people, assets and infrastructure in the vicinity due to geotechnical hazards.

Response

As discussed in response to LEP Clause 7.7 above, a specialist geotechnical consultant was engaged to ascertain the actual risk relative to the proposed building design, and to advise on the means of making foundations and structural connections consistent with that managing that risk, and their report forms part of this Development Application - **please refer to Geotechnical Risk Management Report and Form 1 and Form 2B Certificates - prepared by White Geotechnical Group, dated 4 December 2020.**

Commented [DC1]: update

It is considered that if the construction is carried out in accordance with the Geotechnical Report that this objective will be achieved.

B3.6 Contaminated Land and Potentially Contaminated Land

Controls

Council shall not consent to the carrying out of any development on land unless it has considered *State Environmental Planning Policy No. 55 Remediation of Land*.

In particular, Council shall consider:

- whether the land is contaminated; and
- if the land is contaminated, whether the land is suitable in its contaminated state (or will be suitable after remediation) for the purpose for which the development is proposed to be carried out; and
- if the land requires remediation, whether the land will be remediated before the land is used for that purpose.

Response

The site has no history of activities outlined in the DCP that may cause contamination. The control's objective is therefore achieved. No change from previous Development Consent.

B3.7 Estuarine Hazard - Low density residential

Outcomes

Protection of people.
Protection of the natural environment.
Protection of private and public infrastructure and assets

Controls

Protection of Development from Wave Action and Tidal Inundation

Development is to be protected from the effects of wave action or tidal inundation either by mitigation works to protect the development or ensuring that the floor levels of the development are at or above the Estuarine Planning Level.

General to all Development

- All development or activities must be designed and constructed such that they will not increase the level of risk from estuarine processes for any people, assets or infrastructure in surrounding properties; they will not adversely affect estuarine processes; they will not be adversely affected by estuarine processes; and,
- All structural elements below the Estuarine Planning Level shall be constructed from flood compatible materials; and,
- All structures must be designed and constructed so that they will have a low risk of damage and instability due to wave action and tidal inundation; and,
- All electrical equipment, wiring, fuel lines or any other service pipes and connections must be waterproofed to the Estuarine Planning Level; and,
- The storage of toxic or potentially polluting goods, materials or other products, which may be hazardous or pollute the waterway, is not permitted below the Estuarine Planning Level; and,
- For existing structures, a tolerance of up to minus 100mm may be applied to the Estuarine Planning Level in respect of compliance with these controls.
- To ensure Council's recommended flood evacuation strategy of 'shelter-in-place', it will need to be demonstrated that there is safe pedestrian access to a 'safe haven' above the Estuarine Planning Level.

Wave Action and Tidal Inundation Mitigation Works

Developments that propose mitigation works that modify the wave action or tidal inundation behaviour within the development site including the filling of land, the construction of retaining structures and the construction of wave protection walls may be permitted on a merit basis subject to demonstration through an Estuarine Risk Management Report that:

- The wave action or tidal inundation mitigation works do not have an adverse impact on any surrounding property or estuarine processes up to the Estuarine Planning Level; and,
- The wave action or tidal inundation mitigation works result in the protection of the existing and proposed development from inundation up to the Estuarine Planning Level.
- The wave action or tidal inundation mitigation works do not have an adverse impact on the environment. (This includes but is not limited to the altering of natural flow paths and the clearing of vegetation).

Where wave action or tidal inundation mitigation works are undertaken to protect the development from inundation as set out above, the application of the Estuarine Planning Level requirements of this control need not apply.

A Section 88B notation under the *Conveyancing Act 1919* may be required to be placed on the title describing the location and type of wave action or tidal inundation mitigation works with a requirement for their retention and maintenance.

Floor Levels - Boat shed Facilities

New boat shed: All floor levels shall be at or above the Estuarine Planning Level.

Variations

Floor Levels - Boat shed Facilities

Consideration may be given on a merit basis to a floor level of a boat shed at a level lower than the Estuarine Planning Level where it can be demonstrated through an Estuarine Risk Management Report that the boat shed is structurally designed to withstand periodic wave action and tidal inundation up to the Estuarine Planning Level.

Response

A specialist Estuarine consultant was engaged to ascertain the Estuarine Planning Level and Estuarine risk for the site and relative to the proposed building design.

The report supports the proposal and forms part of this Development Application - **please refer to Estuarine Risk Management Report - prepared by Dr David Wainwright, dated November 2018.**

A structural engineer was also engaged to advise on stormwater controls and construction methods to ensure the building will withstand any potential periodic wave action and tidal inundation - **please refer to Structural and Stormwater Report – prepared by AS Consulting Engineering, dated November 2018.**

The FFL of the proposed boatshed is RL2.2 AHD, which is 0.25m below the Estuarine Planning Level (EPL) of RL 2.45 AHD, due to site constraints and the need for the building to fulfill its intended function as a boatshed. Raising the FFL would severely inhibit the ability of users to pull boats into the shed and therefore make its intended use as a boatshed impractical.

The 2.2m FFL provides practical ramp slopes from the existing jetty and foreshore concrete sea wall. A higher FFL would inhibit dragging dinghies and other watercraft up into the boatshed, or worse, when wet the steepness of the ramping would pose a significant risk of slipping and resultant injury.

The key goals implicit within this control, requiring a FFL at the EPL are discussed below, along with the design response which achieves those goals:

1. Structural integrity - to ensure that the structure is not compromised by inundation. This is achieved by constructing all components of the structure to marine standards:
- concrete of 40mPa strength, high density and cover that withstands salt attack;
- reinforcement galvanised and with adequate concrete cover;
- timber components to be H4 treated or Class 1 durability species, or marine grade plywood;
- fixings and all metal components to be 316 grade stainless steel;
- structural strength to be capable of withstanding the design wave action.

2. Sewer system protection - to ensure that sea water does not flood the sewer main. This is achieved by having toilet and basin above the EPL, such that inundation to the EPL will not flow into either the toilet bowl or basin overflow. There is a dry floor waste to the room in which the toilet is installed, as the toilet and handbasin both have internal overflows.

In all other respects the proposed boatshed has been designed in accordance with the recommendations of the Estuarine and Structural engineer's reports, and therefore the control's objectives are achieved.

It is considered that the control's objectives are achieved. **A variation was granted** in relation to this control. No change from previous Development Consent.

B4.7 Pittwater Spotted Gum Forest

Outcomes

Development shall not have an adverse impact on Pittwater Spotted Gum Endangered Ecological Community.
Development shall restore and/or regenerate Pittwater Spotted Gum Endangered Ecological Community and provide links between remnants.
Development shall be in accordance with any Pittwater Spotted Gum Forest Recovery Plan.
Development shall result in no significant onsite loss of canopy cover or a net loss in native canopy trees.
Development shall retain and enhance habitat and wildlife corridors for locally native species, threatened species and endangered populations.
Caretakers of domestic animals shall prevent them from entering wildlife habitat.
Fencing shall allow the safe passage of native wildlife.
Development shall ensure that at least 80% of any new planting incorporates native vegetation (as per species found on the site or listed in Pittwater Spotted Gum Endangered Ecological Community).
Development shall ensure any landscaping works are outside areas of existing Pittwater Spotted Gum Endangered Ecological Community and do not include Environmental Weeds.

Response

There are spotted gums on adjacent sites. However, there are no spotted gums on the site and no native vegetation or canopy trees are to be removed in the development.

A new shade tree that is consistent with the spotted gum forest is to be planted in the rear yard as shown in the Landscape Plans accompanying this application.

Refer to amended Site Plan and previously submitted Landscape Plans submitted with this development application. No change from previous Development Consent.

B4.12 Mangrove Conservation

Outcomes

To conserve and enhance mangroves in the Pittwater Local Government Area. (En)

Controls

Development shall not adversely impact on existing mangroves or their habitat.
Development shall provide an adequate buffer to mangroves.

Response

The site is not located near any existing mangroves, and the proposal includes no work below mean high water mark, thus no impact on any mangrove habitat. No change from previous Development Consent.

B4.15 Saltmarsh Endangered Ecological Community

Outcomes

To conserve and enhance saltmarsh vegetation. (En)

Controls

Development shall retain and enhance saltmarsh vegetation.
Development shall restore and/or regenerate saltmarsh vegetation.
Stormwater, wastewater and other drainage shall not be disposed of into saltmarsh.
Development shall have an adequate buffer to saltmarsh and foreshore vegetation.
Where mangroves have been shown as invading saltmarsh vegetation, Council may consider mangrove removal (with permission from NSW Department of Primary Industries) for the purposes of restoring or regenerating these habitats.
Any works or activities proposed within the foreshore building line must be consistent with ensuring the long term survival of saltmarsh vegetation.

Response

No saltmarsh vegetation is to be removed and stormwater drainage will use the existing system of piped disposal through the existing sea wall. No change from previous Development Consent.

B4.19 Estaurine Habitat

Commented [DC2]: insert summary words on the Control

Outcomes

To protect and enhance the mangroves, saltmarsh, seagrasses, intertidal sand/mud flats and other foreshore habitats that comprise the estuarine habitat of Pittwater
Development in the catchment of estuarine habitat is to result in estuarine habitat being retained or enhanced with respect to that development.
The physical, chemical and biological processes of estuarine habitats in Pittwater are improved, maintained or restored.
The social and cultural values of estuarine habitats are conserved and enhanced.
Biodiversity, ecological processes and other estuarine habitat values are conserved.

Controls

Development shall not be permitted which could result in the destruction of mangroves or seagrass beds, saltmarsh and other estuarine habitats.
Development in an estuarine habitat catchment shall not adversely impact on the wetlands.
Development shall dispose of stormwater, wastewater and other drainage in a manner that will not adversely impact on estuarine habitat.
Development must minimise changes to the following:

- local surface runoff, groundwater flows and water flow regimes to the estuarine habitat;
- temperature, salinity, chemical makeup and sediment loads

Stormwater is to mimic natural conditions.
Development shall provide adequate buffering to estuarine habitat.
Existing wildlife corridors are to be maintained and functional habitat links provided wherever possible.
Development shall ensure 80% of the area that is not covered by approved buildings or associated structures, is native vegetation either through retention of existing bushland or planting with locally native plant species (as per species found on the site or those listed in 'Native Plants for your Garden' on Pittwater webpage).
Development within the Pittwater Waterway shall have regard to any adjoining important estuarine habitats at all time, particularly during the construction phase. Any impact upon estuarine habitats within the Pittwater Waterway, particularly mangroves, saltmarsh and seagrass beds, must be minimised.
Adequate compensatory works shall be undertaken where damage to estuarine habitats occurs.
Habitat for locally and migratory birds shall not be reduced or degraded. Development that will result in increased disturbance to migratory wading bird habitat shall not be permitted.

Response

A specialist Estuarine consultant was engaged to ascertain the Estuarine Planning Level and Estuarine risk for the site and relative to the proposed building design.

The report supports the proposal and forms part of this Development Application - **please refer to Estuarine Risk Management Report - prepared by Dr David Wainwright, dated November 2018.**

Commented [DC3]: update

A structural engineer was also engaged to advise on stormwater controls and construction methods to ensure the building will withstand any potential periodic wave action and tidal inundation. **Please refer to Structural and Stormwater Report – prepared by AS Consulting Engineering, dated November 2018.**

All development is to be in accordance with the recommendations of the Estuarine and Structural engineer's reports and therefore the control's objectives are achieved.

No change from previous Development Consent.

B4.20 Protection of Estuarine Water Quality

Outcomes

To ensure that water quality is not adversely affected by pollutants including increased nutrient levels, pathogens, and siltation. (En)
To protect the mangroves, seagrasses, intertidal sand/mud flats and other habitats that comprise the estuarine habitat of Pittwater. (En)
Development in the catchment of estuarine habitat is to result in estuarine habitat being retained or enhanced with respect to that development. (En)
The physical, chemical and biological processes of estuarine habitats in Pittwater are improved, maintained or restored. (En)

The social and cultural values of estuarine habitats are conserved and enhanced. (S)
Biodiversity, ecological processes and other estuarine habitat values are conserved. (En)

Controls

Development shall not have an adverse impact on water quality through pollution including turbidity, siltation or increased nutrients.
Development shall not impact on the existing water circulation within the Pittwater Waterway, its individual embayments or tidal tributaries in a manner that is likely to adversely affect water quality or the physical well being of natural estuarine habitats.

Environmental safeguards (silt curtains, booms etc) are to be used during construction of the proposed works to ensure there is no escape of turbid plumes into the aquatic environment. Turbid plumes caused by runoff, driving of piles, etc. have the potential to smother aquatic vegetation and have a deleterious effect on benthic organisms.

Response

A specialist Estuarine consultant was engaged to ascertain the Estuarine Planning Level and Estuarine risk for the site and relative to the proposed building design.

The report supports the proposal and forms part of this Development Application - **please refer to Estuarine Risk Management Report - prepared by Dr David Wainwright, dated November 2018.**

Commented [DC4]: update

A structural engineer was also engaged to advise on stormwater controls and construction methods to ensure the building will withstand any potential periodic wave action and tidal inundation. **Please refer to Structural and Stormwater Report – prepared by AS Consulting Engineering, dated November 2018.**

All development is to be in accordance with the recommendations of the Estuarine and Structural engineer's reports and therefore the control's objectives are achieved.

No change from previous Development Consent.

B5.2 Water Management Plan

Outcomes

Effective management of water and wastewater systems.
Protection of receiving environments downstream of all water management systems.

Controls

The use of an Integrated Water Management approach on all land subject to development for the effective water management of all water on the site including: rainwater; stormwater; greywater, and wastewater.

Response

A Water Management Plan demonstrating an Integrated Water Management approach has been prepared and is contained in the Architectural Drawings **prepared by Envirotecture – please refer to Drawing No. H69 69.01 by Envirotecture.**

Commented [DC5]: Has it? Well bugger me! Better explain how, and on what drawings…

A structural engineer was also engaged to advise on stormwater controls. **Please refer to Structural and Stormwater Report – prepared by AS Consulting Engineering, dated 5 November 2018.**

As per the above report, an abandoned stormwater drain under the proposed boatshed will be removed and stormwater from the proposed boatshed will be directed to the existing drainage system following the eastern boundary of the block.

No change from previous Development Consent.

B5.3 Greywater Reuse

It is not proposed to reuse greywater and so this control is not relevant to this proposal.

No change from previous Development Consent.

B5.4 Stormwater Harvesting

Outcomes

- Minimise quantity of stormwater runoff
- Minimise surcharge from the existing drainage systems
- Reduce water consumption and waste in new development
- Implement the principles of Water Sensitive Urban Design

Response

The proposed boatshed has been designed to effectively manage stormwater and minimize surcharge, by means of a green roof, which will have the same porosity and run-off characteristics as the existing garden area.

Excess stormwater, which is not absorbed by the green roof, is to be directed via a swale through a drainage cell and drain located behind the proposed boat shed's rear retaining wall before connecting to the existing stormwater system.

Details of the stormwater plan can be found in the Water Management Plan accompanying this application. No change from previous Development Consent.

B5.8 Stormwater Management - On-Site Stormwater Detention

Outcomes

Rates of stormwater discharged into receiving environment maintained or reduced.

Controls

An On-Site Detention (OSD) facility is to be installed where the development results in additional hard (impervious) surface area of greater than 50m^2 (on a cumulative basis since February 1996) and on land designated through mapping as requiring OSD facility.

Response

The proposed boatshed is 31.3m^2 and therefore OSD is not required. No change from previous Development Consent.

B5.8 Stormwater Management - Water Quality - Low Density Residential

Outcomes

No increase in pollutants discharged with stormwater into the environment.
Development is compatible with Water Sensitive Urban Design principles.

Controls

The control is applicable when the development results in an additional hard (impervious) area of more than 50m^2.

Response

The proposed boatshed is 31.3m^2 and therefore stormwater quality improvements are not required.

Notwithstanding, the green roof provides an effective filtration mechanism, which will ensure that its eventual run-off has high water quality. No change from previous Development Consent.

B5.10 Stormwater Discharge into Public Drainage System

Outcomes

All new development is to have no adverse environmental impact at the discharge location.

Controls

This control applies where stormwater can discharge into the public drainage system.

Direct Connection to the Public Drainage System

Stormwater drainage is to be connected to a public drainage system by gravity means to which it would naturally flow.

Where the development has legal access to a piped drainage system within the development land or adjacent land, a channel or a natural watercourse within the development land or adjacent land, a constructed public road within a road reserve adjacent to the development land (with or without kerbing and guttering), all concentrated stormwater must be discharged directly to that system.

General

All drainage structures and measures are to be designed to be visually unobtrusive and sympathetic with the environment.

All outlet connections into watercourses, estuary or lagoons shall be designed according to the design principles in *Controlled Activities on Waterfront Land: Guideline for outlet structures on waterfront land* (NSW Office of Water, July 2012).

A Water Management Plan to a minimum scale of 1:200 including survey contours to AHD must demonstrate the feasibility of the proposed drainage system within the site and connection to a public drainage system.

Adequate overflow paths to the public drainage system must be provided to cater for major storm events (up to the 1% AEP storm event) or blockages within the drainage system serving the development.

Response

The site contains a public stormwater drainage system and easement, which discharges directly into Careel Bay through the existing sea wall under the existing ramp as shown on the plans.

An assessment was conducted by Earth Radar to determine the exact locations and depth of all subsurface utilities on site **– Please refer to the Subsurface Utility Information Report accompanying this Development Aplciation.**

Stormwater drainage from the proposed boatshed is to connect with this public system and will not lead to slope instability, erosion or visual/environmental impact.

Details of the stormwater plan can be found in the Water Management Plan accompanying this application **– refer to Drawing No. H69 69.01 by Envirotecture.**

Commented [DC6]: Update

No change from previous Development Consent.

B5.11 Stormwater Discharge into Waterways and Coastal Areas

Outcomes

All new development is to have no adverse environmental impact at the discharge location.

Controls

The discharge of stormwater into the waterways (including Pittwater, Narrabeen Lagoon and creek systems) or any of its tributary watercourses and coastal areas will only be permitted from land directly adjoining a waterway or coastal area provided that it can demonstrated through the Water Management Plan, that:

- discharge to the public drainage system is not available
- discharge over any bluff or cliff area will not cause slope instability
- the discharge system does not result in cliff/bluff/dune or shoreline erosion, sedimentation or water quality impacts
- the discharge system will minimise the visual/environmental impact of any drainage discharge structure along the foreshore.

Response

The site contains a public stormwater drainage system and easement, which discharges directly into Careel Bay through the existing sea wall under the existing ramp as shown on the plans.

Stormwater drainage from the proposed boatshed is to connect with this public system and will not lead to slope instability, erosion or visual/environmental impact.

Details of the stormwater plan can be found in the Water Management Plan accompanying this application **– refer to Drawing No. H69 69.01 by Envirotecture.**

Commented [DC7]: Update

No change from previous Development Consent.

B5.12 Stormwater Drainage Systems and Natural Watercourses

Outcomes

The integrity of stormwater drainage systems, easements and natural watercourses are maintained.

Stormwater flows including overland flow have continuity and are not impeded.

Controls

Structures Over and Adjacent to Easements, Piped Drainage System or Natural Watercourses

No encroachments or low lying overhangs of the development are permitted over and/or within easements for stormwater drainage or over piped drainage systems or over natural water courses.

On a merit basis, Council may allow light, open sided, easily removable structures to be built over drainage easements, piped drainage systems or floodways if it can be demonstrated through a water level and flow assessment that it does not affect the flow of water in overland flow paths.

Structural support elements are not permitted within an easement or within the cross sectional area of an open or natural watercourse.

Structural support elements adjacent to an easement, piped drainage or natural water course located on the development site or on adjacent lands must be founded on a stable foundation a minimum of 300mm below the invert level of the pipe (or as directed by the Structural Engineer) to provide stability to both structure and drainage system particularly during maintenance operations.

Response

No changes are proposed to the existing easement and public stormwater system. The proposed boatshed has been sited at a distance from the easement so as not to impact on the system.

The external stairs to be built over will follow the existing ground level and be light and easily removable.

As demonstrated in the Subsurface Utility Report the stormwater system is ~0.9m deep and will not be affected by the lightweight stairs.

No change from previous Development Consent.

B5.13 Development on Waterfront Land

Outcomes

Protection of waterways and improved riparian health, and
Stormwater and creek flows are safely managed, and
Appropriate setback between waterways and development.

Controls

Any waterfront land (as defined in the *Water Management Act 2000*) on the property shall be retained in their natural state to: carry stormwater/flood flows, maintain aquifers, retain stability, and provide habitat functions.

Natural or artificially modified water courses cannot be diverted onto adjoining lands, filled, channelised and/or dammed.

Waterfront land in a degraded state, should be restored and re habilitated.

Development within waterfront land shall incorporate appropriately sized riparian corridor zones into the design based on *Controlled Activities on Waterfront Land: Guideline for outlet structures on waterfront land* (NSW Office of Water, July 2012).

Development adjoining waterfront land is to be landscaped with local native plants.

Council encourages the replacement of a piped stormwater system where appropriate with a restored waterway, wherever feasible.

The piping or artificial channeling of natural watercourses and drainage channels is not permitted.

Water Management Plan with supporting documentation is to be submitted demonstrating the feasibility of the proposed watercourse works within the site.

Response

The site is defined as 'waterfront land' in the Water Management Act 2000. In accordance with the Estuarine Risk Report and as shown on the Water Management plan. – refer to Drawing No. H69 69.01 by Envirotecture, all development is designed to meet the above controls.

The proposal is relatively minor in scale compared to the intent of the controls in Clause B5.13. No watercourses are involved, no aquifers disturbed, and slope stability will be maintained with appropriate structural designs. Habitat functions will be enhanced by means of increased endemic planting on the green roof and in the garden.

No change from previous Development Consent.

B5.14 Stormwater Drainage Easements (Public Stormwater Drainage System)

Outcomes

The integrity of stormwater drainage systems and natural watercourses are maintained. Stormwater flows including overland flow have continuity and are not impeded.

Controls

Easements

Where there is no current easement over the Public Stormwater Drainage System or Natural Watercourse, a suitable easement to benefit the Council will be required to be placed on the title of the land as part of the development process.

For a natural watercourse or open stormwater system the width of an easement shall be defined by the flow rate required to convey the 1% AEP flow plus 1.0m, or the minimum as set out in the Table below.

For a piped drainage system and overland flow path the minimum width of an easement is to be as indicated in the table below.

Easement Widths

Pipe Diameter (D) (mm)	Minimum Width of Easement to Drain Water (m)
D less than or equal to 675	2.5

675 < D less than or equal to 900	3.0
900 < D less than or equal to 1200	3.5
1200 < D less than or equal to 1500	4.0
1500 < D less than or equal to 1800	4.5
D > 1800 and box culverts	As required by Council
Open Stormwater System, Natural Watercourse	Total Width of (1% AEP design flows + 0.3m free board) + 1m (may increase where downstream structures are present) but not less than 2.5m.

Where multiple pipes, deep pipes, pits or associated structures are proposed, a wider easement will be required and is to be determined in consultation with Council.

Where pits/headwalls are required, easements shall be 600mm wider than the structure but not less than the minimum width denoted above.

Response

The existing piped stormwater drainage system in the public easement on the site will not be impacted by the proposed works.

A Subsurface Utility Information Photo Report was conducted by Earth Radar and identified the exact location and depth of all existing services and stormwater systems. The location and depth of the current stormwater pipes within the easement ensures the proposed boatshed will not impact upon the system.

Please refer to Subsurface Utility Information Photo Report accompanying this Development Application.

No change from previous Development Consent.

B6 Access and Parking

There will be no change to existing access and parking. No change from previous Development Consent.

B8.1 Construction and Demolition - Excavation and Landfill

Outcomes

Site disturbance is minimised.

Excavation, landfill and construction not to have an adverse impact.

Excavation and landfill operations not to cause damage on the development or adjoining property.

Controls

Excavation and landfill must comply with the requirements of the Geotechnical Risk Management Policy for Pittwater as adopted by Council and details submitted and certified by a Geotechnical Engineer and/or Structural Engineer with the detail design for the Construction Certificate.

Response

All development is in line with recommendations in the specialist **Geotechnical Report accompanying this Development Application** and therefore satisfies this control. **Please refer to Geotechnical Risk Management Report - prepared by White Geotechnical Group, dated October 2018**

The depth of excavation is proposed to be a maximum of 4.0m deep. This will be retained with a structural retaining wall and such temporary shoring procedures as required by the geotechnical engineer.

The proposal necessarily involves a high proportion of excavation as a proportion of its modest size because of the need to provide a floor level as close to water level as is practicable inside the rear (waterfront) boundary and beyond the main sewer line.

No change from previous Development Consent.

B8.2 Construction and Demolition - Erosion and Sediment Management

Outcomes
Waterways, coastal areas, watercourses, drainage systems and the public domain are protected from the transportation of sedimentation from development sites.

Reduction of waste throughout all phases of development.

Public safety is ensured.
Protection of the public domain.

Controls

Erosion and sedimentation prevention measures must be installed on all sites to prevent the migration of sediment off the site into any waterway, drainage systems, public reserves, road reserve or adjoining private lands.

Erosion and sedimentation prevention measures must be installed in accordance with Managing Urban Stormwater: Soils and Construction (Landcom 2004) on the downstream side of any works undertaken on the boundary of the site or on public lands adjoining the site to prevent the migration of sediment off the site into any waterway, drainage systems, public reserves, road reserve or adjoining private lands.

Appropriate devices are to be in place at all times to prevent the migration of sediment off the site.

Response

Erosion and sedimentation prevention measures are proposed to be installed to prevent the migration of sediment off the site into any waterway, drainage systems, public reserves, road reserve or adjoining private lands.

The measures are to be installed in accordance with *Managing Urban Stormwater: Soils and Construction* (published by Landcom, 2004) on the Careel Bay side of the works undertaken adjacent to the boundary of the site, to prevent the migration of sediment off the site into the waterway and public reserves.

These devices are to be in place at all times and maintained for the duration of the works, to prevent the migration of sediment off the site.

Refer to drawing No. H69 DA.23.03 in the architectural plans, EROSION AND SEDIMENT CONTROL MANAGEMENT PLAN

The building contract will include a clause requiring the builder and/or excavation contractor to check and maintain the sediment control device/s on a daily basis, and to attend site during storm events to monitor outflows for turbidity.

It is expected that the Development Consent will have a Condition/s requiring the above, to ensure that the contracts carry this intent through to on-site management.

No change from previous Development Consent.

B8.3 Construction and Demolition - Waste Minimisation

Controls

Waste materials generated through demolition, excavation and construction works is to be minimised by reuse on-site, recycling, or disposal at an appropriate waste facility.

Response

Waste materials generated through demolition, excavation and construction works are to be reused on-site, recycled, or disposed at Kimbriki waste facility.

Refer to drawing No. H69 DA.23.02 in the architectural plans, DEMOLITION AND WASTE MANAGEMENT PLAN No change from previous Development Consent.

B8.4 Construction and Demolition - Site Fencing and Security

Outcomes

Ensuring public safety, and Protection of public domain.
Controls

All sites are to be protected by site fencing for the duration of the works. Where building construction is undertaken adjacent to the public domain, pedestrian and vehicular facilities are to be protected by a Hoarding in accordance with Section 126(1) of the *Roads Act 1993*.

Response

The site is to be protected by site fencing for the duration of the works, **as shown on drawing H69 DA.23.03 in the architectural plans, EROSION AND SEDIMENT CONTROL PLAN** No change from previous Development Consent.

B8.6 Construction and Demolition - Traffic Management Plan

Outcomes

Minimal disturbance to the residential community
Protection of Roads

Controls

For all development where either excavated materials to be transported from the site or the importation of fill material to the site is 100m3 or greater, a Construction Traffic Management

Plan indicating truck movements, and truck routes is to be provided and approved by Council prior to the commencement of works.

All transport works must not cause adverse disruption or nuisance to adjoining residences, businesses or the street system.

Response

Excavated materials to be transported from the site are less than 100cu.m and therefore a Transport Management Plan is not required.

Excavation spoil will be removed from the site by barge and taken to Church Point for transport to Kimbriki Recycling Centre by truck. Building materials will generally be brought to site by barge from Church Point, except for concrete, which will be pumped from Cabarita Road. Deliveries of materials to the wharf are typically coordinated by the builder to coincide with high tide, such that no materials are left stored on the public wharf.

Less than 25m^3 of concrete is required for the whole job. Being downslope from the road, a truck mounted line pump will suffice, which have no outriggers and thus no impact on traffic (or buses) on Cabarita Rd. There is sufficient room in front of the property for a line pump and concrete truck to park end on end. Concrete trucks waiting to deliver to the pump will be parked 500m back along Cabarita Rd, and called only when the previous truck has left the site. A traffic controller will be stationed at the pump to ensure pedestrian safety, in line with normal best practice site safety management.

Transport works throughout the build will be carried out in manner to avoid disruption and nuisance to adjoining residences, businesses or the street system. The street in front of the site is sufficiently wide for delivery trucks without obstruction to passing traffic and the No192 bus. No change from previous Development Consent.

Section C Development Type Controls

The proposed boatshed does not clearly fall within the works outlined in either *Section C1 Design Criteria for Residential Development* or *C5 Design Criteria for Other Development*.

Therefore, the sections deemed most relevant to the proposed works were selected and addressed in order to mitigate any potential concerns.

C1.1 Landscaping

Outcomes

A built form softened and complemented by landscaping.
Landscaping reflects the scale and form of development.
Retention of canopy trees by encouraging the use of pier and beam footings.
Development results in retention of existing native vegetation.
Landscaping results in the long-term retention of Pittwater's locally native tree canopy.
Landscaping retains and enhances Pittwater's biodiversity by using locally native plant species
Landscaping enhances habitat and amenity value.
Landscaping results in reduced risk of landslip.
Landscaping results in low watering requirement.

Controls

All canopy trees, and a majority (more than 50%) of other vegetation, shall be locally native species. Species selection and area of landscape to be locally native species is determined by extent of existing native vegetation and presence of an Endangered Ecological Community.

In all development a range of low-lying shrubs, medium-high shrubs and canopy trees shall be retained or provided to soften the built form.

At least 2 canopy trees in the front yard and 1 canopy tree in the rear yard are to be provided on site. Where there are existing canopy trees, but no natural tree regeneration, tree species are to planted to ensure that the canopy is retained over the long-term.

Where there are no canopy trees the trees to be planted are to be of sufficient scale to immediately add to the tree canopy of Pittwater and soften the built form.

Each tree planted is to have a minimum area of 3 metres x 3 metres and a minimum 8m3 within this area to ensure growth is not restricted.

The following soil depths are required in order to be counted as landscaping:

- 300mm for lawn
- 600mm for shrubs
- 1metre for trees

The front of buildings (between the front boundary and any built structures) shall be landscaped to screen those buildings from the street as follows:

- 50% for all other forms of residential development (controls for other types of development not shown here).

Screening shall be of vegetation (not built items), and shall be calculated when viewed directly onto the site.

In bushfire prone areas, species shall be appropriate to the bushfire hazard.

Landscaping shall not unreasonably obstruct driver and pedestrian visibility.

Development shall provide for the reasonable retention and protection of existing significant trees, especially near property boundaries, and retention of natural features such as rock outcrops.

Canopy trees are to be located a minimum of 5 metres from existing and proposed built structures, or minimum of 3 metres where pier and beam footings are used.

Noxious and undesirable plants must be removed from the site.

Response

All canopy trees and more than 50% of vegetation are locally native species.

No canopy trees are to be removed for the proposed boatshed.

One new canopy tree is to be planted in the rear yard as per the Landscape Plan accompanying this Development Application.

The existing canopy trees at the rear of the property are well beyond the area of proposed works and are to be protected.

The existing soil depths will remain unaltered beyond the footprint of the proposed boatshed.

Screening is proposed by way of maintaining and increasing dense vegetation along the eastern boundary.

Any noxious or undesirable plants on Pittwater's list of weeds which are found on site shall be removed.

The landscaped area remains unchanged due to the green roof of the proposed boatshed.

It is considered that the proposed design achieves the outcomes set out in the Pittwater DCP.

No change from previous Development Consent.

C1.2 Safety and Security

Outcomes

On-going safety and security of the Pittwater community.
Opportunities for vandalism are minimised.
Improve community awareness in relation to Crime Prevention through Environmental Design (CPTED), its principle strategies and legislative requirements.
Identify crime and safety priority areas in Pittwater LGA Improve community safety and reduce the fear of crime in the Pittwater LGA .
Develop and sustain partnerships with key stakeholders in the local area who are involved in community safety.

Responses

Crime Prevention through Environmental Design (CPTED) principles addressed include:

1. Surveillance

The topography of the site makes street surveillance impossible.
The landscape design provides limited opportunities for concealment. There is no other impact on the public domain.

There will be some opportunity to increase surveillance of the waterway by increasing the use of the site at the high water mark level.

The lighting design will be typical for a boatshed. There will be no lighting of the public domain.

2. Access Control

There is no shared entry, nor public access through the site. The boastshed door is clearly visible from Careel Bay.

3. Territorial reinforcement

The main door to the boatshed is obvious and no blank walls face public spaces.

4. Space management

These relate to public spaces, and are not considered relevant to this development proposal, therefore no response has been made.

No change from previous Development Consent.

C1.3 View Sharing

Outcomes

A reasonable sharing of views amongst dwellings.
Views and vistas from roads and public places to water, headland, beach and/or bush views are to be protected, maintained and where possible, enhanced.
Canopy trees take priority over views.

Responses

No view will be obstructed by the proposed boatshed. This has been achieved by recessing the boatshed into the slope and using a green roof to ensure the development blends with its natural context.

The increased height of 310mm of the ridge beam does not interfere with any lines of sight from any adjoining property.

C1.4 Solar Access

Outcomes

Residential development is sited and designed to maximise solar access during mid-winter.
A reasonable level of solar access is maintained to existing residential properties, unhindered by adjoining development; reduce usage and/ dependence for artificial lighting.

Response

The proposed boatshed does not limit solar access to any existing dwelling or structure.

Refer to the architectural plans, specifically drawing H69-DA-60.01 SHADOW DIAGRAMS for demonstration of compliance.

No change from previous Development Consent.

C1.5 Visual Privacy

Outcomes

Habitable rooms and outdoor living areas of dwellings optimise visual privacy through good design; and a sense of territory and safety is provided for residents.

Response

The visual privacy of the existing adjoining dwellings and their private open space is not affected by the proposed boatshed. The existing fence and vegetation, which will not be altered, ensures privacy between 16 and 18 Cabarita Road is maintained.

No change from previous Development Consent.

C1.6 Acoustic Privacy

Outcomes

Noise is substantially contained within each dwelling and noise from any communal or private open space areas are limited; noise is not to be offensive, including noise from plant, equipment and communal or private open space areas.

Response

The proposed boatshed will not include any noise generating equipment and is located away from existing dwellings. No change from previous Development Consent.

C1.12 Waste and Recycling Facilities

Outcomes

Waste and recycling facilities are accessible and convenient, and integrate with the development; waste and recycling facilities are located such that they do not adversely impact upon amenity of the adjoining development or natural environment.

Response

Small waste and separate recycling bins are to be housed within the boatshed, which will be transferred to the existing dwelling's waste collection as and when needed. Minimal waste is expected to be generated in the shed. No change from previous Development Consent.

C1.13 Pollution Control

Outcomes

Development that does not adversely impact on public health, the environment or other lands.

Response

The development has been designed and will be constructed, maintained and used in a proper and efficient manner to prevent air, water, noise and/or land pollution.

It will comply in all respects with the *Protection of the Environment Operations Act 1997*, and other relevant legislation.

During construction:
- The small scale nature of the proposal will produce minimal impacts on the environment beyond the site boundaries.
- No materials will be stored on public or sensitive lands.
- Hours of operation will be consistent with the adjoining residential uses.
- Sediment control measures will be in place and maintained, as discussed in the relevant section/s above.

It is therefore considered that the proposal provides the outcomes of this control. No change from previous Development Consent.

C1.14 Separately Accessible Structures

Outcomes

Separately accessible structures that provide a recreational or office function for residents.

Controls

A separately accessible structure may be permitted for use as a studio, home office, workshop area, rumpus room and the like, provided that:
it is ancillary to a dwelling;
it is not designed for separate habitation and does not contain any cooking facilities.

Responses

The proposed boatshed is a separately accessible structure. It is ancillary to the residential use of the main dwelling on the site and does not contain cooking facilities, and is therefore permissible.

No change from previous Development Consent.

C1.17 Swimming Pool Safety

Outcomes

The promotion of personal safety.
Compliance with Swimming Pools Act 1992 and Regulations

Controls

Swimming pool fencing and warning notices (resuscitation chart) shall be manufactured, designed, constructed, located and maintained in accordance with the Swimming Pools Act 1992 and regulations. The fencing and warning notices (resuscitation chart) shall be permanent structures.

Response

New fencing will be built around the existing concrete pool in accordance with the Swimming Pools Act 1992 and the relevant regulations. Fencing will be continuous where adjacent to the boatshed, non-climbable and minimum 1.2m high, with an outward opening self-closing gate.

Refer to Drawing No. H69 21.01 BOATSHED FLOOR PLAN

Commented [DC8]: Ref to Drag, maybe add basic details?

It is therefore considered that the proposal satisfies the outcomes of this control. No change from previous Development Consent.

D1 AVALON BEACH LOCALITY

D1.1 Character as viewed from a public place

Outcomes

To achieve the desired future character of the Locality; to ensure new development responds to, reinforces and sensitively relates to the spatial characteristics of the existing built and natural environment; to enhance the existing streetscapes and promote a scale and density that is in scale with the height of the natural environment; the visual impact of the built form is secondary to landscaping and vegetation, or in commercial areas and the like, is softened by landscaping and vegetation; high quality buildings designed and built for the natural context and any natural hazards; buildings do not dominate the streetscape and are at 'human scale', to preserve and enhance district and local views which reinforce and protect the Pittwater's natural context.

Controls

Buildings which front the street must have a street presence and incorporate design elements (such as roof forms, textures, materials, the arrangement of windows, modulation, spatial separation, landscaping etc) that are compatible with any design themes for the locality. Blank street frontage facades without windows shall not be permitted.

Walls without articulation shall not have a length greater than 8 metres to any street frontage. Any building facade to a public place must incorporate at least two of the following design features:

- entry feature or portico;
- awnings or other features over windows;
- verandahs, balconies or window box treatment to any first floor element;
- recessing or projecting architectural elements;
- open, deep verandahs; or
- verandahs, pergolas or similar features above garage doors.

The bulk and scale of buildings must be minimised.

Landscaping is to be integrated with the building design to screen the visual impact of the built form. In residential areas, buildings are to give the appearance of being secondary to landscaping and vegetation.

Garages, carports and other parking structures including hardstand areas must not be the dominant site feature when viewed from a public place. Parking structures are to be located behind the front building line, preferably set back further than the primary building and be no greater in width than 50% of the lot frontage, or 7.5 metres, whichever is the lesser.

Landscaping is to be integrated with the building design to screen the visual impact of the built form. In residential areas, buildings are to give the appearance of being secondary to landscaping and vegetation.

Television antennas, satellite dishes and other telecommunications equipment must be minimised and screened as far as possible from public view. General service facilities must be located underground.

General service facilities must be located underground.

Attempts should be made to conceal all electrical cabling and the like. No conduit or sanitary plumbing is allowed on facades of buildings visible from a public space.

Response

The proposed boatshed does not front any public street. It's public façade faces Careel Bay.

An analysis of the character of the proposed development as viewed from this public place is as follows:

- The boatshed is of relatively small scale, and incorporates a green roof with plants overhanging the front roof edge as an architectural feature.
- The proposal is consistent with the desired future character of the Locality with low bulk and scale. It achieves this by recessing into the slope, through use of a green roof.
- The proposal is designed to address the natural context of the area, through the use of a green roof, natural colours and textures with a consistent local character.
- Landscaping is integrated with the building design through the use of a green roof. Landscape screening in front of the boatshed has not been incorporated into the design as this would limit the ability to move watercraft in and out of the building and therefore the ability of the building to function as intended. The colours and textures are natural and will blend with the coastal character of the Avalon Beach locality.
- The proposal has no impact on access to or within public places.
- Television antennas, satellite dishes, telecommunications equipment and electric cabling are either not included in the proposal.
- The extra 310mm height of the ridge beam is not visible from beyond the site on the landward side, and does not interfere with any sight lines from the waterway.

Please refer to the architectural plans.

It is therefore considered that the proposal satisfies the outcomes of this control.
No change from previous Development Consent.

D1.5 Building colours and materials

Outcomes

Achieve the desired future character of the Locality; the development enhances the visual quality and identity of the streetscape; to provide attractive building facades which establish identity and contribute to the streetscape; to ensure building colours and materials compliments and enhances the visual character its location with the natural landscapes of Pittwater; the colours and materials of the development harmonise with the natural environment; the visual prominence of the development is minimised; damage to existing native vegetation and habitat is minimised.

Response

Information is shown on the Development Drawings, which includes a schedule specifying the external colours and materials proposed to be used.

Colours and materials were chosen to:

- provide an attractive façade
- harmonise with the natural environment and
- complement the existing dwelling
- natural sandstone to the new wall, from the same source of Sydney sandstone as the local material.

Please **refer to the drawing No. H69-DA.70.01 SCHEDULE OF COLOURS AND FINISHES.**

It is therefore considered that the proposal satisfies the outcomes of this control. No change from previous Development Consent.

D1.9 Side and rear building line

Outcomes

To achieve the desired future character of the Locality; the bulk and scale of the built form is minimised; equitable preservation of views and vistas to and/or from public/private places; to encourage view sharing through complimentary siting of buildings, responsive design and well-positioned landscaping; to ensure a reasonable level of privacy, amenity and solar access is provided within the development site and maintained to residential properties; substantial landscaping, a mature tree canopy and an attractive streetscape; flexibility in the siting of buildings and access; vegetation is retained and enhanced to visually reduce the built form; and to ensure a landscaped buffer between commercial and residential zones is achieved.

Controls

The minimum side and rear building line for built structures including pools and parking structures, other than driveways, fences and retaining walls, shall be in accordance with the following table:

Land	Side & Rear Building Line (metres)
E4 Environmental Living	2.5 at least to one side; 1.0 for other side 6.5 rear (other than where the foreshore building line applies)

Response

The proposed boatshed is located 6.88m from the western side boundary, 1.9 m from the eastern side boundary and 1.94m from the rear site boundary and 7.9m from the edge of the concrete sea wall.

The structure is to be located within the foreshore building line and as a boatshed, is a permissible. The location of the proposed boatshed is compatible with the rear setbacks of existing boatsheds on adjacent foreshore properties. No change from previous Development Consent.

D1.11 Building envelope

Outcomes

To achieve the desired future character of the Locality; to enhance the existing streetscapes and promote a building scale and density that is below the height of the trees of the natural environment; to ensure new development responds to, reinforces and sensitively relates to spatial characteristics of the existing natural environment; the bulk and scale of the built form is minimised; equitable preservation of views and vistas to and/or from public/private places; to ensure a reasonable level of privacy, amenity and solar access is provided within the development site and maintained to residential properties; vegetation is retained and enhanced to visually reduce the built form.

Response

The proposed boatshed is entirely within the building envelope. The 310mm increased height of the ridge beam sits entirely within the building envelope.

It is therefore considered that the proposal satisfies the outcomes of this control.
No change from previous Development Consent.

D1.14 Landscaped Area - Environmentally Sensitive Land

Outcomes

Achieve the desired future character of the Locality; the bulk and scale of the built form is minimised; a reasonable level of amenity and solar access is provided and maintained, vegetation is retained and enhanced to visually reduce the built form; conservation of natural vegetation and biodiversity; stormwater runoff is reduced, preventing soil erosion and siltation of natural drainage channels; to preserve and enhance the rural and bushland character of the area; soft surface is maximised to provide for infiltration of water to the water table, minimise run-off and assist with stormwater management.

Controls

The total landscaped area on land zoned R2 Low Density Residential, R3 Medium Density Residential or E4 Environmental Living shall be 60% of the site area.

The use of porous materials and finishes is encouraged where appropriate.

Variations

Provided the outcomes of this control are achieved, the following may be permitted on the landscaped proportion of the site:

i. impervious areas less than 1 metre in width (e.g. pathways and the like);
ii. for single dwellings on land zoned R2 Low Density Residential, R3 Medium Density Residential or E4 Environmental Living, up to 6% of the total site area may be provided as impervious landscape treatments providing these areas are for outdoor recreational purposes only (e.g. roofed or unroofed pergolas, paved private open space, patios, pathways and uncovered decks no higher than 1 metre above ground level (existing)).

Response

The site area is 629.2 sq.m.

The existing Development Consent provides deep soil landscaped area of 338.6 sq.m, which is 53.8% of the site area.

The proposed amendment increases the paved developed area by 6.4 sq.m, reducing the deep soil landscaped area to 332.2 sq.m, which is 52.8% of the site area.

The green roof of the boatshed provides an additional 33 sq.m of planting in shallow irrigated soil, planted with suitable coastal dune and headland native species, to offset the reduction in deep soil area, increasing the total landscaped area to 371.6 sq.m, which is 59% of the site area.

It is acknowledged the roof does not have the soil depth of a natural landscaped area, it employs the best currently available lightweight planting medium with an integrated irrigation system, which have been proven to be successful long term bio-systems.

The roof serves the same function as traditional deep-soil systems in the following ways:

- provides the opportunity for minimisation in the the bulk and scale of the built form,
- establishment of natural vegetation,
- promotion of biodiversity,
- reduction of stormwater runoff and maximisation of porous surface,
- enhancement of bushland character.

The total appearance of landscaped area is 59%, which is just 1% short of numerical compliance with the control. Given the geotechnical stability which the removal of the floating boulder and installation of the retaining wall, it is therefore considered that the proposal satisfies the outcomes of this control.

D1.16 Fences - Flora and Fauna Conservation Areas

The proposal does not include any new fencing except as required around the pool, which shall be framed glass with low visual impact.

No change from previous Development Consent.

D1.17 Construction, Retaining walls, terracing and undercroft areas

Outcomes

To achieve the desired future character of the Locality; to protect and minimise disturbance to natural landforms; and to encourage building design to respond sensitively to natural topography.

Controls

Lightweight construction and pier and beam footings should be used in environmentally sensitive areas.

Where retaining walls and terracing are visible from a public place, preference is given to the use of sandstone or sandstone like materials.

In the provision of outdoor entertaining areas, preference is given to timber decks rather than cut/fill, retaining walls and/or terracing.

Response

The main structural intervention in the development is the retaining wall that acts as the rear wall of the boatshed, which is not visible behind the completed boatshed.

The sandstone log retaining wall that is the subject of this amendment was made necessary by the removal of a potentially unstable floating boulder. This left a large void which required restabilisation. This has been achieved by the creation of a sandstone log gravity retaining wall, designed by the project's accredited structural engineer – refer to the detail provided by Angelo Silvio of Tall Ideas P/L included in this application.

The stability of the slope and the wall have been certified by the project's consulting geotechnical engineer, Ben White of White Geotechnical Group – Form 1 and Form 2B are included in this application, please refer.

The proposed retaining wall meets the recommendations made in the Geotechnical Risk Management Report - **prepared by White Geotechnical Group, dated October 2018 and amended November 2020.**

D1.20 Scenic Protection Category One Areas.

Outcomes

To achieve the desired future character of the Locality; achieve the desired future character of the Locality, to preserve and enhance the visual significance of district and local views of Pittwater's natural topographical features such as, ridges, upper slopes and the waterfront; maintenance and enhancement of the tree canopy; colours and materials recede into a well vegetated natural environment; to maintain and enhance the natural environment of Pittwater as the predominant feature of the landscape with built form being a secondary component; to preserve and enhance district and local views which reinforce and protect the Pittwater's bushland landscape and urban form to enhance legibility; to encourage view sharing through complimentary siting of buildings, responsive design and well-positioned landscaping; to ensure sites are designed in scale with Pittwater's bushland setting and encourages visual integration and connectivity to natural environment; development shall minimise visual impacts on the natural environment when viewed from any waterway, road or public reserve.

Response

The proposed extension complies with the controls in the following ways:

- The reflectivity of the vertical surfaces has been minimised.
- No canopy trees and minimal vegetation will be lost with the new boatshed.
- The proposed colours and materials are natural and earthy in colour.

It is considered that the proposal meets the objectives and the allowable outcomes of this control. No change from previous Development Consent.

D1.21 Masterplan - Careel Bay

Outcomes

To achieve the desired future character of the Locality.
Development addresses the issues identified in the Careel Bay Masterplan.
A sense of place is provided by acknowledging the setting, history, landscaping and character and to give residents a sense of belonging and community pride.
To ensure new development responds to, reinforces and sensitively relates to the spatial characteristics of the existing built and natural environment.
To ensure that development adjacent to Careel Bay compliments the landscape character, public use and enjoyment of the Bay.

Response

The structure achieves the desired future character of the site and fits with the setting and history of the area which includes jetties and boat sheds along the foreshore. The structure is compatible with the bulk and scale of adjacent boats shed structures. No trees are to be removed maintaining the existing landscaped character as viewed from the waterway.

No change from previous Development Consent.

D15.11 Waterfront lighting

Outcomes
To ensure that waterfront lighting does not become a navigational hazard or adversely impact upon adjoining public land or residences. (En, S)
To ensure that external lighting is provided for safety and directional purposes only. (S)

Response

No flood lights are proposed and external lighting is to be shielded and located to promote safe navigation and minimise any likely adverse visual impact when viewed from Careel Bay.

Lighting will be provided to allow safe access from recreational water vessels and along access paths.

No change from previous Development Consent.

D15.14 Minimum frontage for waterfront development

Outcomes

To minimise the individual and cumulative visual impact of waterfront development. (S)

Response

The waterfront frontage is greater than 15m and therefore boatsheds are permitted.
No change from previous Development Consent.

D15.15 Waterfront development

Outcomes

Waterfront development does not have an adverse impact on the water quality and estuarine habitat of Pittwater
Public access along the foreshore is not restricted.
Waterfront development does not encroach on navigation channels or adversely affect the use of ferries and service vessels or use of the waterway by adjoining landowners.
Structures blend with the natural environment.
Structures are not detrimental to the visual quality, water quality or estuarine habitat of the Pittwater Waterway.
To promote a mix of commercial waterfront development for the accommodation of boats, their repair and maintenance, and for organised waterfront development.
Waterfront development which does not comply with the outcomes of this clause are removed.

c) Boatsheds

Boatsheds shall meet the following criteria:

i. Boatsheds shall be located above mean high water mark on freehold land, where practicable. Where this cannot realistically be achieved, as much of the proposed boatshed as is practical must be located above mean high water mark to minimise encroachment onto the littoral zone below mean high water mark.
ii. Boatsheds shall be one storey and no greater than 4.5 metres in building height above the platform on which it is built, 4.0 metres in width and 6.0 metres in length, as illustrated in Diagram 4. The use of lofts or similar design concepts shall not be permitted.
iii. Boatsheds shall not prevent or hinder public foreshore access. Alternative access must be provided where a proposed boatshed is likely to make existing foreshore access below mean high water mark difficult.
iv. Boatsheds cannot be used for any other purpose than the storage of small boats and/or boating equipment. The incorporation any internal kitchen facilities, habitable rooms, shower or toilet facilities shall not be permitted. Roof areas of boatsheds shall not be used for recreational or observational purposes.
v. Boatsheds shall be constructed of low maintenance materials that are of a tone and colour which is sympathetic to the surrounding setting. Structures proposed along the

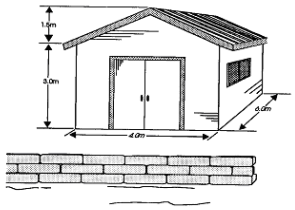
western foreshores, McCarrs Creek, Horseshoe Cove, Salt Pan Cove, Refuge Cove, Clareville and Careel Bay are to have specific regard for the natural landscaped character of the area. Reflective materials and finishes for private boatsheds shall not be permitted.

vi. The minimum floor level for proposed boatsheds shall be in accordance controls for foreshore development around the Pittwater Waterway.

vii. Boatsheds shall be able to be entirely enclosed. Boatsheds which either partially or wholly do not incorporate appropriate wall cladding shall not be permitted, as such structures tend to become visually obtrusive when viewed from the waterway.

viii. All electrical equipment and wiring shall be water tight below the designed flood/tidal inundation level.

Diagram 4: Design Guidelines for Boatsheds



Response

The proposed boatshed complies with the controls in the following ways:

- The proposed boatshed is to be located above mean high water mark on freehold land.
- It is one storey and 3.96m high (above the existing ground level).
- The prosed boatshed will not impact on public foreshore access.
- The proposed boatshed is to be used for the storing of small boats and boating equipment.
- The proposed green roof will help the structure blend into the natural environment and is not designed for recreational or observational use.
- The colours and materials have been chosen to work with the natural context and no reflective materials are to be used.
- The proposed floor level is in accordance with controls for the foreshore.
- The boatshed will be entirely enclosed
- Electrical equipment and wiring will be above flood levels or water tight

The boatshed has larger footprint than those setout n the Pittwater DCP (4.5 x 7.8m) in to accommodate 2 kayaks, 2 dinghies and a Stand Up Paddleboard. The footprint is not significantly greater than the DCP design guidelines but ensures the structure can effectively fulfill its intended function.

The orientation of the proposed boatshed is lateral (parallel to slope) rather than longitudinal (as per the sketch in the DCP, shown above) because of the steep slope of the site and the need to minimise excavation depth.

The proposal therefore satisfies the intent of this Clause.

G. RESPONSE TO STATE GOVERNMENT POLICIES

EPA Act 1979 No 203 section 147 Disclosure of political donations and gifts

Refer to the signed disclosure form that accompanies the Development Application Form.

SEPP BASIX

As the proposed works is for non-habitable space, a BASIX Certificate was not required.
No change from previous Development Consent.

SEPP No.55 – Remediation of Land

The site has an established history of residential zoning and use and has not been zoned for industrial, agricultural or defense purposes at any time. Therefore there is no evidence to suggest the land is likely to be contaminated and render it unsuitable for continued residential use.
No change from previous Development Consent.

SEPP No. 71 – Coastal Protection

An Estuarine Risk Management Report has been submitted as part of this development. The report states that the proposed structure will not have a significant impact on wave reflection patterns or movement of sediment along the shoreline. It has been given a 'low rating'.
The works do not require the removal of any native vegetation and the construction phase will be carefully management to ensure no adverse impacts on the water quality. The works do not have any impact on public access to, or use of, the foreshore area being wholly within the site boundary.

The proposed development has been designed to make a positive contribution to the scenic quality of the locality, adopting a form that is compatible with the height, bulk and scale of the surrounding boat sheds.
No change from previous Development Consent.

END - STATEMENT OF ENVIRONMENTAL EFFECTS