Biodiversity Development Assessment Report (BDAR)

for a development application for a

Demolition and Construction of a Dwelling and Landscaping

at

16 Addison Road, Manly

4 July 2021

GIS Environmental Consultants

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We acknowledge the traditional owners of this land and pay respect to their Elders past, present and emerging.

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1 Preface

A Biodiversity Development Assessment Report (BDAR) is required to accompany a DA application when the Threshold Test has been triggered. A BDAR report describes the biodiversity values at a site then assesses the impact of the proposal to determine the offset costs, as required by the Biodiversity Conservation Act, it's regulations, the Biodiversity Assessment Method and associated documents.

This BDAR report describes the ecological values and constraints at this Development Site. Ways the impact can be avoided or minimised were discussed with the developer. Then the residual (after avoiding and minimising) impact to ecological values is assessed and quantified, the required (BOS) offsetting is calculated.

The Biodiversity Assessment Method (BAM 2020) describes how the impact to native vegetation, threatened species and their habitats, is quantified, assessed and reported, specifically how to:

- identify the biodiversity values on land proposed for development
- demonstrate the steps taken to avoid, minimise and/or mitigate impacts on biodiversity values
- quantify and describe the biodiversity credits needed to offset the residual impacts of a proposal on biodiversity values
- assess whether a proposal will have any additional (prescribed) biodiversity impacts
- determine if there will be a Serious And Irreversible Impact to any Threatened species.

The BAM provides the number and class of biodiversity credits that need to be offset to achieve 'no net loss' standard.

To assist with the requirement to Avoid and Minimise impacts on this site, the ecological constraints and potential required offsets have been discussed with the proponent during the planning stage.

A. Aims of this Report

The overall objective of the report is to address the requirement for a Biodiversity Development Assessment Report (BDAR) to accompany the submission of the DA (Development Application) as required by the Biodiversity Conservation Act and the associated Regulation, and other associated documents.

The specific aims of this Biodiversity Development Assessment Report are to:

- Define the Construction Footprint, Operational Footprint, Development Site, Direct and Indirect Ecological Impacts.
- Describe the site and locality environmental context;
- Provide ecological information and an assessment of the biodiversity values on the site;
- Determine the ecological constraints of the site and provide advice to the applicant on ways the ecological impact can be avoided and minimised before finalising the proposal plans as required by the mitigation hierarchy in the Biodiversity Conservation Act regulation 2017;
- Apply the Biodiversity Assessment Method (BAM) and record the findings of an ecological survey (flora, fauna, ecological communities and their habitats, and the vegetation integrity) of the area likely to be impacted by the proposal;
- Determine the extent and condition of areas that require offsetting under the Biodiversity Conservation Act and calculate the number of offsetting credits that will be required.
- Assess if potential Serious and Irreversible Impacts (SAII) may result from the proposal.
- Recommend ways the ecological impacts can be further ameliorated and prescribe appropriate ecological management actions during construction and for the life of the development.
- Determine if the proposal needs referral to the Federal government for assessment under the EPBC Act.

B. Ecologically Relevant Legislation

I. Biodiversity Conservation Act 2016

The Biodiversity Conservation Act 2016 lists the Threatened flora and fauna species and defines the endangered ecological communities in NSW. The Act describes how to avoid and minimise ecological impact and any remaining impacts offset (BC Act section 1.3 (k)).

The primary objective of the Biodiversity Conservation Act (BC Act) is to avoid and minimise ecological impacts during the planning of a proposed development and offset any remaining impacts according to the **Biodiversity Offset Scheme (BOS)**.

Section 7.2 of the BC Act requires a Test of Significance (5-Part Test) which is to be applied for all Threatened species or ecological communities that may have suitable habitat impacted by the proposal. The **Test of Significance** (section 7.3 of the BC Act) is used to determine if a proposed development or activity is likely to significantly affect Threatened species or ecological communities, or their habitats. Section 7.3 (2) of the BC Act provides guidance on the assessment of the Test of Significance in a guideline document (2018). https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Threatened-species/threatened-species-test-significance-guidelines-170634.pdf

Section 7 of the BC Act regulation requires the application of a **threshold test** See section above. If any of the triggers are met, the **Biodiversity Assessment Method (BAM)** must be applied, and the residual impact of the proposal must be offset in accordance with the Biodiversity Offset Scheme (BOS) using the Biodiversity Assessment Method (BAM). There are two mechanisms to determine the amount of offset credits required:

1. The **Biodiversity calculator** is applied to determine the offsets required for the loss of native vegetation and the Threatened species habitat that the native vegetation provides.

2. **Assessment of Prescribed Impacts** (impact to habitat that is not native vegetation) relevant to the site and proposal to determine the number of additional credits needed due to Prescribed Impacts. This is determined by the determining authority which is normally Council or a planning panel.

Proposals also needs to be assessed to determine if they may cause **Serious And Irreversible Impacts (SAII)**.

Little Penguin specific parts of the BC Act

The schedules of the Biodiversity Conservation Act lists Little Penguin at Manly as a Threatened Species and also defines an Area Of Biodiversity Value (AOBV) for the Little Penguin population at Manly. There are other constraints and protection measures for the Little Penguin described in the Biodiversity Conservation Act and it's regulations relating to activities.

Section 2.3 of this report assess of the need for a BOS/BAM assessment and BDAR report, and section 2.4 determines the type of BAM assessment that is appropriate if needed. This BDAR report addresses the need for assessment under the BC Act.

II. Federal Environment Protection and Biodiversity Conservation Act 1999

The NSW Biodiversity Offsets Scheme (BOS) has been endorsed by the Australian Government for assessment and offsetting of all projects requiring approval under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). This was achieved via an amendment to an existing Bilateral Agreement with the NSW Government and formal endorsement of the BOS under the Australian Government's EPBC Act Condition Setting Policy. Proponents will need to meet their offset requirement for EPBC listed entities in accordance with clause 6.6A of the Biodiversity Conservation Regulation, by retiring like for like credits, paying into the Biodiversity Conservation Fund or funding a conservation action. This means that NSW proponents who need an EPBC Act approval can use the NSW BOS to assess and meet their biodiversity offset requirements.

The Little Penguin is listed marine species under the EPBC Act.

It is considered that this proposal does not require referral to the Federal environment department for assessment under the EPBC Act.

I. Other Environmental Legislation

For assessment of this proposal with respect to other environmental legislation such as EP&A Act, SEPPs and the LEP/DCP see the Statement of Environment Effects that accompanies the Development Application.

C. Definitions and Acronyms

A more comprehensive list of definitions and acronyms occurs in the Glossary of the BAM (2020) after the Appendices.

AOBV- An **Area of Outstanding Biodiversity** Significance defined in the Biodiversity Conservation Act 2016. Proposals that impact declared AOBVs are required to enter in the BOS.

APZ – Bushfire hazard, fuel reduction, **Asset Protection Zone**, defined in the document 'Planning for Bushfire Protection 2018' by the NSW Rural Fire Service.

Assessment Area - is the 1500m buffer around the subject land.

Avoid - measures taken by a proponent such as careful site selection, or actions taken through the design, planning, construction and operational phases of the development to completely prevent impacts on biodiversity values, or certain areas of biodiversity. Refer to the BAM for operational guidance.

BAM – Biodiversity Assessment Method is the ecological survey and assessment techniques that are required to be used for the BOS assessment (including BAM calculation for impact to native vegetation and Prescribed Impacts assessment for additional offsets). The BAM is described in a document by DPIE, SEE (2020) and required by the BC Act and Regulation.

BAR – Biodiversity Assessment Report. The types of Biodiversity Assessment Reports that the BAM method requires are a Biodiversity Development Assessment Report (BDAR), Biodiversity Stewardship Site Assessment Report (BSSAR) and a Biodiversity Certification Assessment Report (BCAR) as described in the BAM and BC Act and Regulation.

Biodiversity Assessment Method Calculator (BAM-C) : the online computer program that provides decision support to assessors and proponents by applying the BAM and referred to as the BAM-C. The BAM-C contains biodiversity data from the BioNet Vegetation Classification and the Threatened Biodiversity Data Collection that the assessor is required to use in a BAM assessment. The BAM-C applies the equations used in the BAM, including those to determine the number and class of biodiversity credits required to offset the impacts of a development, or created at a biodiversity stewardship site. It is published by the Department.

BC Act – NSW Biodiversity Conservation Act 2016 contains the lists of threatened species, the definitions of the threatened ecological communities, the 5-part Test of Significance, AOBV, SAII and the BOS. There is an associated Biodiversity Conservation regulation which in turn refers to the BAM.

BDAR – Biodiversity Development Assessment Report as outlined in Division 3 of the BC Act. It is prepared by an accredited person in relation to proposed development in the assessment of **impacts on threatened species and threatened ecological communities, and their habitats.**

Biodiversity Credits – An measurement of the value of a threatened ecological community or threatened species habitat to be impacted. Including Ecosystem credits and Species Credits. Biodiversity credits are used to measure the loss in biodiversity values at a development site and the gain in biodiversity values at a biodiversity stewardship site. Credits are calculated using the BAM calculator plus assessment of Prescribed Impacts.

Biodiversity Trust – The NSW Government established the Biodiversity Conservation Trust of New South Wales (BCT) on 25 August 2017 under the Biodiversity Conservation Act 2016 (the Act), as part of its land management and biodiversity conservation reforms. Part 10 of the BC Act establishes the status, powers and functions of the BCT, and sets out its object and principal purpose.

BOS – **Biodiversity Offset Scheme** the system of trading biodiversity offset credits or paying for offsets to the Biodiversity Trust.

Construction Footprint - additional clearing associated with temporary/ancillary construction facilities and infrastructure. Temporary (during construction) and permanent impact (clearing of native vegetation). May include land inside and outside the property e.g. establishment of bushfire asset

protection ones (APZ), construction access, site sheds, sediment control, trenching for pipes and utilities etc.

Development Footprint (includes the Operational Footprint and Construction Footprint) – The area within the Subject Land directly impacted by the DA, may include land outside the Subject Land with owner's permission. e.g. Access during construction or the road reserve or drainage easement. The combined area of the Construction and the Operational Footprints. May be indicative, temporary during construction e.g. storage of building materials, waste, site office, sediment ponds), location of the activity access roads, bushfire Asset Protection Zones and areas used to store construction materials. Can be works with negative and/or positive impacts e.g. may include works described in a Biodiversity Management Plan. The negative impact area is used to calculate the impact for offsetting.

Development Site (Development Land, Subject Land)- an area of land that is subject to a proposed development under the EP&A Act. The term *development site* is also taken to include clearing site, except where the reference is to a small area development or a major project development. When a BDAR it is also the Subject Land.

The area that will have direct or indirect impacts that will affect vegetation, habitat, ecosystems or individuals.
The Development Site includes the development footprint and any area affected by the DA, including; building envelopes (maybe indicative), establishment (and long-term maintenance) of a bushfire hazard reduction APZ area, environment management areas and areas impacted by indirect impacts (weed spread, noise, pollution, light spill, sediment, access roads, bushfire outer protection zones, spreading of disease etc and other impacts that are not part of the DA description (or plans) but may or are likely to occur as a result of the construction or occupation (operation) or change in use as a result of the DA).
The Development Site is larger than the Development Footprint when there is an onsite conservation area (i.e. positive impact that is not a formal offset) or when there are indirect impacts beyond the development footprint. The term Development Site is generally used in the stage 1 (planning) part of this BDAR and the term Development Footprint is used in the assessment stage 2 when the constraints of the site have been taken into consideration and the proposal has been designed and there is no conservation area or clear indirect impacts. Direct impacts that do not impact native vegetation are categorised as Prescribed Impacts.

Direct Impacts – impacts on biodiversity values and threatened species habitat that relate to clearing native vegetation and impacts on biodiversity values prescribed by the BC Regulation. This includes impacts from activities related to the construction or operational phase of the proposal.

DPIE – NSW government of **Department of Planning, Industry and Environment**

EES – DPIE group Environment Energy and Science, formerly OEH, NPWS, DEC, DECC and DECCW. The department responsible for the conservation of native flora and fauna.

Ecosystem credits - a measurement of the value of threatened ecological communities, threatened species habitat for species that can be reliably predicted to occur with a PCT, and PCTs generally. Ecosystem credits measure the loss in biodiversity values at a development, activity, clearing or biodiversity certification site and the gain in biodiversity values at a biodiversity stewardship site.

EPA Act (EP&A Act) – NSW Environment Planning and Assessment Act 1979, legislation that controls development in NSW.

EPBC Act – Federal **Environment Protection and Biodiversity Conservation Act** 1999

IBRA region – a bioregion identified under the Interim Biogeographic Regionalisation for Australia (IBRA), which divides Australia into bioregions on the basis of their dominant landscape-scale attributes.

Impact (Biodiversity Impacts) to be assessed
This BDAR assessment report and the BC Act, the BAM, BOS only assess impact to biodiversity.
More general environmental impact is assessed by the EP&A Act, other Acts, SEPPs and the LEP/DCP.
Indirect Impacts - occur when project-related activities affect species or ecological communities in a manner other than direct loss. When a Determining Authority is assessing a DA, consideration must be given to all the likely impacts of the proposed activity or development. Impacts that are not part of the DA description (or plans) but may or are likely to occur as a result of the construction or occupation (operation) or change in use as a result of the DA). Indirect Impacts may require addition of offset credits as determined by the Determining Authority

Indirect Impacts – impacts that occur when the proposal affects native vegetation and threatened species habitat beyond the development footprint or within retained areas (e.g. transporting weeds or pathogens, dumping rubbish). Includes impacts from activities related to the construction or operational phase of the proposal and prescribed impacts. Includes impacts beyond the Development Footprint e.g. nutrients, noise, weed spread etc. Not normally able to be mapped but is described in words. See sections 8.2, 8.4 and 8.6 of the BAM.

LEP – **Local Environment Plan**, a local planning instrument for each LGA.

Native Vegetation – has the same meaning as in section 1.6 of the BC Act and section 60B of the LLS Act, repeated here:

*(1) For the purposes of this Part, **native vegetation** means any of the following types of plants native to New South Wales:*

1. *(a) trees (including any sapling or shrub or any scrub),*
2. *(b) understorey plants,*
3. *(c) groundcover (being any type of herbaceous vegetation),*
4. *(d) plants occurring in a wetland.*

2. *(2) A plant is native to New South Wales if it was established in New South Wales before European settlement. The regulations may authorise conclusive presumptions to be made of the species of plants native to New South Wales by adopting any relevant classification in an official database of plants that is publicly accessible.*
3. *(3) For the purposes of this Part, native vegetation extends to a plant that is dead or that is not native to New South Wales if:*
    1. *(a) the plant is situated on land that is shown on the native vegetation regulatory map as category 2-vulnerable regulated land, and*
    2. *(b) it would be native vegetation for the purposes of this Part if it were native to New South Wales.*
4. *(4) For the purposes of this Part, native vegetation does not extend to marine vegetation (being mangroves, seagrasses or any other species of plant that at any time in its life cycle must inhabit water other than fresh water). A declaration under Section 14.7 of the BC Act that specified vegetation is or is not marine vegetation also has effect for the purposes of this Part.*

Operational Footprint – the final proposal footprint for the ongoing use of the development including ongoing APZ maintenance, permanent sediment dams. After construction, typically smaller than the Construction Footprint and may include easements. Ongoing positive and negative works, including; maintenance of bushfire Asset Protection Zone, weed control, Bushland Management (BMP), maintenance of stormwater devices etc. .

Test of Significance (5-Part Test) – Assessment under Section 7.3 of the BC Act to determine whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats.

Plant community type (PCT) - a NSW plant community type identified using the PCT classification system.

Prescribed Impacts (also called Additional Biodiversity Impacts) – Impacts that are not impacts to native vegetation, such as impacts to rocks, waterbodies, non-native vegetation, human-made structures, karsts, caves, cliffs and connectivity etc. Prescribed Impacts may result in additional biodiversity credits being required to offset the impact of a proposal. See BC Act Reg 6.1

Property – Adjacent or nearby lot(s) that have the same ownership.

SAII – **Serious and Irreversible Impact** – impacts likely to contribute significantly to the risk of a threatened species or ecological entity becoming extinct (BAM 2020 s9.1). Fits the principles in the "Guideline to Assist a Decision-Maker to Determine a Serious and Irreversible Impact" (OEH 2017).

Subject land (Development Land, Development Site)- is the lots where the development, activity, clearing will occur.

TBDC – Threatened Biodiversity Data Collection, published online database within Bionet website also available as a excel spreadsheet.

Threatened Species or Ecological Community - refers to those biotas listed in the schedules of the Biodiversity Conservation Act 2016 as "Critically Endangered ", "Endangered" or "Vulnerable".

Impact Mitigation Hierarchy

The mitigation hierarchy is a fundamental requirement of the BC Act, where the proponent needs to consider, in order, actions to avoid, mitigate and offset impacts. This Hierarchy is described in the Biodiversity Assessment Method (BAM) document and is established by case law.

The Chief Justice of the NSW Land and Environment Court has made the following statement (Preston, B J, Biodiversity offsets: adequacy and efficacy in theory and practice (2016) 33 EPLJ 93 at 95-96)

> Avoidance and mitigation measures should be the priority strategies for managing the potential adverse impacts of a proposed development. Avoidance and mitigation measures directly reduce the scale and intensity of the potential impacts of the development. Only then are offsets used to address the residual impacts that remain after avoidance and mitigation measures have been put in place. Adherence to the mitigation hierarchy is central to biodiversity offsetting. Without prior application of the mitigation hierarchy, conservation actions would not qualify as offsets.

Application of the mitigation hierarchy is also described in the LEC cases Bulga Milbrodale Progress Association Inc v Minister for Planning and Infrastructure and Warkworth Mining Limited 2013 NSW LEC 48 (Bulga) at 147 – 153.

D. Assumptions and Limitations

- There may be flora and/or fauna species present within the study area that may not have been recorded because they are seasonal, cryptic and/or have large home ranges. Some threatened species may only use the study area as habitat at some time. Assessment of habitat potential is used to help address this uncertainty. The conclusions drawn in this report are a result of testing, observation and experience.
- This report assesses only the current proposal and does not consider the cumulative impact of other developments on this property or on adjacent land or the potential edge effects or impacts caused by the occupation of the land.
- This report should be read in its entirety and no part should be taken out of context.
- No responsibility is accepted for the use of any part of this report in any other context or for any other purpose or by third parties.
- This report may make recommendations for protection of bushland habitat, weed control, re-establishment of the bushland in part of the site, planting local native species and applying erosion and nutrient control measures. This report assumes these initial and on-going works will be carried out during and on-going for the life of the development.
- The spread of sediment, nutrients or weeds into the adjacent bushland habitat over time is not taken into consideration.

E. Qualifications and Experience of the Field Ecologist and Authors

Nicholas Skelton's formal qualifications include a Bachelor of Science with Honours (B. Sc. (Hons) in Biology and terrestrial ecology USyd) and a Masters in Applied Science (M. App. Sc. in Vegetation Management UNSW). Nick has been an environmental scientist for 25 years, including a university lecturer, research ecologist, environmental scientist and consultant. His work is focused on the Sydney bioregion and he has published many papers in independently reviewed journals on the ecology of NSW. He has expert knowledge of the local soils, the climate of NSW and the local indigenous plants and animals as a result of over 900 ecological surveys. Nick is a member of the relevant professional organisations including a practising member of the Ecological Consultants Association of NSW and Royal Zoological Society. He is licensed by DPIE and NSW Department of Primary Industries to carry out surveys on threatened plants and animals and he is a qualified Biodiversity Assessor under the BC Act. Nick sits on various government committees and panels including Bushfire Management Committees, The State Weed Committee and several Independent Hearing Assessment Panels (IHAP). Nick was the principal ecologist on all field surveys for this report and was responsible for the preparation of maps and report editing. Further details can be found at www.ecology.net.au.

Joshua Drane (B.Env.Sc.) was the Graduate Ecologist on this project and the undergraduate ecologists were Olivia Zurek and Lucas Brown.

Stage 1: Biodiversity Assessment

2 Introduction

To meet the requirements for the Introduction are specified in Chapters 2 and 3 of the BAM 2020, 6.1 BC Act and 6.8 of the Regulations.

2.1 Proposed Development

Proposal Summary	
DA Applicant	Sarah Penelope Joyce
Owner / Company	Sarah Joyce and Nicholas Fairfax
ABN if a company	N/A
DA Number (if known)	Not yet submitted
Local Government Area (LGA)	Northern Beaches Council
Type of Proposal	The proposal is a development that requires consent under Part 4 of the *Environmental Planning & Assessment Act 1979 (*EP&A Act*)*, that involves alterations and additions to an existing dwelling

2.1.1 Brief Description of the Proposal

The proposal is shown on Figures 2.4 b and includes;

- Demolition of existing one storey cement rendered dwelling;
- Construction of new 3 storey dwelling;
- Construction of new boatshed within the property;
- Construction of garage;
- Replacement landscaping.

The consequences of the proposal will include:

- Demolition of existing structures
- Earthworks including excavation into rock
- Construction of the house and boatshed
- Retention of sandstone rock features
- Hard and soft landscaping
- Retention and improvement of Long-nosed Bandicoot habitat and potential Little Penguin habitat;
- Connection of the stormwater to existing drainage
- Noise and vibration
- Waste generation

The impact of the proposal is further described and quantified in section 7 and is shown on Figure 7.1.

2.1.2 Previous Relevant Approvals

There is an already approved Development Application (DA2019/808, Mod 2020/64) for demolishing and rebuilding an existing harbour swimming pool and spiral staircase, below the foreshore cliff adjacent to the property, on the land CT Vol 5018, Folio 1, being Crown Land. The application was granted 24/01/2020 and modification of the DA was granted on 20/4/2020. The harbour swimming pool approval conditions are provided in Appendix C.

The following ecological conditions are already required by the sea pool approval:

5(h) Noise levels

6(i) Protection of vegetation

Pre issue of CC

9 Access Spaces Bandicoots
10 Project Ecologist
11 Production of a Construction Environment Management Plan
15 Protection of the AOBV penguin Habitat
16 Site Induction Penguins and Bandicoots
17 Ecologist Induction of Site Manager
18 Runoff and Sediment Control Penguin Habitat

During Demolition

19 Installation and Maintenance of Sediment control
21 Construction and repair works timing restrictions Little Penguins
22 Construction environment Implementation
23 Construction hours
24 Fauna Inspections
25 Artificial lighting
26 CEMP implementation
27 Report dead or injured wildlife

Pre OC

29 Project Ecologist Certification
30 Advisory Signage for penguin habitat

Ongoing Requirements

32 Artificial lighting
33 Weeds
34 Fauna Access
35 Dead or injured wildlife
36 Domestic Animals

The owner has stated that it is intended that works on the sea pool and house will occur at the same time.

2.1.3 Bushfire Hazard Reduction

This site is not mapped as Bushfire prone, no bushfire protection measures are required or proposed.

2.1.4 Plans and Documents Used for this Report

Title	Author	Rev	DWG./Doc. No./Ref.	Date
Plan of Detail & Levels	Linker Surveying	-	160320	15/04/2016
Lower Floor Plan	Patterson	A	18010 - 1.4	21/12/2020
Ground Floor Plan	Patterson	A	18010 - 1.5	21/12/2020
First Floor Plan	Patterson	A	18010 - 1.6	21/12/2020
Boat Shed Plan	Patterson	A	18010 - 1.8	21/12/2020
Landscape Plan Ground	Landscape Design Sydney	E	LP02-D4819	28/01/2021
Landscape Plan Lower Ground	Landscape Design Sydney	E	LP03-D4819	28/01/2021

The data sources are listed in section 2.6, and the scientific and general references are in the References section at the end of this document.

2.1.5 Development Footprint

*The **Development Footprint** is required to be defined (BAM 2020). It is the area that is directly impacted, temporarily or permanently by the DA proposal, including any conservation area, access route, Construction Footprint, Operational Footprint.*

The Development Footprint is shown in Figure 2.4(b).

The Development Footprint for this proposal is the area that will be directly impacted by construction (Construction Footprint) and use (Operational Footprint) of the proposal. The Development Footprint **is approximately** 569m^2 in size. **W**orks **for the refurbishment of the harbour pool and it's access stairs** ha**ve** already been approved by a separate DA **as described in section 2.1.2 of this report**.

2.1.6 Operational Footprint

The Operational Footprint is required to be defined by the BAM 2020 and is location of the activity including; access roads, bushfire Asset Protection Zones and areas used to store construction materials. Does not include any residual or proposed environment protection area.

The Operational Footprint for this proposal is the areas that will be used as part of the use of the new dwelling. **For this proposal it will be** the Development Footprint, **including** the access handle**, stormwater pipes and** access to the foreshore area for maintenance. **The proposal is shown on the map in** Figure 2.4(b).

2.1.7 Construction Footprint

The Construction footprint is required to be defined by the BAM 2020 and may be indicative, temporary during construction e.g. Storage of building materials, waste, site office, sediment ponds.

The Construction Footprint for this proposal is the same as the Development Footprint, **including** the access handle, areas for sediment control and any changes to the stormwater system. This **proposal** is shown in the map on Figure 2.4(b).

2.2 Subject Land

The Subject Land (Site), is the property which has an irregular shape as shown with a red outline on all of the maps on Figures 2.1(Aerial Photo), 2.4, 4.1, 5.1, 5.2 and 7.1.

Subject Land Characteristics	
Address	16 Addison Road, Manly
Property Lot(s) and DP(s)	Lot 2 DP 325220
Subject Lot(s)	Lot 2 DP 325220
Area of Site	0.0569ha
Local Government Area (LGA)	Northern Beaches
Location, geographic co-ordinates	341211 E, 6257838 S, Zone 56 MGA, GDA 94
Minimum Permissible Lot Size LEP	250 sqm
Assessment Area (1500m buffer)	~800 ha

2.3 Requirement for a BDAR report, BOS Threshold Test

The Biodiversity Conservation Act Regulations (2017) requires that the Biodiversity Offset Scheme (BOS) **"threshold test"** (section 7.1 to 7.3) be applied to local developments (development under Part 4 of the *Environmental Planning and Assessment Act 1979*) to determine if the requirement to enter the BOS is triggered. If triggered then the Biodiversity Assessment Method (BAM) needs to be applied and a Biodiversity Development Assessment Report (BDAR) is required to accompany the application.

Section 7.2 of the BC Act states that a development will require assessment (BDAR report with BAM assessment) and offsetting (BOS) if any of the following triggers are met;

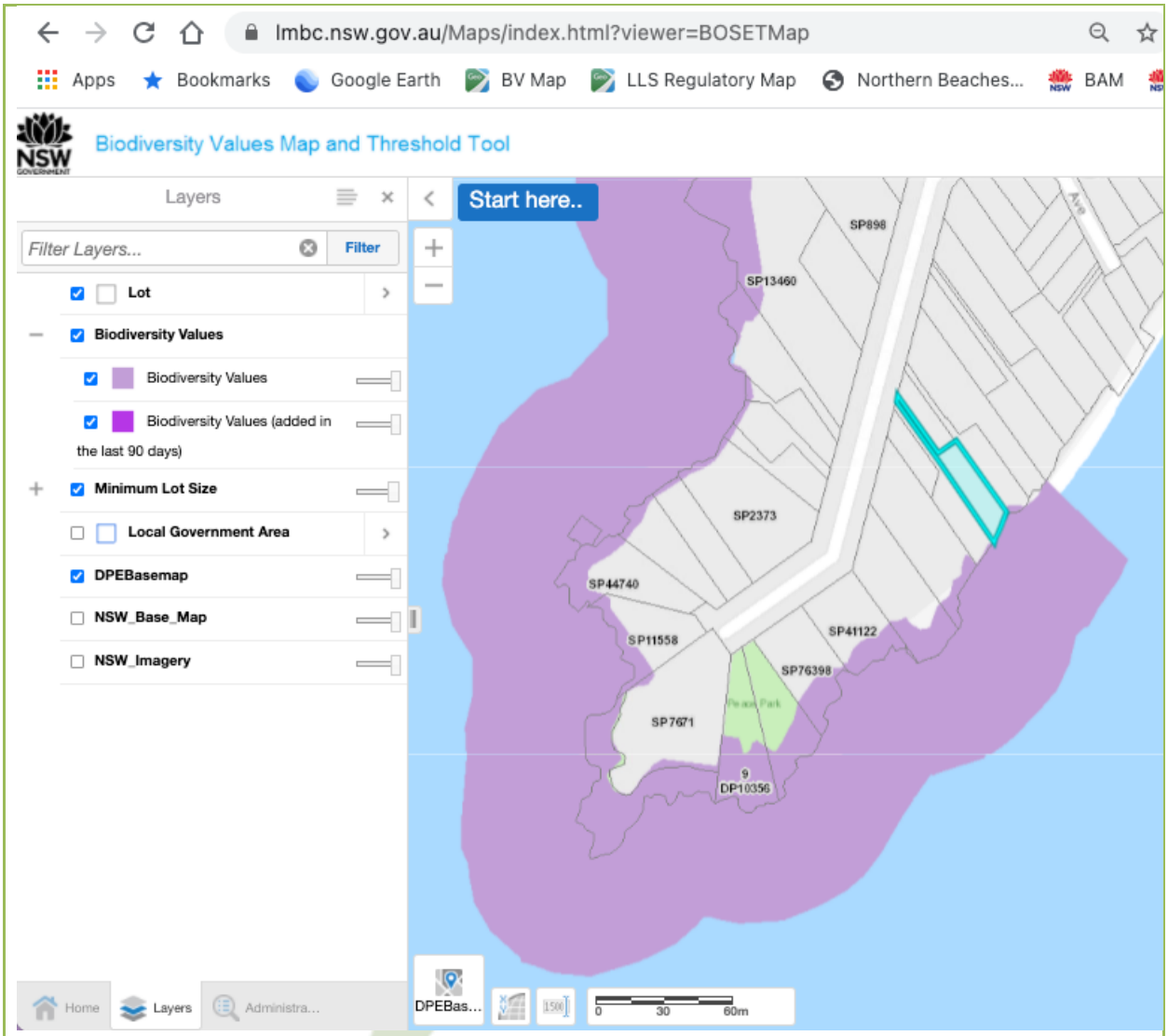
1. The area of **native vegetation** (any plant native to NSW, as defined in the LLS Act (see below) to be disturbed (including bushfire APZ, construction impact disturbance) is above the **clearing threshold** for the minimum lot size (defined in the LEP) (section 7.2 of the BC Act regulation), **or**
2. Any part of the proposal will have a direct or indirect impact on vegetation or other items (listed in section 6.1 of the BC Regulation) on **Biodiversity Value mapped land**, as shown in purple on the Biodiversity Values Map published by the Chief Executive of the NSW Office of Environment and Heritage **(**See image below and in Figure 2.3 of this report) or the web address: https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=BOSETMap. The **Biodiversity Values Map** is defined in the BAM as the map published in accordance with clause 7.3 of the BC Regulation.

   Determining if an **Area of Outstanding Biodiversity Value** is affected by this proposal at this site initially requires using the broad scale BV mapping, and then if there is BV mapped area on or adjacent to the site, then, a more detailed site specific AOBV boundary determination is required using the legal worded description. This assessment is described in section 3.5 of this report.

   or
3. a **Test of Significance (5 part test, assessment of significance Section 7.3, BC Act)** for potential threatened species or ecological communities.

1) The small amount of vegetation native to NSW that will be removed or disturbed due to the Construction Footprint is not above the threshold limit, therefore, this part of the Threshold Test is not triggered,

2) **The property includes land that meets the definition of AOBV (see Section 3.5 of this report) and the Development Footprint is likely to include works and use, within AOBV land, therefore, this part of the test is triggered.**



Biodiversity Values mapping of the property

https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=BOSETMap Source: NSW Department of Customer Service 2020, DPIE

3) This part of the test is not needed to be assessed as trigger 2 has already been triggered.

Trigger 2 is triggered, therefore entry under the BOS and preparation of a Biodiversity Development Assessment Report (BDAR) is required with an assessment using the BAM method.

This Biodiversity Development Assessment Report (BDAR) has been prepared in accordance with section 6.8 of the Biodiversity Conservation Regulation and the Biodiversity Assessment Method 2020 to meet this requirement.

2.4 BAM Module Type Used

There are 4 types of BAM assessment that can be used in a BDAR:

- Standard BAM assessment
- Streamlined – Small Area (BAM Appendix C)
- Streamlined - Scattered Trees (BAM Appendix B) or
- Streamlined - Planted Native Vegetation (BAM Appendix D)

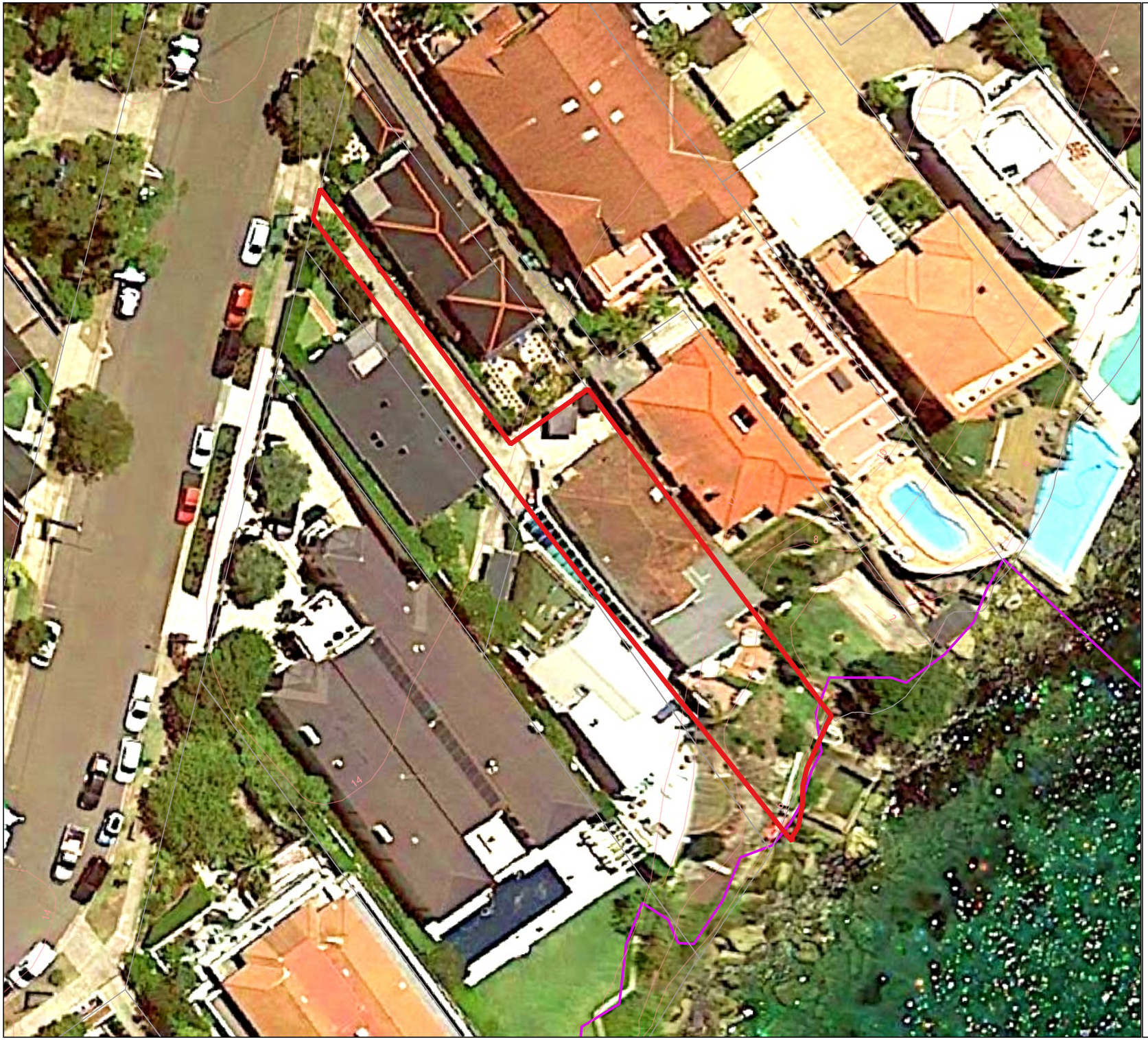
A combination of these is also possible. The streamline modules apply specific requirements for certain situations. The situations where each of the streamline modules may be used is described at the beginning of each relevant Appendix in the BAM.

The assessment that is used for this development is: Streamlined – Small Area (BAM Appendix C), the area clearing threshold for this DA is less than the maximum (ie <1ha on a minimum lot size mapped area of less than 1ha site) specified in Table 12 of the BAM (2020) and the site is not mapped as core koala habitat.

2.5 Areas Not Requiring Assessment

The Site does not include any Biocertified Land or impacts that have been previously offset.

The refurbishment of the adjacent sea pool and stairs have already been approved by a separate Development Application. See the note in section 2.1.1 of this report and Appendix C.



Legend

16 Addison Rd, Manly

Northern Beaches

Contour

2 metre

Cadastre

Critical_Habitat_Area

Source of Aerial Photo: Google

Figure 2.1
Site, Aerial Photograph

GIS Environmental Consultants
Ph: (02) 9939 5129, Mobile: 0419 438 672
ecology@ecology.net.au, ecology.net.au

Date: 31/5/2021
Drawn by: Nicholas Skelton
Version 1
Projection: GDA 94 MGA 56

0 8 16 m

Legend

16 Addison Rd, Manly, Lot 2, DP325220

Assessment Area, 1500m Buffer

Northern Beaches

NPWS Reserve

Critical Habitat Area BC Act

Critical Habitat Area A

Critical Habitat Area B

Potential Habitat

Source of Aerial Photo: Google 50%

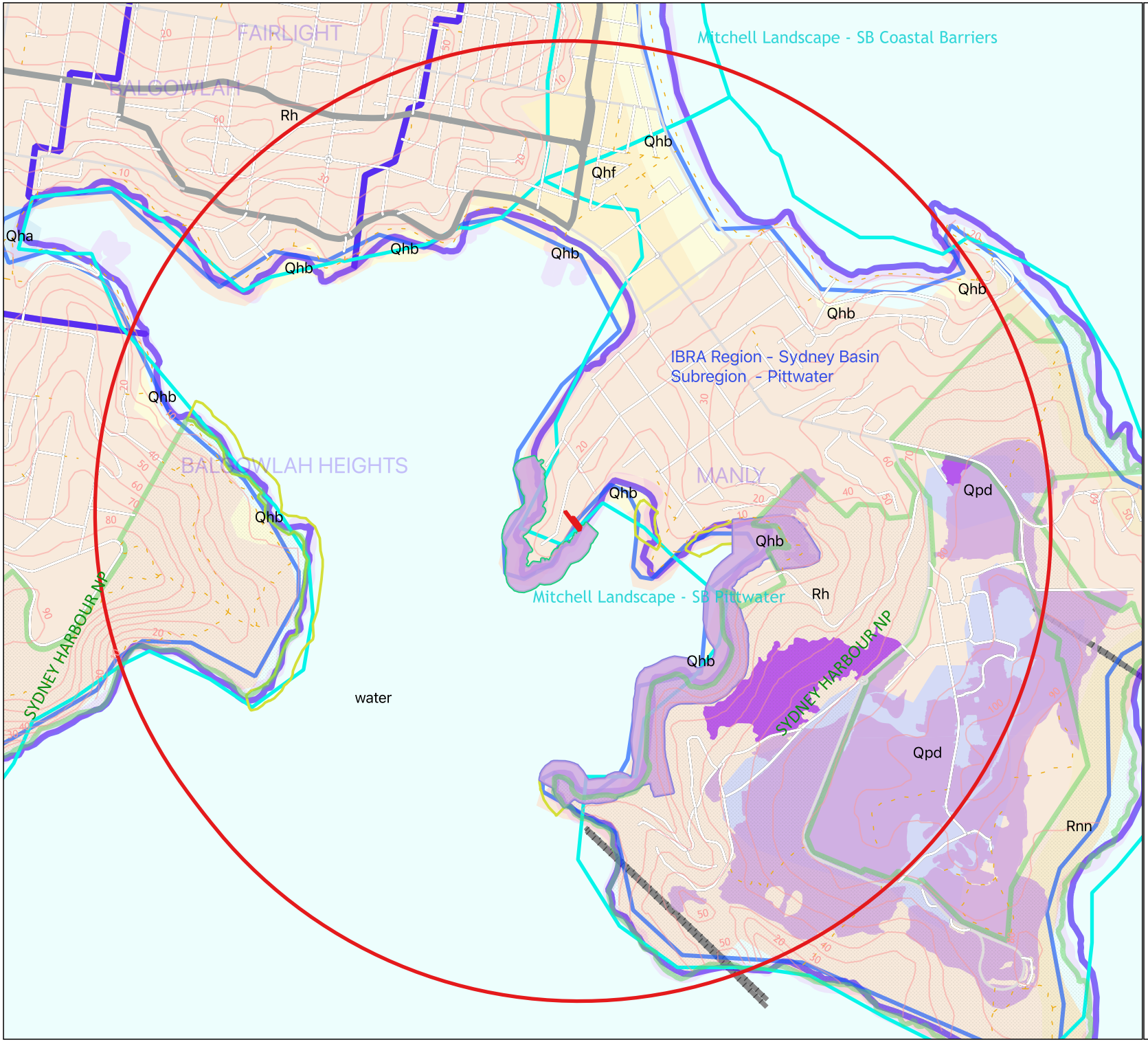
Figure 2.2 Locality, Aerial Photograph

GIS Environmental Consultants
Ph: (02) 9939 5129, Mobile: 0419 438 672
ecology@ecology.net.au, ecology.net.au

Date: 31/5/2021
Drawn by: Nicholas Skelton
Version 1
Projection: GDA 94 MGA 56

0 200 400 m

N



Legend

16 Addison Rd, Manly, Lot 2, DP325220

Assessment Area, 1500m Buffer

Northern Beaches

Contour

10 metre

Arterial Road

Distributor Road

Local Road

Path

NPWS Reserve

Biodiversity Values Map

Biodiversity Values Map 11.2 Feb 2021

Biodiversity Values

Biodiversity Values added in the last 90 days

Critical Habitat Area BC Act

Critical Habitat Area A

Critical Habitat Area B

Potential Habitat

Mitchell Landscape

IBRA V7 Regions and Subregions

LGA

Suburb

Geology and Soils

Geology Sydney100k Dykes

Geology Sydney 100k Rock Unit

Qha

Qhb

Figure 2.3
Locality, Topography and Features

GIS Environmental Consultants
Ph: (02) 9939 5129, Mobile: 0419 438 672
ecology@ecology.net.au, ecology.net.au

Date: 31/5/2021
Drawn by: Nicholas Skelton
Version 1
Projection: GDA 94 MGA 56

0 200 400 m

Legend

16 Addison Rd, Manly, Lot 2, DP325220

Northern Beaches

Contour

2 metre

Cadastre

Vegetation in Manly Assessment Area VSMA V3.1

Aquatic PCT Number: 1913
S_SW03: Seagrass Meadows

Figure 2.4a
Site Existing Site Features - Survey

GIS Environmental Consultants
Ph: (02) 9939 5129, Mobile: 0419 438 672
ecology@ecology.net.au, ecology.net.au

Date: 31/5/2021
Drawn by: Nicholas Skelton
Version 1
Projection: GDA 94 MGA 56

0 5 10 m

Legend

16 Addison Rd, Manly, Lot 2, DP325220

Northern Beaches

Contour

2 metre

Cadastre

Vegetation in Manly Assessment Area VSMA V3.1

Aquatic PCT Number: 1913
S_SW03: Seagrass Meadows

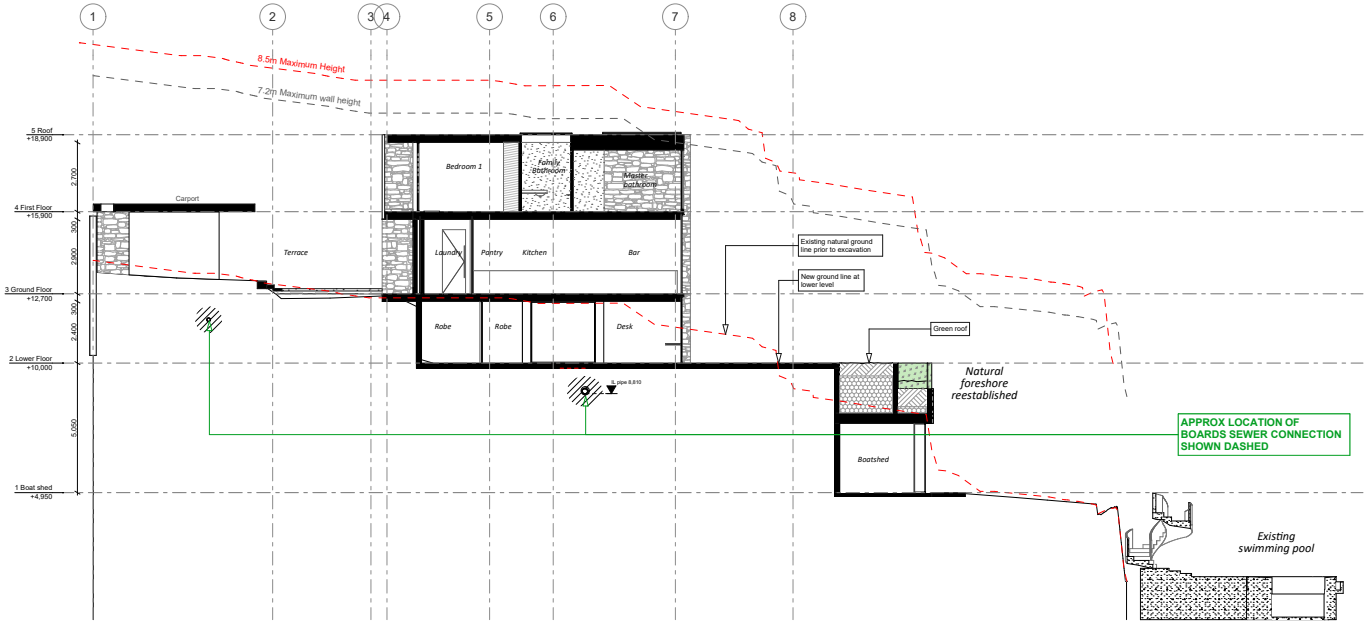
Figure 2.4b
Proposed Development Footprint

GIS Environmental Consultants
Ph: (02) 9939 5129, Mobile: 0419 438 672
ecology@ecology.net.au, ecology.net.au

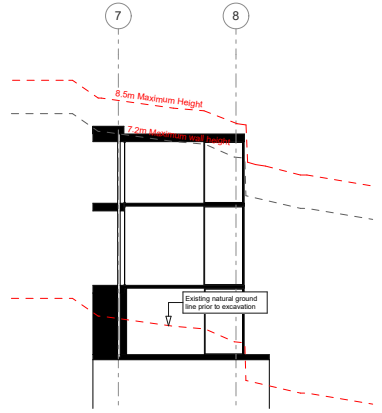
Date: 31/5/2021
Drawn by: Nicholas Skelton
Version 1
Projection: GDA 94 MGA 56

0 5 10 m

N

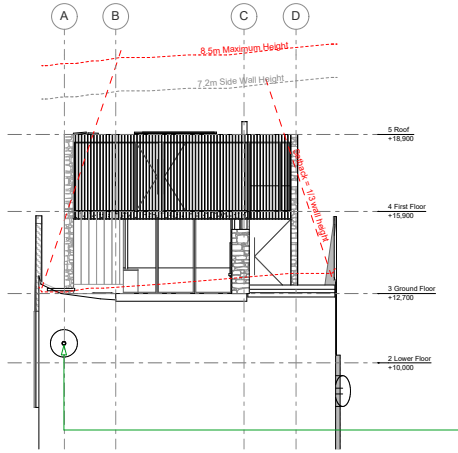


1 Section C 1:100

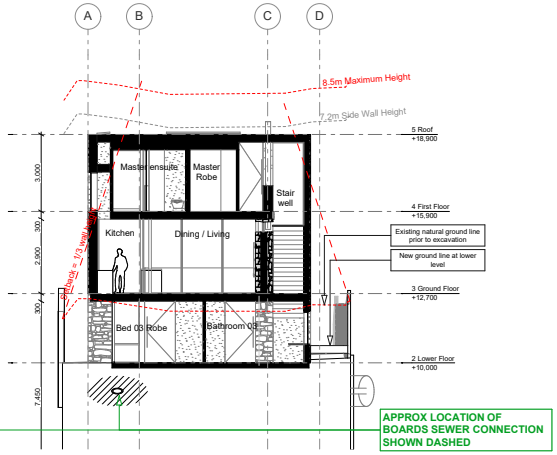


5 Section C 1 1:100

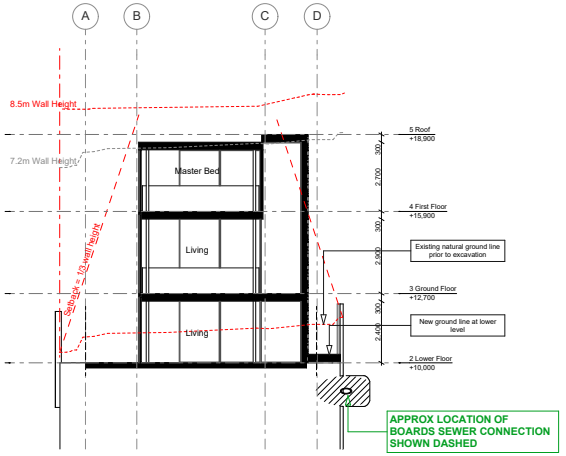
Worst case scenario
8.5m max Height



2 Section D 1:100



3 Section E 1:100



4 Section F 1:100

PATTERSON

PATTERSON ASSOCIATES LTD
REGISTERED ARCHITECTS NUMBER 1998
P.O. BOX 8778 SYMONDS ST, AUCKLAND, NEW ZEALAND
TELEPHONE (09) 303-4004 FACSIMILE (09) 303-4001

16 Addison Rd, Sydney

Consultants

Quantity Surveyors	Dean, Murray & Partners Ltd.
Structural Engineers	Law Sue Davison Ltd.
Truss Designer	Buildable Layouts Ltd.
Geotechnical Engineer	Chambers Consultants Ltd.

designed	**	peer review	**
drawn	**	checked	**

scale **1:100 @ A1** date 21/12/2020

title
Sections - 1:200 @ A3

drawing set
Development Application
Not For Construction

ref no.
18010

sheet no. 3.2
revision A

K Drive/Projects18/18010/Dwgs/

2.6 Sources of Information

The sources of the Spatial data is documented on the maps.

Relevant information was obtained from literature, local knowledge and established sources such as scientific journals, electronic databases, and reports.

The databases consulted are;

BioNet

BAM Calculator

BioNet Vegetation Classification

BioNet Threatened Biodiversity Data Collection (TBDC)

BioNet Atlas

Directory of Important Wetlands in Australia

BioNet NSW (Mitchell) Landscapes – Version 3.1, and

NSW Interim Biogeographic Regions of Australia (IBRA region and subregion) – Version 7

Google earth

Six spatial information

eSPADE https://www.environment.nsw.gov.au/eSpade2Webapp for Geology and soils

SEED https://www.seed.nsw.gov.au/

The data used is also mostly referenced on the corresponding map.

This information was used to ascertain which threatened species are known to occur in or near the study area. These species and the potential candidate species produced by the BAM calculator were then combined with local knowledge and the habitat conditions within the study area to compile a list of Threatened plant and animal candidate species for specific targeting during the fieldwork and assessment.

2.7 Assessment Method Applied

This BDAR report is structured in the same way as the BAM 2020 document to assist the reader in finding information, to assist the writer in clarifying requirements and to demonstrate compliance with the BAM requirements, this heading structure is also consistent with Appendices K and L of the BAM 2020 as is required. All the major headings have the same or similar names and the numbering of the chapters are the same. At the start of each section the corresponding section of the BAM is given in italic print. The table and figure numbering also corresponds to the relevant section.

This BDAR also has the same 2 stages as the BAM; Stage 1 Biodiversity Assessment and Stage 2 Impact Assessment.

The type of BAM assessment module used is stated in section 2.4.

2.8 Field Survey Methods

The objectives of the ecological survey:

- Describe the physical environment of the Site;
- Meet the requirements of the Biodiversity Assessment Method (BC Act 2016 and Section 5.2 of the BAM 2020);
- Map the extent of native vegetation in the Site and surrounding land;
- Identify and record native and exotic plant species that occur on the Site and adjacent land;
- Determine the Vegetation Types(s) (PCTs) and map their extent;
- Assess and map the level of vegetation and habitat disturbance condition on the Site to determine the Vegetation Zones.
- Identify and record fauna species and their habitats;
- Identify and map targeted Threatened species and their habitats;
- Determine the extent of the Site of the proposed footprint and direct and indirect impacts.

The general field techniques that were carried out across the Development Site and the adjacent land:

- Traversed the Development Site and surrounding land to locate boundaries and physical characteristics of the Development Site and location of the proposal;
- Assessed the habitat suitability within the Development Site, particularly for penguins and bandicoots;
- Carried out a plot-based survey for the classification of the Plant Community Types and their condition;
- Identified all plant species on the site including native and exotic species;
- Recorded floristic and structural vegetation characteristics including projected foliage cover of all native plants on the plots;
- Identified fauna on the Site through sightings, calls and potential habitat, scats, remains, nests, dreys, bones, feathers, fur, diggings, scratches, tracks, owl white-wash and food sources etc.
- Assessed the extent of disturbance and weed invasion;
- Photographed the ecological features.

The landscape features, vegetation types (PCT) and conditions were surveyed using the Biodiversity Assessment Method (BAM) (OEH 2020).

The field surveys were carried out on 12th of February 2019 and 24th of February 2021 and the site was revisited on the 4th and 8th of March 2021. The experienced Principal Ecologist Nicholas Skelton and Ecologist Joshua Drane undertook the recent fieldwork. Due to the small size of the Development Site, a larger area was searched for during the field survey so that the presence and habitat for Threatened species in the locality were not missed, in particular, the presence of Little Penguins and their nests. The search area included 50m along the rocky foreshore to the north and south of the site.

2.8.1 Extent of Native Vegetation

The extent of native vegetation within the site was determined using aerial photography with ground field verification and using geographical information system.

The definition of native vegetation is required by the BC Act to be used is the same as in the LLS Act, which is all native plants including trees, shrubs and groundcover. See the definitions section of this report for the full official definition of "Native Vegetation".

One of the aerial photographs used and the location and extent of native vegetation in the Development Area is shown on the map in Figure 4.1.

2.8.2 BAM Plot Survey

A BAM plot survey, as required by the BAM method, was used to determine the integrity (condition), composition and structure and function in each Vegetation Zone. The transect and plot types used for each Vegetation Zone (VZ) were:

- 50m long transection used to orientate and position the plots and subplots and photos
- 400 m^2 plot (20 m x 20 m), used to assess the composition and structure;
- 1000 m^2 plot was used to assess functional attributes of the site; and
- 1 m^2 subplots (x5) nested within the 1000m^2 plot used to assess the average percentage leaf litter cover.

The location of the 400m^2 plot for each Vegetation Zone used in this survey are shown in magenta on the map in Figure 5.2.

2.8.3 Targeted Threatened Species Surveys

During the field surveys, all sections of the study area and some of the surrounding land were traversed on foot. The study area was searched for the presence of the Candidate (as defined in the BAM) Threatened (as defined in the BC Act schedules) flora and fauna species and their habitats using the published OEH guidelines where relevant.

- Bat Survey Guidelines, 'Species credit' Threatened bats and their habitats NSW survey guide for the Biodiversity Assessment Method OEH 2018
- Plant Survey Guidelines, NSW Guide to Surveying Threatened Plants OEH 2016
- Amphibian and Reptile Survey Guidelines, Threatened species survey and assessment guidelines: field survey methods for fauna, Amphibians DECC 2009
- Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities Working Draft DEC 2004

The Threatened species survey effort is described in section 5 of this report.

3 Landscape Features

Requirements are described in sections 3.1 and 3.2 and Appendix E of the BAM 2020

IBRA Bioregion	Sydney Basin
IBRA Subregion	Pittwater
Mitchel Landscape v3.1	Belrose Coastal Slopes
Soil	Gymea
Geology	Hawksbury sandstone
Native Vegetation % cover in 1.5km buffer	20-30%

3.1 Landscape Features in the Locality

New South Wales landscape is classified into Interim Biogeographic regionalisation of Australia (IBRA) regions. The current version IBRA v7.1 identifies 17 IBRA bioregions and 135 subregions in New South Wales. The IBRA bioregion and sub region is stated in section 3.8.2 and shown in blue writing on the map in Figure 2.3.

3.1.1 Topography

The site is on the eastern side of a Smedleys Point headland that juts into North Harbour. Two metre contours of the site are shown in pink with labels on Figures 2.4b and 2.4c and 10m contours in the locality are shown on the map in Figures 2.3 and 5.1.

The Development Footprint slopes to the east, with the eastern part consisting of sandstone boulders, bedrock, retaining walls and bare soil, which contains overhangs and crevices. On the southern end of the property there is an approximately 3m high cliff. To the east of the cliff is the rocky foreshore that is at approximately mean high water height.

The surveyor appears to have interpreted the mean high water mark of North Harbour as the eastern boundary of the site.

3.1.2 Hydrology

Stormwater flows as surface water and in pipes in a south-eastern direction, and is discharged directly down the cliff and into North Harbour.

3.1.5 Geology and Soils in the Locality

The site is on Hawkesbury sandstone geology and the soil is the Gymea soil type. There is exposed sandstone bedrock and lenses and layers of shale which form sandstone cliffs, shelves, crevices, overhangs and boulders which have many potential penguin nest sites. The geological and soil boundaries and their proximity to the site are shown on Figure 2.3 by a thick light brown outline.

3.2 Disturbance History

The site has been extensively disturbed in the past from clearing and construction of existing dwellings and hard and soft landscaping over the past several decades. The vegetation on the site is mostly exotic and weed species.

3.2.1 Fire History

This site shows signs of not having been burnt within the last 30 years. Fire history records do not show any fires on this site and none are likely to have occurred in the last 100 years.

3.3 Native Vegetation Cover in the Locality

In accordance with 3.2(4) of the BAM (2020) the percentage cover of native woody and non-woody vegetation within the 1.5km buffer Assessment Area (approx. 800ha) around the site was determined and is shown on the map in Figure 3.1. The percent native vegetation cover is classified by using the most up to date native vegetation mapping in combination with interpretation of recent aerial photograph imagery.

Native vegetation cover is defined as the percentage of native vegetation cover on the Assessment Area (1500m buffer). Cover estimates are based on the cover of native woody and non-woody vegetation. Native vegetation cover includes regrowth, derived native grasslands and plantations that are comprised of plants native to New South Wales

The Native Vegetation of the Sydney Metropolitan Area V3.1 (OEH 2016) is currently the best vegetation mapping for this area. It is a compilation of the best available vegetation maps by various authors. The boundaries of many of the vegetation patches were mostly determined between 2 and 15 years ago. The map on Figure 3.1 shows the vegetation types (ecological communities) in the locality that have been mapped at the regional scale. The Figure legend lists the vegetation types and their PCTs and the map shows their distribution in the locality and in relation to the site. The map in Figure 3.1 shows the 1500m buffer of the site in Red overlaying a recent aerial photograph of the locality and the woody vegetation areas are outlined in light blue.

3.4 Landscape Features at the Development Site

The impact to Landscape Features is assessed in the Prescribed Impact section of this report in Table 7.1.

3.4.1 Cleared Areas and Man-made Structures

The majority of the site does not contain vegetation. The site is mostly comprised of manmade structures, bare soil and rock outcrops and cliffs. The manmade structures are retaining walls, a house, garage, fences, retaining walls, gardens and gates.

3.4.2 IBRA Region and sub regions

As described in 3.1.3(2) BAM 2020

The proximity to boundaries for all these are shown on the map in Figure 2.3.

3.4.3 Rivers and Streams

As described in 3.1.3(3-4) BAM 2020

The proximity to Hydrology features is shown on the map in Figure 2.3.

There are no freshwater rivers or stream on the site. The mean high water mark of the sea water of North Harbour is the south-eastern boundary of the property.

3.4.4 Wetlands (including estuarine areas)

As described in 3.1.3(4) BAM 2020

The property occurs within a 40m buffer zone of seagrass and has been mapped as a Wetland Protection Area by the Department of Infrastructure, Planning and Natural Resources (2005) as is shown

on Figure 3.1. The proposal is only for works above the clifftop. The stormwater from the site will flow into the Harbour.

3.4.5 Connectivity Features

As described in 3.1.3(5-6) BAM 2020

The proximity to National Parks, Reserves, and remnant vegetation in the locality is shown on the maps in Figures 2.2, 3.1 and 5.1.

The Development Site is accessible from the water by Little Penguins via the spiral staircase and the adjacent property to the south, 14A Addison Road. Penguins and Rakali can also access the rocky foreshore part of the property from the north and south along the rocky foreshore. The site is accessible for Water Dragons, cats, possums, bats and birds. Dog and foxes cannot and will not be able to access the foreshore area through this property due to gates and fences. The dogs and cats from adjacent properties do frequently use this site. If dogs are kept on the property the self-closing gate on the top of the cliff, and the legal restriction on dogs entering the foreshore area, will restrict dogs from accessing the foreshore penguin habitat.

There is Long-nosed Bandicoot access from 14A Addison Road to the southern habitat of the site (rear yard) and can access the driveway vegetation from Addison Road. There is no through site access as gates and lattice block access from front to rear.

3.4.6 Areas of Geological Significance

As described in 3.1.3 (7 and 10) BAM 2020

There is exposed sandstone bedrock and lenses and layers of shale which form sandstone cliffs, shelves, crevices, overhangs and boulders which have many potential penguin nest sites. There is a 5m high sandstone cliff at the south-eastern boundary of the property. There are no large caves or karst in the cliff. The cliff and above rock outcrops contain several crevices that is potentially suitable for Little Penguin nesting.

The former manly Council carried out a coastal hazard study on this foreshore area. The cliff line and boulders on the site are shown on the site survey on Figure 2.4a and by a brown areas on Figure 8.1.

3.5 Areas of Outstanding Biodiversity Value

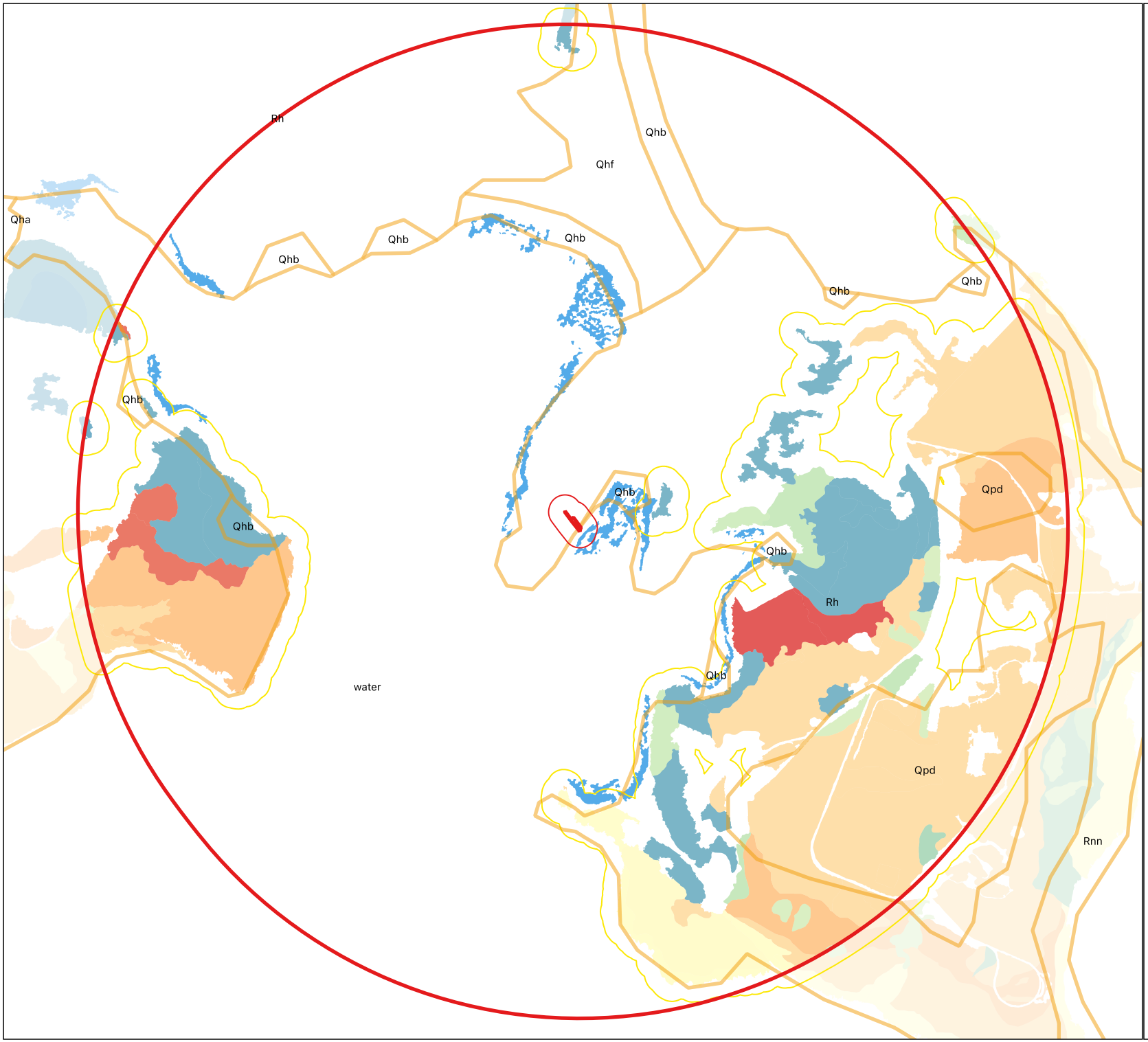
As described in 3.1.3(8-9) BAM 2020.

The declared Area of Outstanding Biodiversity Value (AOBV) is protected by the Biodiversity Conservation Act and it's location is defined broadly by a map and at a finer scale by a worded definition. The AOBV was called Critical Habitat in the previous legislation the Threatened Species Conservation Act 1995 (TSC Act). AOBV was declared and defined by the (TSC Act) Scientific Committee due to it's potential as breeding habitat for the Endangered population of Little Penguins in Manly that is listed on the Schedules of the Biodiversity Conservation Act. There are other constraints and protection measures for the Little Penguin described in the Biodiversity Conservation Act and its regulations.

The mapped areas in the locality are shown on the maps in Figure 2.3 and section 2.3. Description of 'Critical Habitat Area B' in the 'Declaration of Critical Habitat for the Endangered Population of Little Penguins at Manly' (NPWS, 2002):

"Area B starts at 11A Oyama Avenue and extends around Manly Point to 26 Addison Road. The land side of the critical habitat includes the area from the mean high watermark, up the rocky foreshore slope to the ridgetop in residential areas. The rocky foreshore upslope to the boundary of formed residential backyards is included as critical habitat".

On this site the surveyor has interpreted the property boundary as being to the east of the top of the cliff for a varying distance, thus, the property includes an area of Critical Habitat which is also an Area Of Biodiversity Value (AOBV). The development proposal includes: redirection of stormwater, sediment control and access to the foreshore during construction and ongoing maintenance that are likely to be within the AOBV land. The DA and Development Footprint does not include the location of the harbour sea pool, it's surrounds or the spiral staircase as the impact of this construction and use is already approved, with conditions, by DA (DA2019/808, Mod 2020/64). This approval is further described in section 2.1.2 of this report.



Legend

- Construction Site 50m buffer
- 16 Addison Rd, Manly, Lot 2, DP325220
- Assessment Area, 1500m Buffer

Geology and Soils

- Geology Sydney 100k Rock Units labled
- Connectivity 50m buffer Terestrial Native Vegetatio

Vegetation in Manly Assessment Area VSMA V3.1

- Aquatic PCT Number: 1913
  S_SW03: Seagrass Meadows
- Forest/Low Forest PCT Number: 1778
  S_DSF06: Coastal Sandstone Foreshores Forest
- Forest PCT Number: 1234
  S_FoW08: Estuarine Swamp Oak Forest
- Forest PCT Number: 1250
  S_DSF09: Coastal Sandstone Gully Forest
- Grassland PCT Number: 1810
  S_HL14: Coastal Clifftop Marsh
- Heath Scrub PCT Number: 1822
  S_HL06: Coastal Headland Banksia Heath
- Heath Scrub PCT Number: 664
  S_HL03: Coastal Sand Mantle Heath
- Heath PCT Number: 1822
  S_HL06: Coastal Headland Banksia Heath
- Heath PCT Number: 664
  S_HL03: Coastal Sand Mantle Heath
- Low Heath PCT Number: 1822
  S_HL06: Coastal Headland Banksia Heath
- Low Heath PCT Number: 1823
  S_HL07: Coastal Headland Cliffline Scrub
- Open Heath PCT Number: 881
  S_HL09: Coastal Sandstone Rock Plate Heath
- Scrub/Sedgeland PCT Number: 1809
  S_FrW13: Coastal Sand Swamp Scrub
- Scrub PCT Number: 1778
  S_DSF06: Coastal Sandstone Foreshores Forest
- Scrub PCT Number: 1833
  S_RF07: Coastal Escarpment Littoral Rainforest
- Scrub PCT Number: 664
  S_HL03: Coastal Sand Mantle Heath
- Swamp Scrub PCT Number: 1809
  S_FrW13: Coastal Sand Swamp Scrub
- Woodland/Forest PCT Number: 1778
  S_DSF06: Coastal Sandstone Foreshores Forest
- Woodland/Low Forest PCT Number: 1782
  Hornsby Enriched Sandstone Exposed Woodland

Figure 3.1 Locality, Mapped Vegetation and Patch Size

GIS Environmental Consultants
Ph: (02) 9939 5129, Mobile: 0419 438 672
ecology@ecology.net.au, ecology.net.au

Date: 31/5/2021
Drawn by: Nicholas Skelton
Version 1
Projection: GDA 94 MGA 56

0 200 400 m

4 Native Vegetation

As described in Chapter 4 and Appendices A and H of the BAM 2020.

The vegetation on the construction footprint is a highly disturbed landscaped backyard, with bare soil exotic plantings, weeds and remnant native plant species.

The Biodiversity Assessment Method requires that the vegetation be classified as a type of vegetation or the type or original vegetation be estimated. The BC Act defined Native Vegetation as all species native to NSW regardless of being planted or not being locally native.

4.1 Patch Size

In accordance with 4.3.2 of the BAM 2020.

Patch size is defined as an area of native vegetation that:

- occurs on the development site and beyond
- includes native vegetation that has a gap of less than 100 m from the next area of native vegetation (or ≤30 m for non-woody ecosystems).

Patch size extends onto adjoining land that is not part of the development site.

Patch Size	Patch Size Class
0.0 ha	**<5ha**

The 100m buffers (yellow) and woody vegetation within the assessment area (Light Blue polygons) used to determine the Patch Size (Green) are shown on the map in Figure 3.1

4.2 Identification of Plant Community Types PCT

In a Streamline-small area BDAR only the dominant PCT needs to be considered and surveyed as long as they are not TECs (Threatened Ecological Communities) Appendix L Table 27 Section 4 dot point 2.

The vegetation on this site is mostly cleated and the remaining vegetation is mostly exotic species that have been planted as part of a garden. The whole of the site has been a managed garden for many decades. The plant species list and the photographs reflects the long term impact to the vegetation on the site.

The vegetation types (Ecological Community, Plant Community Type PCT) that occurs on the site was determined using a combination of: VIS, past regional scale mapping, Final determinations, vegetation classifications, and 25 years of experience and expert knowledge to determine the PCT.

4.3 Plant Species List

The plant species that occur on the site are listed in the Table 4.1

Table 4.1 Plant Species List
Floristics and Relative Abundances

16 Addison, Manly
Date Data Recorded: 24 February 2021
by Nicholas Skelton, GIS Environmental Consultants

GIS Environmental Consultants
Ph: (02) 9939 5129, Mobile: 0419 438 672
ecology@ecology.net.au, ecology.net.au

Vegetation Zone and Plot

Plot	Easting	Northing
Plot 1	341223	6257829

Native Species Richness (Composition) Inside Plots, Summarised by Growth Form and Status

	Plot 1
Fern (EG)	1
Forb (FG)	1
Grass & like (GG)	0
Other (OG)	0
Shrub (SG)	0
Tree (TG)	2
Total	4

Projected Foliage Cover % (Structure) of Native Plants by Growth Form Within Plots

	Plot 1
Fern (EG)	0.1
Forb (FG)	7
Grass & like (GG)	0
Other (OG)	0
Shrub (SG)	0
Tree (TG)	4
Total	11.1

Tree (TG), Shrub (SG), Grass & like (GG), Forb (FG), Fern (EG) and Other (OG)

High Threat Weed Cover

High Threat weeds	0

Native Plant Species Inside Plot (400sqm)

Genus and Species	Family	Status	Growth Form	% PF cover Plot 1
Christella dentata	THELYPTERIDACEAE	Native	EG	0.1
Commelina cyanea	COMMELINACEAE	Native	FG	7
Ficus rubiginosa	MORACEAE	Native	TG	1
Hibiscus tiliaceus	MALVACEAE	Native	TG	3
Callistemon Hybrid	MYRTACEAE	Weed	SG	
Ficus microcarpa	MORACEAE	Weed	TG	
Hedera helix	ARALIACEAE	Weed	OG	
Trachelospermum jasminoides	APOCYNACEAE	Weed	OG	
Brassaia actinophylla	ARALIACEAE	Weed	SG	
Chlorphytum comosum	LILLIACEAE	Weed	FG	
Coprosma repens	RUBIACEAE	Weed	SG	
Ehrharta erecta	POACEAE	Weed	GG	
Monstera deliciosa	ARACEAE	Weed	FG	
Nephrolepis cordifolia	DAVALLIACEAE	Weed	EG	
Olea europa ssp. africana	OLEACEAE	Weed	SG	
Parietaria judaica	URTICACEAE	Weed	FG	
Stenotaphrum secundatum	POACEAE	Weed	GG	
Yucca aloifolia	AGAVACEAE	Weed	FG	

Additional Native Plant Species Outside of the Plot

Genus and Species	Family	Status	Growth Form
Acmena smithii	MYRTACEAE	Native	TG
Banksia integrifolia ssp. integrifolia	PROTEACEAE	Native	TG
Dianella caerulea var. producta	PHORMIACEAE	Native	FG
Hibbertia scandens	DILLENIACEAE	Native	OG
Aloe sp.	LILLIACEAE	Weed	FG
Bougainvillea sp.	NYCTAGINACEAE	Weed	SG
Ipomea indica	CONVOLVULACEAE	Weed	OG
Lantana camara	VERBENACEAE	Weed	SG
Phoenix canariensis	ARECACEAE	Weed	OG

4.4 Justification for PCT (Vegetation Classification)

4.4.1 Candidate Vegetation Communities on this Site

The map in Figure 3.1 shows the location and abundance of vegetation communities that have been mapped at a regional scale.

Regional Scale Mapping Used

Best available regional scale mapping
Native Vegetation of the Sydney Metropolitan Area (NVSMA) V3.1 2016

Candidate Ecological Communities

PCT Number	PCT Name	Common Name	EEC	Vegetation Class
Vegetation Zone 1 and, Plot 1				
PCT 1778	**Smooth-barked Apple - Coastal Banksia/Cheese Tree open forest on sandstone slopes on the foreshores of the drowned river valleys of Sydney**	Coastal Sandstone Foreshore Forest	Not listed	Sydney Coastal Dry Sclerophyll Forests

4.4.2 Comparison to Published Classifications

The vegetation on the site is highly disturbed comparison to a classification is likely to have a high level of uncertainty. BioNet Vegetation Classification system is the main published classification system used.

4.5 Conclusion Regarding the Vegetation Community Types Present

The vegetation currently on the site is very disturbed and does not correlate to any vegetation type, the most likely original vegetation type based on the foreshore location, soil, drainage and remnant native vegetation along other parts of the foreshore in the locality it is most likely that the native vegetation community in the plot was **Smooth-barked Apple- Coastal Banksia/ Cheese Tree open forest on sandstone slopes on the foreshores of the drowned river valleys of Sydney (PCT 1778)**, also referred to as Coastal Sandstone Foreshore Forest (NVSMA V3 2016).

The location and extent of the Vegetation Community Types are shown on the map in Figure 4.1.

4.6 Identification of Threatened Ecological Communities TEC

As described in section 4.2.2 of the BAM 2020. Any in addition to the dominant community.

The NSW Biodiversity Conservation Act 2017 and the Federal Environment Protection and Biodiversity Conservation (EPBC) Act 1999, both list Threatened Ecological Communities. Threatened ecological communities can be either Vulnerable (VEC) or Endangered (EEC) or Critically Endangered (CEEC) Ecological Communities under the TSC Act. The Federal Act lists only Endangered or Critically Endangered Ecological Communities. These communities are likely to become extinct in nature unless the circumstances and factors threatening their survival cease to operate. The listing is most commonly referred to as a determination, which is a several page definition of the community written by a scientific committee and listed in the schedules of the Act.

During the site survey, the likelihood of Endangered Ecological Communities occurring on the site was determined using a three-step approach: 1. Has the community been recorded in the locality? 2. Is there a sufficient number of characteristic species on the site? 3. Does the environmental description in the Determination fit the site?

Assessment of Potential Threatened Ecological Communities

Only one Threatened Ecological community has potential to occur on the site.

Littoral Rainforest Endangered Ecological Community

Littoral rainforest in the NSW North Coast, Sydney Basin and South East Corner Bioregions endangered Ecological Community (EEC) is generally a closed forest, the structure and composition of which is strongly influenced by proximity to the ocean. The plant species in this ecological community contain some rainforest species with evergreen mesic or coriaceous leaves, however the site does not contain enough species to be considered Littoral Rainforest. Planted Littoral Rainforest is likely to occur in the nearby Collins Beach approximately 500m away.

4.6.1 Comparison to NSW Scientific Committee Determination for EECs

The only Threatened Ecological Communities that could occur on this site is Littoral Rainforest, the site does not contain sufficient species or the structural characteristics needed to be classified as Littoral Rainforest.

4.6.2 Conclusion Regarding Presence of TEC in the Disturbance Area

It was determined that the original vegetation site is most likely to have been Smooth-barked Apple-Coastal Banksia/ Cheese Tree open forest (PCT 1778), therefore not Threatened Ecological Community exists on this site. There are not enough native species on the site or the correct structure for the vegetation on the site to represent any native vegetation community see. No Endangered Ecological Community occurs on the site.

The maps in Figures 4.1, 5.2 shows its location and the size of this community on the site.

4.7 Area of Each Vegetation Type on the Site

The size and location of each vegetation type on the Subject Land is listed in section 4.8 and shown on the maps in Figures 4.1 4.2 and 5.2.

Photo Page 1

Photos of Rock Outcrops and Rock Crevices

Photo Page 2

Photos of Rock Outcrops and Rock Crevices

Photo Page 3

Plot 1

Bandicoot and Penguin access to 14 Addison Rd

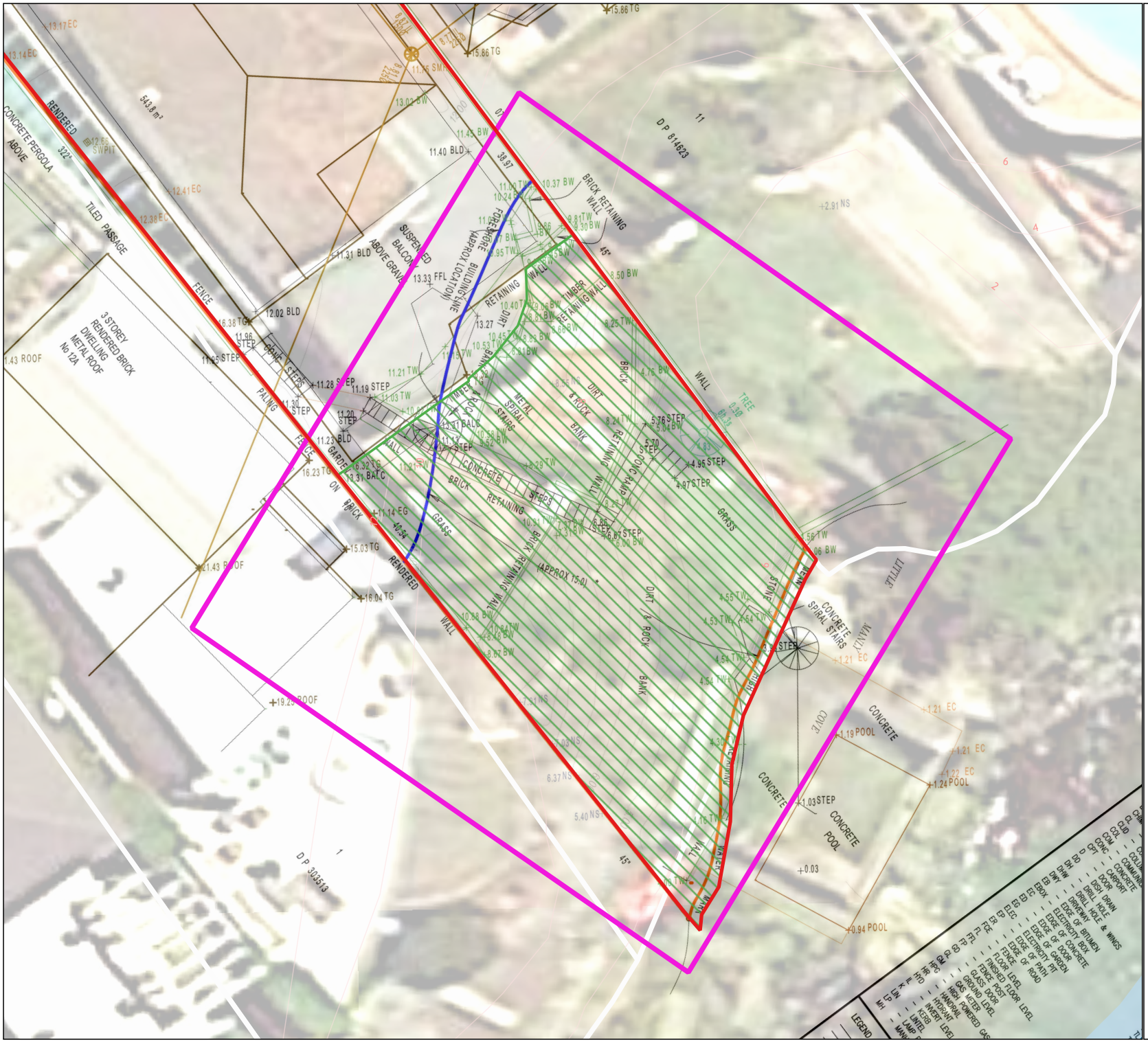


Figure 4.1
Site, Existing Habitat, Zones and Survey

GIS Environmental Consultants
Ph: (02) 9939 5129, Mobile: 0419 438 672
ecology@ecology.net.au, ecology.net.au

Date: 31/5/2021
Drawn by: Nicholas Skelton
Version 1
Projection: GDA 94 MGA 56

0 2 4 m

4.8 Vegetation Integrity Assessment

In a Streamline-Small Area BDAR Assessment the method of assessment of vegetation integrity is less formal, in this BDAR assessment we have generally followed the standard BAM integrity assessment method.

The area of the dominant native vegetation type within the development site fits into 1 broad condition states (Vegetation Zone) this are labelled as VZ1. The size and location of each vegetation type on the Subject Land is shown on the maps in Figures 4.2c and 4.1 and 5.2.

Vegetation Zones in the Subject Land

PCT	Vegetation Zone	Area of Zone in Development **Site** (ha) See Definitions	Area of Zone in Development **Footprint** (ha) See Definitions
1778	Zone 1	0.0163	0.0163

Plot Only Field Survey Effort

Date	Person Hours	Weather	Type	Location
12/02/19	1	Fine 34 - 36ºC	Plot 1 (Zone 1)	See Figure 4.1
24/02/21	1	Overcast 18-21ºC	Plot 1 (Zone 1)	See Figure 4.1

For Threatened Species survey effort see section 5.3.

4.8.1 Transect/plot Origin Coordinates

Coordinates are in MGA zone 56 Datum 94.

Plot Number	Easting	Northing	Bearing
1	341223	6257829	232

4.8.2 Composition (Floristics) and Structure

A total of 18 plant species were recorded on the plot, this consisted of 4 native species and 14 exotic species. An additional 9 plant species were recorded outside the plot.

The species richness and the relative abundances of each species are recorded in Table 4.1. A summary of the floristics and the additional species of the whole property are given at the top of Table 4.1.

4.8.3 Function-Habitat Value

The results for tree width diversity, log length, and ground cover for the 20m x 50m plot are recorded in the table below.

Habitat Function Summary for Plots in Vegetation Zones to be impacted

Plot 1 (Vegetation Zone 2) Function Results		
Tree Stem Size Class		Log Length Total (m)
Width Class (cm)		0

<5 (Regeneration)	Present	
5 to 9	Present	Number of large trees (50cm+)
10 to 19	Present	0
20 to 29	**Absent**	
30 to 49	**Absent**	Av Leaf Litter % Cover (1m^2 plots)
50 to 79	**Absent**	22
80+	**Absent**	

Vegetation Integrity Scores

Vegetation Zone	Composition Score	Structure Score	Function Score	Integrity Score
VZ 1	4.7	4.1	28.6	2.8

4.9 Use of Benchmark Data

As described in section 4.3.3(5), 1.4.2 and Appendix A.

No Benchmark data was used.

5 Threatened Species Habitat Suitability

Justification of exclusion and inclusion of Threatened species from assessment. Including assessment of historic Threatened Species Records from the NSW Wildlife Atlas as candidate threatened species.

As described in section 5.1.1 of the BAM 2020.

5.1 Candidate Ecosystem Credit Species Exclusion or Inclusion Justification

All Ecosystem Candidate Species are assumed to be present for a Streamlined - Small Area BAM Assessment.

The list of ecosystem credit species derived (predicted) from the BAM calculator for this proposal are listed in the BAM output in Appendix A. Additional Threatened ecosystem credit species are required to be added where they occur on the site, or have been recorded previously at the site or when listed criteria are met.

Ecosystem credit species are those where their likely occurrence can be predicted by habitat surrogates (such as PCT) and landscape features, or for which a targeted survey has a low probability of detection. A targeted survey is not required for ecosystem species.

The listed Threatened species are assessed in accordance with section 6.4 (Steps 1 and 2) of the BAM, to identify any species that should be excluded from the BAM calculation and subsequent ecosystem (PCT, vegetation type) credit generation.

No Ecosystem Credit Species were found on the site or were considered needed to be added.

5.2 Candidate Species Credit Species Exclusion or Inclusion Justification

In a Streamline-Small Area BAM assessment, Candidate Species Credit Species do not need to be assessed as long as they are not found on the site incidentally and they are not potential SAII entities Appendix C Table 13 Chapter 5.2.

The BAM calculator takes into consideration the location of the site and the vegetation community, to create the predicted candidate Threatened Species Credit Species list. The predicted (potential)

candidate for the threatened flora and fauna credit species derived from the BAM calculator, are listed in Appendix A and below. Additional Threatened species are to be added where they are likely to occur on the site or when the site contains suitable habitat.

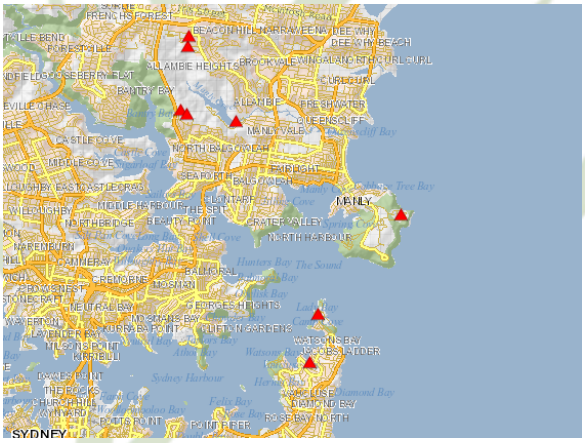
Large-eared Pied Bat (Chalinolobus dwyeri)

BAM predicted species, is potential SAll species, not incidentally found on the site, unlikely to forage on the site, no suitable nesting habitat occurs on the site

The existing house on the site has a under croft area that has wooden/weather board walls which were searched and smelt for the presence of current or past roosting habitat for microbats; and none were found. The site and the land within 100m was surveyed where possible for rocky areas containing caves, or overhangs or crevices, cliffs or escarpments, or old mines, tunnels, culverts, derelict concrete buildings that could provide roosting or breeding habitat. There are likely to be several potential small nest sites that could not be searched.

The site and adjacent land is very disturbed and now contains very little vegetation and the foraging habitat was considered to be too degraded and this species was removed from the list of Candidate Species Credit Species.

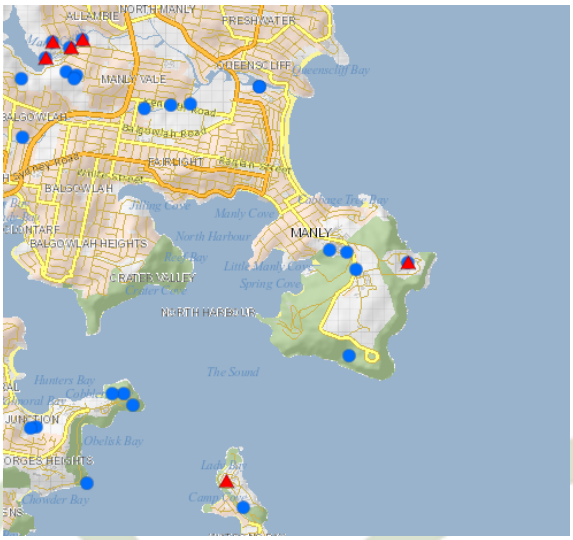
Known (Bionet) records of *Large-eared Pied Bat (Chalinolobus dwyeri)*



Other microbat Threatened species Miniopterus orianae oceanensis, Large Bent-winged Bat (Breeding only) and Miniopterus australis, Little Bent-winged Bat (Breeding only)

BAM predicted species, are potential SAll species, not incidentally found on the site, unlikely to forage on the site, no suitable nesting habitat occurs on the site

Both species are known to occur on North Head. The existing house on the site has a under croft area that has wooden/weather board walls which were searched and smelt for the presence of current or past roosting habitat for microbats; and none were found.
Both the **Miniopterus species** were excluded as a Candidate Species Credit Species for this report as breeding habitat does not occur on this site.



Regent Honeyeater, Anthochaera phrygia

BAM predicted species, not a potential SAII species, not incidentally found on the site, unlikely to forage on the site, no suitable nesting habitat occurs on the site, site is not within known nesting area

Removed as a candidate for a Species Credit Species; there is no need to assess due to habitat constraints.

Swift Parrot Lathamus discolor

BAM predicted species, not a potential SAII species, not incidentally found on the site, unlikely to forage on the site, no suitable nesting habitat occurs on the site, site is not within known nesting area.

Removed as a candidate for a Species Credit Species; there is no need to assess due to habitat constraints.

Allocasuarina portuensis, Nielsen Park She-oak

BAM predicted species, unknown potential SAII species (not in TBDC), not incidentally found on the site, not likely to occur on the site, suitable habitat does occur on the site.

Allocasuarina portuensis has been retained as a Candidate Species Credit Species for further assessment.

The following Threatened Species Credit Species were added to the Species Candidate Species assessment for this site as they are known to occur near this site, the site is suitable habitat, they are SAII species or they have been found incidentally on the site:

Little Penguin (Eudyptula minor) population at Manly

Not a BAM predicted species, not a potential SAII species, not incidentally found on the site, is likely to occur on the site, suitable habitat occurs on the site

Manly is the location of this population, the site contains or is near Critical Habitat for this population, there are many historic record in the vicinity.

This population was added to the Candidate Species Credit Species list for further assessment.

Long-nosed Bandicoot (Perameles nasuta) population on North Head

Not a BAM predicted species, not a potential SAII species, not incidentally found on the site, is likely to occur on the site, suitable habitat occurs on the site

North Head is the location of this population, the site is habitat for this population, there are many historic record in the vicinity.

This population was added to the Candidate Species Credit Species list for further assessment.

Eastern Pygmy Possum (Cercartetus nanus)

Not a BAM predicted species, not a potential SAII species, not incidentally found on the site, not likely to occur on the site, no suitable habitat occurs on the site

Approximately fifteen years ago, the local population of Eastern Pygmy Possum (threatened species) and Brown Antechinus became extinct, and the local population of native Bush Rat population became non-viable or locally extinct. The Sydney Harbour Federation Trust in collaboration with Sydney University, then reintroduced the Eastern Pygmy Possum, Brown Antechinus and the native Bush Rat to North Head. The three species are all breeding, and the local populations are becoming established, with the Bush Rat population being the most successful. So far the native rat is out competing the introduced Black Rat and now the population can be found on most of North Head.

The native Bush Rat can possibly be found in the urban area; however, it is unlikely that the Antechinus or the Pygmy Possum occur in the urban area yet.

The native Bush Rat, Antechinus and Eastern Pygmy-possum have been recorded along Darley Road, adjacent to the north of St Patricks. The habitat value on the site is very low and this species is not likely to occur on this site; Eastern Pygmy-possum has **not** been added as a Species Credit Species for further assessment.

Magenta Lillypilly, Syzygium paniculatum
Not a BAM predicted species, not potential SAII species, not incidentally found on the site, suitable habitat does occur on the site.
There is a local population on North Head and this species has been recorded nearby. **Syzygium paniculatum has been added as a Candidate Species Credit Species** for further assessment**.**

Sunshine Wattle (Acacia terminalis subsp. Eastern Sydney)
Not a BAM predicted species, not potential SAII species, not incidentally found on the site, suitable habitat does occur on the site. There is a local population on North Head and this species has been recorded nearby. **Acacia terminalis ssp. Eastern Sydney has been added as a Candidate Species Credit Species** for further assessment**.**

No evidence was found of any other Threatened Species, Population or Endangered Ecological Community or their important habitat was found on this property during the survey. None of the other six (6) endangered and twenty-eight (28) vulnerable fauna species that occur in the Manly area where found on the site or have important habitat on the site.

5.3 Threatened Species Field Survey Effort

In a Streamline-Small Area BAM assessment, Candidate Species Credit Species do not need to be assessed as long as they are not found on the site incidentally and they are not potential SAII entities.

The General Field Survey is described in Section 2.

The field survey searched for evidence of all Threatened Species, Populations and Endangered Ecological Communities that are known to, or that may have potential habitat within the site, especially the Endangered populations of Little Penguins, Long-nosed Bandicoots, Casuarinas, Syzygium, Acacias and microbat breeding habitat.

The recent use of the property by bandicoots and penguins was determined by an ecologist with extensive experience in bandicoot and penguin survey in urban environments. Photographs were taken of the site. The findings from other reports from nearby surveys and studies were also used to provide additional habitat use information. Habitat for other Threatened species was searched for.

5.3.1 Threatened Flora Field Survey Effort

Date	Person Hours	Weather	Type	Location
12/02/19	1	Fine 34 - 36°C	Random Meander (Cropper (1993) across each vegetation type	Across the whole of the Development Footprint
27/1/21	1	Fine 26 °C	Threatened Species Survey	Whole of site
24/02/21	1	Overcast 18 - 21°C 1	Random Meander (Cropper (1993) across each vegetation type	Across the whole of the Development Footprint
21/3/21	1	Fine 24 °C	Threatened Species Survey	Whole of site

5.3.2 Threatened Fauna Field Survey Effort

Date	Person Hours	Weather	Type	Location
12/02/19	1	Fine 34 - 36°C	Random Meander (Cropper (1993) across each vegetation type	Across the whole of the Development Footprint
27/1/21	1	Fine 26 °C	Threatened Species Survey	Whole of site
24/02/21	1	Overcast 18 - 21°C	Random Meander (Cropper (1993) across each vegetation type	Across the whole of the Development Footprint
21/3/21	1	Fine 24 °C	Threatened Species Survey	Whole of site
04/03/21	0.5	Overcast 26 - 28°C	Random Meander (Cropper (1993) across each vegetation type	Across the whole of the Development Footprint
08/03/21	0.5	Fine 29 - 31°C	Random Meander (Cropper (1993) across each vegetation type	Across the whole of the Development Footprint

5.4 Candidate Species Presence

In a Streamline-Small Area BAM assessment, Candidate Species Credit Species do not need to be assessed as long as they are not found on the site incidentally and they are not potential SAII entities.

Threatened Species Assessed

Allocasuarina portuensis, Nielsen Park She-oak

Magenta Lillypilly, Syzygium paniculatum

Sunshine Wattle (Acacia terminalis subsp. Eastern Sydney)

Little Penguin (Eudyptula minor) population at Manly

Long-nosed Bandicoot (Perameles nasuta) population on North Head

5.4.1 Allocasuarina portuensis, Nielsen Park She-oak

The site was adequately searched for this obvious species. This species does not occur on this site.

5.4.2 Magenta Lillypilly, Syzygium paniculatum

The site was adequately searched for this obvious species. This species does not occur on this site.

5.4.3 Sunshine Wattle (Acacia terminalis subsp. Eastern Sydney)

The site was adequately searched for this obvious species. This species does not occur on this site.

5.4.4 Little Penguin Population at Manly

The population of penguins at Manly is the only known population of Little Penguins on the mainland of NSW. The population has suffered decreases over the long, medium and short term, in the last few years the population has decreased from 60 nests to less than 25.

In January 1997, the NSW Scientific Committee listed this population on Schedule 1 of the *Threatened Species Conservation Act* of 1995 (superseded by the *Biodiversity Conservation Act 2016* (BC Act). The Biodiversity Conservation Act and it's regulations specify the restrictions, fines and potential gaol sentences regarding penguins and their habitat. The EP&A Act and the BC Act regulate activities and development that may impact on penguins.

The listing (Final Determination) described the population as:

> *"The Little Penguin colony in the Manly area was formerly more extensive, with nesting burrows occurring at Manly Point, Spring Cove, Store Beach and Cabbage Tree Bay."*
>
> *"The decline of Little Penguin populations in the Sydney region has been attributed to habitat destruction and predation from domestic and introduced animals… Other possible threats include habitat loss from development and disturbance, reduced food, oil spills, disturbance by jet skis and powerboats, and restriction of access to nesting habitat by haul netting procedures."*
>
> *"The population is of significance conservation value given its disjunction from other populations and its occurrence in Sydney Harbour."*
>
> *"…. Despite the population being larger and more variable than previously thought, the numbers of Little Penguins in the population at Manly Point Area have been reduced to such a critical level that the population is in immediate danger of extinction…."*

The recovery plan titled "Endangered population of Little Penguins (*Eudyptula minor*) at Manly Recovery Plan", dated October 2000, has been approved for this population. This plan summarises the biology of the species, the history of the Manly population and outlines management actions to be taken for the conservation of the population.

The BC Act requires that government agencies must not undertake actions that are inconsistent with a recovery plan. This includes DPIE, Northern Beaches Council, EPA, NSW Fisheries and Waterways Authority. Actions include granting consent for developments or activities that are contrary to the recovery plan.

The objectives of the Recovery Plan is to maintain and enhance the population to a position of security in nature and have the population de listed as an endangered. More specific aims include "increasing the limits of potential habitat" and "ensuring the protection of the Little Penguin population at Manly and its habitat in the long term".

5.4.4.1 Little Penguin (Eudyptula minor) Biology

Little Penguin Biology

Body size: 40-45 cm.

Weight: ≈1000 g.

Taxonomic status: There are 6 subspecies, the last taxonomic review conducted by Christides & Boles (2008) suggests the recognition of a single species within the genus.

Distribution: Found along the southern coasts of Australia, from near Perth in Western Australia to around Coffs Harbour in northern NSW (on islands), including Tasmania. They also occur in New Zealand (Pizzey & Knight 2003). Originally, they were fairly common on the Australian mainland, but now their colonies are generally restricted to offshore islands. The Endangered population in the Manly Point area occurs along a 2.8 km coastal foreshore and represents the only remaining mainland colony along the coast of New South Wales (Priddel et al. 2008).

Habitat: Mainly within inshore waters around the coast and breeding islands, and out on the continental shelf. Most breeding pairs live in colonies, although some make nests solitary. Established colonies are located on shorelines where there are sand dunes with loose soils and on rocky shores with vertical cliffs providing ledges, crevices and caves (Priddel et al. 2008, Marchant & Higgins 1990). In the Manly foreshore, Little Penguins live mostly along the rocky foreshore and have been known to use man-made structures such as garages, stairs, boats and wood piles (NSW NPWS 2000).

Diet: Their diet varies seasonally and from year to year and depends on the geographical location of the colony (Chiaradia et al. 2003, Cullen et al. 1992). The diet consists mainly of small school fish (e. g., Pilchard; *Sardinops sagax*, Barracouta; *Thyrsites atum*), and less importantly cephalopods (e. g., Gould's Squid; Nototodarus gouldi, Squid; Loliolus noctiluca) and krill (*Nyctiphanes australis*) (*Chiaradia et al*. 2003). Adults forage for food at sea, mostly from dawn to an hour before dusk (Weavers 1992). They return to land when light conditions have decreased optimal fishing conditions, and predator and heat stress avoidance have increased (Klomp & Wooller 1991). Although several birds may pursue the same shoal, they feed singly, not cooperatively (Norman 1992, Schulz 1987). The duration of foraging trips and the distances travelled vary according to season. During the breeding season foraging trips are shorter and close to the colony; whereas in the non-breeding season trips are longer and further away (Weavers 1992).

Breeding: The breeding season varies in different parts of the country with some populations being winter breeders (SA and WA populations) and others summer breeders (VIC, TAS, NSW and NZ populations) (Marchant & Higgins 1990). Most of the birds have the same mate for life, but a small percentage (<25%) of them may change their mate from year to year. In the easternmost populations, the first clutches are laid as early as July and as late as October depending on inter-annual variation. The nest site is typically a burrow or shelter, although nests under dense vegetation are common where there is competition for burrows (Reilly & Cullen 1981). Little Penguins at Manly nest almost exclusively in rock cavities and manmade structures, rather than in burrows (Priddel et al. 2008). Generally, two white eggs are laid two or three days apart, but both hatch together after about 36 days.

The male and female share parental duties. A few days after the chicks hatch, the adult's alternate parental care daily, with one parent guarding the nest and the other foraging at sea. After about two weeks, both parents leave the nest each day, returning in the evening or even staying away for several days. Parents care for chicks until they fledge at about 9 weeks of age. It is not uncommon for adults to raise two sets of chicks so there are chicks in the colonies until February (Reilly & Cullen 1981, Fortescue 1995, Chiaradia & Kerry 1999, OEH 2007, 2008). Breeding success is largely dependent on food availability and in seasons where food is scarce very few chicks may survive (Hobday 1992, Cullen et al. 1992). Overheating is likely to reduce successful breeding, with nests in north or western facing unshaded locations failing. The population at Manly has some of

the highest percentage values of double breeding pairs in Australia. This has been concomitant with an elevated production of fledglings in comparison to any other Australian colony. This may be due to the small size of the colony as this is likely to reduce intraspecific competition for food resources (Priddel et al. 2008).

Moulting: Following breeding the adults go through their annual moult, which occurs between February and April at Manly. During moulting all feathers are shed and replaced over a period of approximately two weeks. Whilst moulting, the feathers are not waterproof and individuals do not enter the water as they can die due to hypothermia. Penguins feed intensively prior to moulting storing body fat and often double their weight. This strategy prepares them for the high-energy expenditure associated with moulting.

Threats: Major threats include a range of human-related activities such as alteration of breeding areas by loss of safe crevices for nesting, oil pollution, discarded plastic products, predation by feral animals such as foxes, cats and dogs (Norman et al. 1992, Harrigan 1992, Reilly 1977, Stevenson & Woehler 2007) and fast jet engine boats crossing rafting areas. Overheating is likely to be a major factor in determining nest selection especially in northern areas such as Manly. A study in Western Australia has found that breeding did not occur when the temperature inside penguin nest boxes was too high (Ropert-Coudert *et al*, 2004). The population at Manly Point was estimated relatively constant at less than 60 breeding pairs. This colony once occupied a larger area in Manly, including Spring Cove, Store Beach and Cabbage Tree Bay. This population of Little Penguin has been declared as endangered by the Department of Environment and Climate Change (NSW Scientific Committee 1997b).

5.4.4.2 Description of Little Penguin Population at Manly

The Little Penguin population at Manly is a relic of a larger population totalling over hundreds of individuals including other parts of Sydney Harbour, Botany Bay and some of the Northern Beaches and is the only known breeding colony on mainland NSW (NSW NPWS 2000). The current population consists of a small area of coastline habitat that is mostly privately owned foreshore, therefore, there is a high occurrence of interaction between penguins and people.

The DPIE EES have been conducting a monitoring survey of the population since at least 1999. The most recent report available is for the 2019-2020 breeding season. The report of the annual survey states that it is likely to be an underestimate and may only include 75% of the population. The assessment of the population is complicated by the difficulty of finding nests and the nests being scattered around North Harbour and immigration from other colonies.

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

5.4.4.3 Little Penguin Habitat and Access on the Site and in close Proximity to this Site

There was no evidence of recent or historic penguin nesting or any other activity within the property boundary or the adjacent foreshore. The property to the north of the Development Site and the foreshore to the east of the site contain suitable loafing habitat and there are several historic and potential nesting sites in rock crevices and overhangs on the property to the north. There is potential Little Penguin habitat on the Development Site and limited access to this habitat along the southwestern boundary.

Erica Mahon, Senior Threatened Species Officer, provided DPIE data on the breeding/activity within the last 3 years, and the approximate location of historic nests at the property and nearby land. There has been no breedin at or near Addison over the last cou le of ears. [redacted]

5.4.5 Bandicoot Population at North Head

The second main species of interest on this site is the Long-nosed Bandicoot, *Perameles nasuta*, (Geoffrey 1804) and in particular, the Endangered population at North Head, Manly, which is known to occur in the vicinity of the Subject Site.

The Final Determination (TSC Act Scientific Committee 1997) for the listing of this population in the schedules of the Threatened Species Conservation Act described the population as:

> *"P. nasuta was once widespread in the Sydney region but many formerly recorded populations have become extinct. The North Head population is now isolated and disjunct."*
>
> *"…the North Head population of P. nasuta is in immediate danger of extinction."*
>
> *"…the North Head P. nasuta population is of significant conservation value on the grounds that it is:*
>
> - *A disjunct population*
> - *One of the few surviving populations within the Sydney region*
> - *A population which has been the subject of a number of scientific studies, and is thus an important reference population*
> - *Accorded considerable value by the local community, and thus serves to promote conservation more generally"*

The Office of Environment and Heritage has identified 25 priority actions to help recover the Long-nosed Bandicoot population on North Head in New South Wales (as of July 2013). These priority actions relate to OEH, Northern Beaches Council and other determining authorities developing, implementing and continuing the fox, feral cat and rabbit control program, weed control program, monitoring program, community awareness program, collecting mortality data, finalising and reviewing Long-nosed Bandicoot Recovery Plan, and Sydney Harbour National Park Fire Management Strategy and Plan of Management.

5.4.5.1 Long-nosed Bandicoot (Perameles nasuta) Biology

Description: The Long-nosed Bandicoot (*Perameles nasuta*) is a solitary nocturnal marsupial that grows to a size of between 850 and 1100 g, 310 to 425 mm in head and body length, and with a tail length of 120 to 155 mm (Stoddart 1995). The males are larger than females. These bandicoots are characteristically dark, greyish-brown above and creamy white below. The forefeet and upper surfaces of the hind feet are also creamy white (NPWS 2000b). The muzzle is long and pointed and the ears are markedly larger and more pointed than short-nosed bandicoots of the genus Isoodon, such as the other bandicoot that lives in Sydney, the Southern Brown Bandicoot (Stoddart 1995).

Distribution: Long-nosed Bandicoots are locally common along the east coast of Australia and adjacent mountains from north-eastern Queensland to south-western Victoria. This Endangered population is restricted to the relatively isolated area of habitat on North Head in the Manly Local Government Area, south of Addison Road (NSW Scientific Committee 2003). See above the DCP extract, Schedule 1 - Map D - Areas where Assessment (test) of Significance is required. There is another Threatened population in the inner western part of Sydney.

Habitat: At North Head, Long-nosed Bandicoots inhabit, to varying extents, all of the habitat types available including woodlands, scrub, heath open areas and the urban landscape. Recent research indicates that urban areas are important for the population and that there are individuals who live their entire lives within the urban area. Long-nosed Bandicoots prefer sites with sandy soils, as well as with low undergrowth and leaf litter cover and does not have a particular preference for proportion of canopy cover (Chambers & Dickman 2002). This species depends on a mosaic of vegetation types at a landscape level, including feeding grounds in patches of moist, soft soil located close to shelter with an abundance of invertebrates (Scott et al. 1999). These types of habitat can be found in both bushland and urban environments including native vegetation and residential gardens. Resting and nesting habitat is low, dense vegetation or litter where a bandicoot can take shelter in during the day. Bandicoot diggings are more abundant in areas of moist, soft soils close to cover.

Individuals build diurnal nests that are typically made in a shallow hole or depression on ground surface and are lined with leaf litter and dry grasses. The entrance to each nest is closed when occupied making them generally difficult to locate. Nests on North Head+ have been found in a variety of habitat

types, such as at the base of large trees and within tall grasses including residential backyards (Scott 1995; Scott *et al*. 1999). Long-nosed Bandicoots typically have more than 1 nest that is in regular use within their territory (Chambers & Dickman 2002). It is expected that bandicoots in the wild may live up to 2 to 2.5 years.

Home Range Size: Home range size of an individual Long-nosed Bandicoots have been recorded at 1.3ha (+-0.2 S.E. 50% KDE) for females (n=5) and 1.1ha (50% KDE) for a male. Animals tended to maintain exclusive and relatively stable core home ranges, although overlap of non-homes ranges was common (Hope 2012).

Diet: Long-nosed Bandicoots feed on invertebrates, plants, tubers, fungi and vertebrates (Menkhorst & Knight 2004, Scott et al. 1999, Claridge 1993). Invertebrates mostly include insects from the orders Coleoptera and Hymenoptera (> 80%). Plants preferred are mainly the leaves and stems of monocotyledons (>76%). Fungi are consumed in a high proportion (> 63%), mostly those hypogeal from the family Zygomicetes, in particular the species *Glomus fueglanum*. Vertebrates contribute little to bandicoots' diet, but include skinks, birds and sometimes eggs of the Eastern Water Dragon (Scott et al. 1999).

Breeding: At North Head, Long-nosed Bandicoots were recorded breeding from June to March (Scott 1995), however mating can occur throughout the year. The average recorded litter size for the North Head population is 2.3 babies (Stoddart 1995). In productive years, females may have up to 4 litters.

Litters are typically 2-3 (>76%), with the young weaned at about 7 weeks and reaching maturity at 20 weeks. Females tend to overlap their home ranges (i.e., 1.7 ha) throughout the year, as well as to reduce their size during the breeding season. By contrast, home ranges of males (i.e., 4.4 ha) only overlap during the breeding season, as they also enlarge their home ranges (Scott et al. 1999, Menkhorst & Knight 2004).

5.4.5.2 Long-nosed Bandicoot (Perameles nasuta) Population Viability

There have been many studies on this population over the last 20 years including; micro-chipping, radio tracking, extensive trapping, diet analysis, population viability estimation (Banks, 2000; Banks, 2004; Chambers and Dickman, 2002; Hughes and Banks, 2006; Hughes and Banks, 2010; Lenehan and Banks, 2004; Scott, Hume, and Dickman, 1999). There is ongoing biannual monitoring program by the Office of Environment and Heritage (OEH; formerly DECCW, DECC and NPWS) in collaboration with Northern Beaches Council and Sydney University.

Every two years there is a more extensive Long-nosed Bandicoot trapping survey conducted in the bushland part of North Head. This survey does not include the urban environment part of North Head, which is now known to have bandicoot residence. These areas are likely to be the same population. Population viability estimates within the urban environment occurred in November 2012 and March 2013. This urban study utilised 14 transects across Eastern Hill and used the same methods as the current study by NPWS within the bushland habitat on North Head (Hughes and Banks, 2010).

In May 2015, a total of 152 individual Long-nosed Bandicoots were trapped at North Head, compared to 99 in 2014, and 71 in 2010. The sex ratio of the bushland population is relatively even. Under current conditions, the North Head Long-nosed Bandicoot population has a 62% chance of persisting after 50 years. This figure has dropped from 80% in since the previous Population Viability Assessment (PVA), due to the slightly higher sex specific adult mortality rates used in the current PVA's (Price & Banks, 2015). The latest PVA analysis determined that the population is stable and has been for the last few years. It has been calculated that only a small loss to the population could cause the local population to become extinct.

Most recently, in May 2020, 109 long-nosed bandicoot individuals were trapped across 49 transects over 4 nights at North head. This was similar to the number of individuals trapped in 2018 and 2016, suggesting the population has been relatively stable for the past few years. There was a slightly higher ratio of females compared to males. The ratio of adults to juveniles caried between sexes, but there were overall more adults than juveniles. Modelling of this data suggested an overall estimated headland population of 228 ($\pm$15).

5.4.5.3 Previous Years Survey Results for the Bushland Area of Habitat

See below text results from the Long-Nosed Bandicoot Urban Monitoring Program (Cumberland Ecology) 2016.

- A total of 34 (14 males and 19 females, adults 72%) individual Long-nosed Bandicoots were trapped in the urban area of Manly, in May 2016, compared with 31 (19 males and 12 females, 75% adult) in March 2013.
- Four of the females captured had 1-2 young in their pouch.
- 25% of the total population on North Head are living within the urban environment with 28 – 45 individuals in the **urban** environment compared with 120 - 140 individuals in the **bushland** environment (NPWS).
- There are individuals with their home range within the urban environment
- Individuals were trapped across Eastern Hill and down to Ashburner Street.

See below text results from the Long-Nosed Bandicoot Urban Monitoring Program (Cumberland Ecology) 2018.

- A total of 36 individual Long-nosed Bandicoot (86% Adults, 19 males and 17 females), these numbers are similar to 2016 and 2017 results. The number of recaptures has increased over recent years likely meaning the majority of the population has been surveyed.
- One of the females captured had 4 young in its pouch.
- Majority of the population abundance was captured closer to North Head, although the individuals were captured as far as Ashburner street at the furthest urban edge of the study area.
- The greatest distance on male travelled was 620m.

5.4.5.4 Threats to the North Head Population

The major threats to this population are thought to be vehicle traffic, loss of habitat through development and, to a lesser degree, predation by dogs, cats and foxes. Other threats include inbreeding depression, loss of genetic variation, the risk of catastrophic events (such as bushfires or disease), inappropriate fire regimes, clearing of native vegetation and invasion of native plant communities by Bitou Bush. Bandicoots are also susceptible to infection by cats carrying the disease toxoplasmosis. If urban developments keep reducing the area of accessible habitat available it is likely to result in population decrease and the likelihood of the population becoming extinct in the near future (i.e., 20 years) range between 31% and 46%.

The removal of habitat or prevention of access to habitat on a site may constitute a significant impact to the conservation of the threatened population and may require modifications to the development so there is no significant impact or a more extensive assessment in the form of a Species Impact Statement or modification of the proposal.

5.4.5.5 Long-nosed Bandicoot Presence and Use of Adjacent Land

During the field survey, no evidence was found of Bandicoots using the site and no signs of bandicoots foraging on the lawn along road reserve or neighbouring properties. Bandicoots have been recorded historically in the locality. It is likely that bandicoots use the adjacent properties and nearby bushland areas for resting and breeding as well as foraging due to the good quality habitat and the proximity of historic records. These animals are from the Endangered Long-nosed Bandicoot population at North Head.

The proposal will result in a loss of foraging habitat from with the property.

5.5 Other Flora and Fauna Species, Habitat and Presence

Table 5.5 Summary of Fauna Recorded

Common Name	Scientific Name	Evidence
Birds		
Noisy Miner	*Manorina melanocephala*	O
Reptiles		

Common Name	Scientific Name	Evidence
Common Garden Skink	*Lampropholis guichenoti*	O
Eastern Water Dragon	Physignathus lesueurii	O

Key

*Introduced species

? Species presence uncertain

O- Observed during the onsite field survey

H- Heard during the onsite field survey

S- Sap tree

A- Anecdotal

BD- Bat Detector

5.5.1 Non Threatened Fauna Habitat

The site contains habitat for a wide range of non-threatened fauna including reptiles, birds and mammals. There was also evidence of Ring-tailed (*Pseudocheirus peregrinus*) and Brush-tailed possums (*Trichosurus vulpecula*)using habitat near the site. The lower cliff line part of the site provides habitat for these and a range of other native species including Rainbow Lorikeets (*Trichoglossus moluccanus*), Laughing Kookaburras (*Dacelo novaeguineae*), Eastern Blue-tongue Lizards (*Tiliqua scincoides*), Garden Skink (*Lampropholis guichenoti*), Crested Pigeon (*Ocyphaps lophotes*) and Noisy Miners (*Manorina melanocephala*). No hollows were found in the Development Site. Other habitat features are the trees (arboreal habitat), shrubs, ground cover and leaf litter and the weed thickets.

5.5.2 Non-Threatened Flora Species

Table 4.1 lists the native species that occur on the site; none are Threatened species.

6 Prescribed Impacts

As described in Chapter 6 of the BAM 2020.

See section 8 for identification and assessment of prescribed impacts.

Stage 2: Impact Assessment

7 Avoidance and Minimisation of Impacts

The BC Act and Biodiversity Conservation Act (2017) requires that a BDAR set out measures proposed to "Avoid" then "Minimise" ecological impacts.

Chapter 7 of the BAM requires that the measures that were taken to Avoid and Minimise are documented.

The BC Act (s 7.13(6)) allows the consent authority discretion over what measures are required in relation to avoiding and minimising impacts.

Once impact minimisation and avoidance has been undertaken, then offsetting can be used to mitigate the residual impacts of the proposal on the environment. This report describes ecological constraints on this site that were provided to the planning team for their use in planning a development that avoids and minimises ecological impacts on this sensitive site.

The BAM defines avoid as "measures taken by a proponent such as careful site selection, or actions taken through the design, planning, construction and operational phases of the development to completely prevent impacts on biodiversity values, or certain areas of biodiversity."

7.1 Steps Taken to Avoid Ecological Impact

As described in Chapter 7 of the BAM and clause 7.2 of the Blacktown LEP.

- *Assess alternative modes an technologies that were used to avoid and minimise impact.*
- *Assess alternative locations outside of the property*
- *Assess alternative locations inside of the property*
- *Identify alternative designs explored.*
- *Identify site constraints*

7.1.1 Ecological Constraints on the Property

The constraints of this site are shown on the map in Figure 8.2 and throughout sections 2 to 6 of this report.

The main ecological constraints that have been identified at the site are

- The rocky foreshore/cliff habitat with vegetation and crevices
- The landscaped area above the cliff that contains vegetation, sandstone and soil
- The adjacent marine environment that is Manly Cove.

7.1.2 Alternative Permissible Footprints Considered

Ecological constraints of this site were discussed with the proponent, architects and other consultants and the first 6 sections (Stage 1) including the maps of this report has been brought to the attention of the proponent and the consultants.

The site is narrow and small and has limited scope for relocating the proposal. The proposal is in approximately the same location, and the same extent as the existing house and garden. The landscape plan shows planting of vegetation that is suitable for penguin and bandicoots to use for shelter.

7.1.4 Fragmentation and Isolation

The contiguous vegetation/habitat is to the southwest and north east along the foreshore as shown on the maps on Figures 2.2 and 3.1. This foreshore vegetation is a mix of exotics with some remanent natives with low value to most of the threatened species and population residing in the area. The proposal will replace the low value vegetation on the site as part of the proposed landscaping. If recommendations in section 8.4 are followed, the access to the rock crevices that form potential nesting and resting habitat for both penguins and bandicoots. The landscape plan is designed using appropriate native species to provide improved habitat for penguins and bandicoots and maintain this connectivity.

The proposal will not materially increase fragmentation or isolation of habitat.

7.1.5 Extent of Loss of Habitat

The extent of the Development Footprint is a maximum of 163sqm.

The location and extent (size) of Development Footprint is shown on the map in Figure 2.4c and the amount of removal (Construction Footprint) (Management Zone) is shown on the map in Figure 8.1 and summarised in section 10.1.

No important habitat for any threatened species will be removed.

7.2 Steps Taken to Minimise Ecological Impact

This section described how the process of planning of the type of proposal considered ways the remaining impact, after avoiding, will be minimised.

7.2.1 Retention of Native Trees

There are no native trees proposed to be removed.

7.2.2 Sediment Control

The Blue Book (Landcom) standards for sediment control are to be used to prevent sedimentation of the stormwater flowing from the construction site and onto the Critical Habitat area and the Marine Reserve.

7.2.3 Environment Protection Fence During Construction

Environmental protection fencing is required for the protection of the rock crevices around the southernmost rock outcrop. Rock crevice locations are shown on Figure 8.1. The environmental protection fence requires a A4 size water proof sign describing the prohibition of access.

7.2.4 Proposed Management

This proposal included ecological management of 163sqm. The landscaping includes retention of rock features and planting of vegetation.

8 Assessment of Impacts

As described in section 8.1 and 8.2 of the BAM 2020 and section 6.12(b) of the BC Act.

8.1 Direct Impacts

8.1.1 Proposal Description

As described in section 2.1.1 of this report.

8.1.2 Vegetation Loss

The amount and location of vegetation to be removed is shown and quantified on Figure 8.1 and summarised in section 10.1. The proposal will remove 1 small native tree the *Ficus rubiginosa*. The Hibiscus tiliaceus is on the neighbouring property with an overhanging canopy and will not be disturbed.

The maximum amount of vegetation/habitat that will be impacted is 163sqm.

8.1.2.1 Tree Loss

No trees are proposed to be removed.

8.1.2.2 Hollows and other habitat trees

There are no hollows or habitat trees present on site.

8.1.3 Impact to Threatened Species and their Habitat

No threatened species or their habitat are likely to be harmed by the proposal.

8.1.3.1 During Construction Impacts to Bandicoots

Likely impacts during construction are:

- Temporary restriction of access to habitat for bandicoots and other fauna due to skips, site fences and storage of materials. **Medium impact**;
- Temporary potential hazards to bandicoots and other fauna including falling into open pits and drowning hazards. **Low risk**, this is not very likely at this site;
- Temporary additional traffic movement around the street. **Low risk**.

The proposal will temporarily remove a large portion of the habitat on the site during construction due to demolition, potential excavation and material storage.

Measures to ameliorate these potential impacts are discussed in the Recommendations and Ameliorative Conditions sections of this report.

8.1.3.2 Ongoing Post-construction Impacts to Bandicoots

The property will continue to be used a landscaped yard.

8.2 Indirect Impacts

Stormwater from the site flows directly into the Critical Habitat foreshore and the marine reserve. There are seagrass beds off shore and penguin feeding habitat. Recommendations are made to reduce the chance of this indirect impact.

8.3 Prescribed Biodiversity Impacts

Prescribed Impacts are assessed in Table 8.1. Corridors can be seen in the map on Figure 3.1.

Table 8.1 Identification and Assessment of Prescribed Impacts

16 Addison Road, Manly

This table addresses division 6.1 of the Biodiversity Conservation Regulation 2017, section 8.3 of the Biodiversity Assessment Method and the Biodiversity Assessment Method Operational Manual

The TBDC and other sources were used to assess the impact of this proposal on the Threatened species (BC Act).

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Potential Prescribed Impact	Prescribed Impact Feature on this Site	Threatened Species Potentially using this Habitat	Importance of the Habitat	Nature, Extent and Duration of Impacts	Prediction of Consequences of Impact	Conclusion and Recommendation regarding Prescribed Impact
Impact to Karst, caves, crevices, cliffs, rock platform or other geologically significant features	Crevices	Little Penguin	It is possible that penguins climb the stairs and access habitat on the top of the foreshore cliff. Multiple rock outcrops between the foreshore cliff line and rear yard cliff line provide rock crevices that is potential roosting and nesting habitat. These rock crevices were searched and no signs of use in recent years was observed.	It is recommended that the rock crevices shown on Figures 8.1 and 8.2 not be impacted	if the recommendations in section 8.4 are followed it is predicted to not have a significant impact	This proposal will not result in this Prescribed Impact. No additional credits are recommended for this Prescribed Impact. Recommendations to ameliorate impacts are made in section 8.4 of this report.
Rocks; Impact to Scattered Rocks and Rock Outcrops	Scattered rocks and rock outcrops	Little Penguin	It is possible that penguins climb the stairs and access habitat on the top of the cliff. There is currently low suitability nesting and roosting habitat in the rear yard of the site.	The development will partially remove rock outcrops for the construction of a boatshed and new stairs.	it is recommended that the areas of scattered rorks and rock outcrops that form crevices potentially suitable for penguins seen on the map in Figure 8.1 be protected to avoid significant impact.	This proposal includes modification of the scattered rocks and rock outcrops. The extent of the impact is not considered sufficient to warrant additional credits. Recommendations to ameliorate impacts are made in section 8.4 of this report.
Impact to Human-made structures	Existing Dwelling	Microbats	the openings in the basement floor of the existing building provides potential roosting habitat for microbats. A targeted search found no evidence of microbat use.	The proposal will cause the demolition and removal of the existing dwelling.	Permanent impact to potential habitat. No evidence of microbat use.	This proposal includes replacing the human made structures; stairs up the cliff and stairs in the pool, existing sea pool, pump box and concrete platform and addition of a day bed. The extent of the impact is not considered sufficient to warrant additional credits. Recommendations to ameliorate impacts are made in section 8.4 of this report.
Impact to Non-native vegetation	There is scattered weeds and exotic plants on the property.	Little Penguin and Long-nosed Bandicoot	There is scattered weeds but they do not form a cover that is suitable habitat or shelter for penguins or bandicoots.	Temporary during construction	Native landscaping more suitable for penguins and bandicoots is proposed for replacement planting	The weedy and exotic vegetation on the site is not suitable habitat for Little Penguins and Long-nosed Bandicoots.
Changes to Hydrological processes sustaining/interacting with rivers, streams or wetlands	There is no rivers, streams or wetlands on the site.	N/A	N/A	N/A	N/A	This proposal will not result in this Prescribed Impact. No additional credits are recommended for this Prescribed Impact. Recommendations to ameliorate impacts are made in section 8.4 of this report..
Impact to Water bodies and water quality	The large marine area of North Harbour is immediately adjacent to the east.	Little Penguin	The adjacent Little Manly Cove is a small part of a large foraging habitat for the Little Penguin	Due to the close proximity to the adjacent marine environment there is a possibility of pollution entering Manly Cove Reserve during demolition and construction. The amount of sediment is likely to be small in comparison with the extent of the native habitat in the vicinity. Sediment is likely to be dispersed quickly. Recommendations for use of sediment fences are made in this report.	The amount of sediment is likely to be small in comparison with the extent of the native habitat in the vicinity. Sediment is likely to be dispersed quickly. Recommendations for use of temporay during construction sediment fences are made in section 8.4 of this report.	This proposal may result in pollution to the adjacent foraging habitat. Recommendations to prevent impacts are made at the end of this report. If the recommendations in section 8.4 are followed then no additional credits are required for this Prescribed Impact.
Impact to Connectivity	Connectivity into and through the site.	Long-nosed Bandicoot and Little Penguin	The site is currently accessed by Little Penguins from the marine reserve adjacent to the site. Access across the tops of the site is not likely to be affected for the Little Penguin and Long-nosed Bandicoot. Moulting lotering and roosting.	The proposal will alter the existing ground level aound the site it is recommended access be kept to 14A Addison.	if access is kept and the recommendations of this report followed, its likely no impact will occur.	This proposal will not result in this Prescribed Impact. No additional credits are recommended for this Prescribed Impact. Recommendations to ameliorate impacts are made in section 8.4 of this report.

Potential Prescribed Impact	Prescribed Impact Feature on this Site	Threatened Species Potentially using this Habitat	Importance of the Habitat	Nature, Extent and Duration of Impacts	Prediction of Consequences of Impact	Conclusion and Recommendation regarding Prescribed Impact
Movement of Threatened Species that maintains their life cycle e.g. Migration Interruption	The site is not likely to be important habitat for any migratory species.	N/A	N/A	N/A	N/A	N/A
Wind farm development	N/A	N/A	N/A	N/A	N/A	N/A
Vehicle strikes (Road Proposals)	N/A	N/A	N/A	N/A	N/A	N/A
Other						
Cats, dogs and foxes	The presence of a cat, dog or fox is a threat to Little penguins	Little Penguin	Suitable penguin habitat includes; rocky forshore, cliff, landscaped areas, boatsheds, man made structures ect. in areas inside and outside of the penguin AOBV area. Includes structures proposed to be built. Habitat use includes nesting, roosting lotering and moulting.	During and after construction including occupation and use of habitat areas.	Breeding, roosting and may be interupted and penguins may be killed directly or penguins may be detered from using areas of habitat.	Dogs need to be prevented from entering habiata areas. Cats should not be kept in this sensative area. Foxes should be reported to NPWS and Council.
Other - Vibration and Noise During Construction	The demolition of existing pool and stairs will require use of angle grinders and pneumatic hammers	Little Penguin	The value of nesting habitat on and near the site will be reduced.	This impact will only occur during demolition which will be at the beginning of construction and will only last two weeks. This report recommends that the demolition not occur during breeding and malting season (1st July to 28th Feb) and a search should be conducted daily, prior to works.	As long as the recommendations that there be no demolition or construction during penguin breeding and malting season (1st July to 28th Feb) and when penguins are present on the site.	This proposal will cause noise and vibration. Recommendations to prevent impacts are made at the end of this report. If the recommendations are followed then no additional credits are recommended for this Prescribed Impact.

Legend

- 16 Addison Rd, Manly, Lot 2, DP325220
- Proposed Landscaping - Management Zone VZ1 MZ1

Northern Beaches

Contour

- 2 metre
- Cadastre

Vegetation in Manly Assessment Area VSMA V3.1

- Aquatic PCT Number: 1913 S_SW03: Seagrass Meadows
- Scattered rocks and rock outcrops
- Crevices

Potential Perscribed Impacts: existing manmade structures will be removed, some scattered rocks and rock outcrops will be removed and others retained as shown, cliffs and crevices will be retained, non native vegetation will be removed in the hatched area, erosion and sedimentation may occur, dogs and cats may occur, there is likely to be noise and vibration during construction.These are assessed in Table 8.1 and mitagation of these impacts is addressed in Section 8.4

Figure 8.1 Impacts to be Offset (Management Zones) and Perscribed Impact Features

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Date: 31/5/2021
Drawn by: Nicholas Skelton
Version 1
Projection: GDA 94 MGA 56

0 2 4 m

8.4 Additional Mitigation and Management of non-offset credit Impacts

Ameliorative Conditions and Recommendations

As required by sections 8.4 and 8.5 of the BAM 2020.

The following ecological conditions are already required by the sea pool approval:

5(h) Noise levels

6(i) Protection of vegetation

Pre issue of CC

9 Access Spaces Bandicoots

10 Project Ecologist

11 Production of a Construction Environment Management Plan

15 Protection of the AOBV penguin Habitat

16 Site Induction Penguins and Bandicoots

17 Ecologist Induction of Site Manager

18 Runoff and Sediment Control Penguin Habitat

During Demolition

19 Installation and Maintenance of Sediment control

21 Construction and repair works timing restrictions Little Penguins

22 Construction environment Implementation

23 Construction hours

24 Fauna Inspections

25 Artificial lighting

26 CEMP implementation

27 Report dead or injured wildlife

Pre OC

29 Project Ecologist Certification

30 Advisory Signage for penguin habitat

Ongoing Requirements

32 Artificial lighting

33 Weeds

34 Fauna Access

35 Dead or injured wildlife

36 Domestic Animals

It is intended that works on the sea pool and house will happen at the same time.

8.4.1 During Construction Impact Mitigation Management

The additional (non-offset credits) measures to mitigate and manage impacts during construction are:

- *Timing of the works*
- Pre clearance fauna surveys
- Clearing protocols
- Hygiene protocols
- Sediment control
- Worker site ecological induction
- Fauna rescue

- Weed control
- Responsibilities
- Monitoring
- Risk of failure analysis
- Etc.

These measures are to be included in a Construction Environment Management Plan prior to the issue to the Construction Certificate for the pool DA.

8.4.2 Prior to Construction

Technique	Outcome	Timing / Frequency	Responsibility
Sediment controls are to be installed, monitored and only removed when the area has been stabilised	Prevent sediment run-off from the site entering the Critical Habitat and marine reserve down slope	Installed prior to construction and maintained during construction only removed when the area has been stabilised	Builder with assistance from the Ecologist
Install Environment Protection Fence with signage around the rock that has crevices that is shown on Figure 8.2	Protect penguin and bandicoot resting and nesting habitat	Installed prior to construction and maintained during construction	Builder with assistance from the Ecologist
All workers on the site are to be made aware of the possible presence, the conservation significance and the precautions needed to be taken regarding potential presence of Bandicoots and Penguins.	To avoid direct physical harm to Long-nosed Bandicoots and Little Penguins	All workers are to be inducted prior to commencement of their works. Evidence of the site induction is to be documented.	Project manager, builder with assistance from the Ecologist

8.4.3 During Construction

Technique	Outcome	Timing / Frequency	Responsibility
Sediment control measures, monitored and only removed when the area has been stabilised	No sediment is to leave the construction site. Prevent sediment run-off from the site entering the Critical Habitat and marine reserve down slope	At all times during construction and maintained during construction	Builder with assistance from the Ecologist
Intense noise and vibration Excavation and demolition works are only to occur outside of penguin breeding and moulting season 1st March to the 31st of May. The Project Ecologist is to search the site at the end of breeding/moulting season before works begin to ensure no penguins are present.	Prevent impact to the endangered Lttle Penguin breeding and moulting	1st March to the 31st of May	Builder with assistance from the Ecologist
All new boundary fences and gates are to provide access for bandicoots at least 150x300mm	Provide connectivity access for bandicoots to potential habitat	Before occupation certificate	Project manager/ owner with assistance from the Ecologist
There are to be no dogs allowed on the site during construction.	Prevention of dog attack to penguins and bandicoots.	During construction	Builder

8.4.4 Post Construction (operational) Impact Mitigation Management

The additional (non-offset credits) measures to mitigate and manage impacts after construction (operational) include:

- A self-closing gate is to be installed at the top of the cliff to prevent dogs and foxes from entering the cliff-face and foreshore Critical Habitat areas and to assist with compliance with existing restrictions on use of the foreshore area. The gate is to have a gap a minimum of 100 mm for the full length of the gate to allow penguin and bandicoot access.
- A sign describing the restrictions to actions, including prohibition of dogs and other companion animals from entering the Little Penguin declared AOBV under section 3.4 of the Biodiversity Conservation Regulation 2017 with fines of up to $5,500 is to be placed on the gate on the side facing the house.
- Cats carry the disease toxoplasmosis that can be transferred to bandicoots and penguins by a scratch. The disease is not dangerous to cats but it is fatal to native fauna. Cats should not be kept on this ecologically sensitive property.
- It is essential that injured bandicoots and penguins be given expert care in order that they can be rehabilitated and returned to the population where possible. It is also important that any deceased bandicoots are reported, so that appropriate investigations can be undertaken to understand the cause of death to inform the future management and recovery of the endangered populations. Any injured or dead Long-nosed Bandicoots or Little Penguins should be reported by phoning Northern Beaches Council on 9976 1500 or Office of the Environment and Heritage (OEH) on 122 555.
- Bandicoots and other native animals should not be fed artificial foods as it may cause them nutritional problems and may increase predation.
- Feral animals including cats and/or foxes should never be fed, nor should food be left out where they can access it, such as rubbish bins without lids, or in pet food bowls, as these animals present a significant threat to Long-nosed Bandicoots and other wildlife.
- The use of insecticides, fertiliser, poisons and/or baits should be avoided on the property and rat baiting and trapping is only to occur within buildings to prevent harm to the Rakali, Antechinus and Native Rat.
- Please drive carefully as vehicle related injuries and deaths of bandicoots regularly occur in the area.
- Care should be taken when driving in the area, especially at night as bandicoots have little road sense.

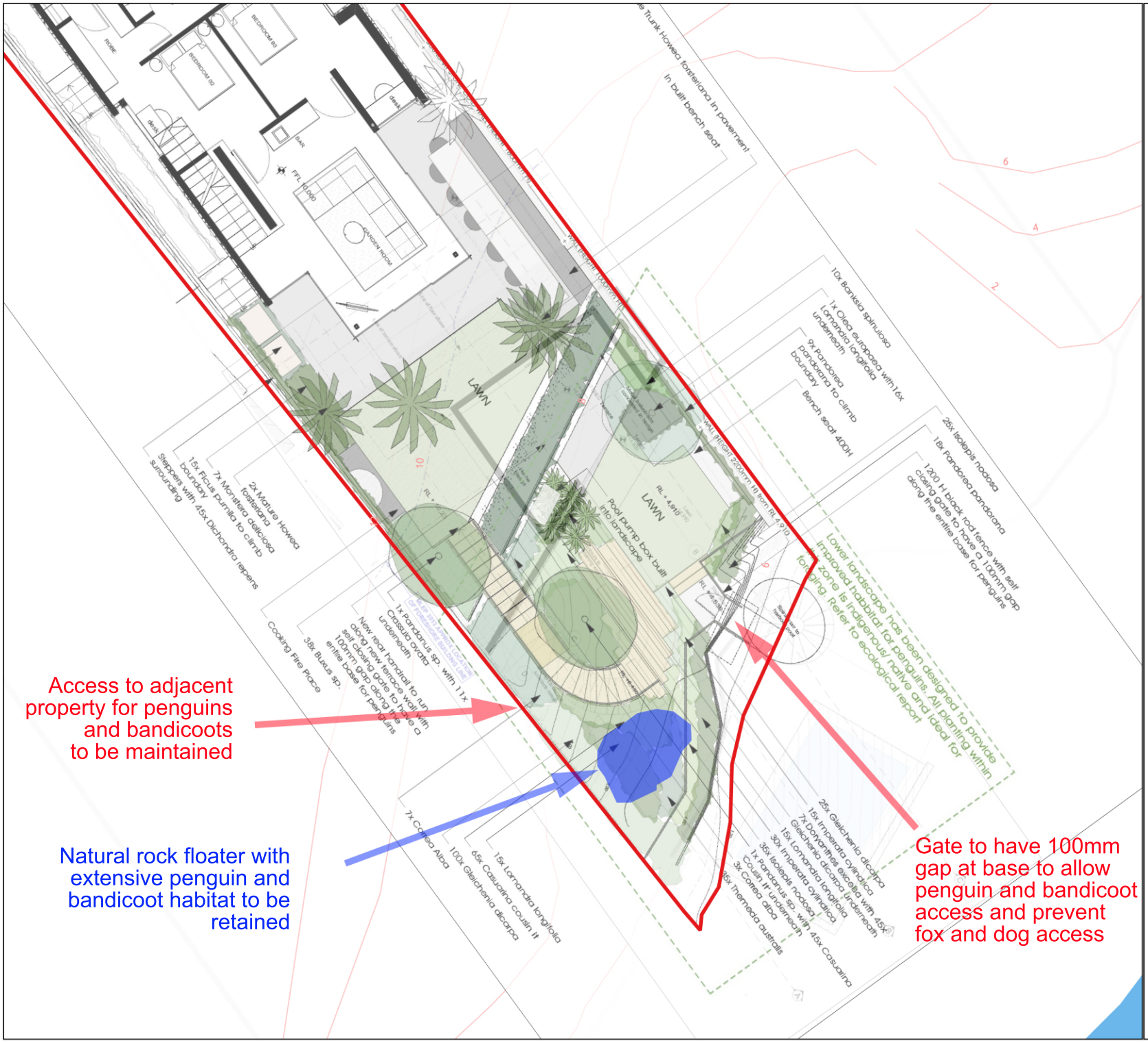
8.5 Adaptive Management for Uncertain Biodiversity Impacts

As required by sections 8.5 of the BAM 2020.

Event	Response
If penguins are found on the site during construction	The builder is to call the site ecologist for advice. Heavy finds apply for approaching or harming penguins or their habitat.

8.5.1 Techniques with a Risk of Failure

Sediment control will be challenging.



Legend

16 Addison Rd, Manly, Lot 2, DP325220

Northern Beaches

Contour

2 metre

Cadastre

Vegetation in Manly Assessment Area VSMA V3.1

Aquatic PCT Number: 1913
S_SW03: Seagrass Meadows

Figure 8.2
Mitigation and Management of Impacts

GIS Environmental Consultants
Ph: (02) 9939 5129, Mobile: 0419 438 672
ecology@ecology.net.au, ecology.net.au

Date: 31/5/2021
Drawn by: Nicholas Skelton
Version 1
Projection: GDA 94 MGA 56

0 2 4 m

8.5.2 Reducing Indirect Impacts to vegetation and Habitat

As per section 8.4.1(3) of the BAM 2020.

No indirect impacts were identified, and as such, reduction of these is not required.

8.5.3 Mitigating Prescribed Impacts

As per section 8.4.2 of the BAM.

These have been addressed in section 8.4.

8.6 Potential of Addition of Credits for Indirect or Prescribed Impacts

As per section 8.6 of the BAM.

No addition of credits for indirect or prescribed impacts are recommended.

9 Thresholds for Assessing and Offsetting Impacts

As described in Chapter 9 of the BAM 2020.

9.1 Assessment of SAII TECs Only

Clause 6.7 BC Regulation and BAM 2020 9.1

The assessor is required to provide further information in the BDAR regarding the impacts on each TEC at risk of an SAII. This must include the action and measures taken to avoid the direct and indirect impact on the TEC at risk of an SAII. Where these have been addressed elsewhere the assessor can refer to the relevant sections of the BDAR and BCAR.

The assessor must consult the Threatened Biodiversity Data Collection (TBDC) and/or other sources to report on the current status of the TEC

These Threatened Ecological Communities have a potential Serious And Irreversible Impact

There are no Threatened Ecological Communities present on the site.

9.2 Assessment of SAII to Threatened Species Only

Clause 6.7 BC Regulation and BAM 2020 9.1.2

The assessor is required to provide further information in the BDAR for any species at risk of an SAII, including the action and measures taken to avoid the direct and indirect impact on the species at risk of an SAII. Where these have been addressed elsewhere the assessor can refer to the relevant sections of the BDAR or BCAR.

The assessor must consult the TBDC and/or other sources to report on the current population of the species

The little Penguin is potentially a SAII species.

Step 1. Identify the Potential Entities (Threatened Species and Ecological Communities) relevant to this proposal

Potential SAII entities are species or ecological communities that meet the criteria in Appendix 1 of the guide. Appendix 2 of the guide lists some potential entities that are considered to meet the criteria.

The listed SAII entities in Appendix 2 of the guidelines, that are relevant to this development are:

- **Neither the Little Penguin nor the Long-nosed Bandicoot are currently listed in the TBDC as SAII species. The 4 SAII principles were applied to the Little Penguin population at Manly. The bandicoot population is not likely to meet any of the criteria.**

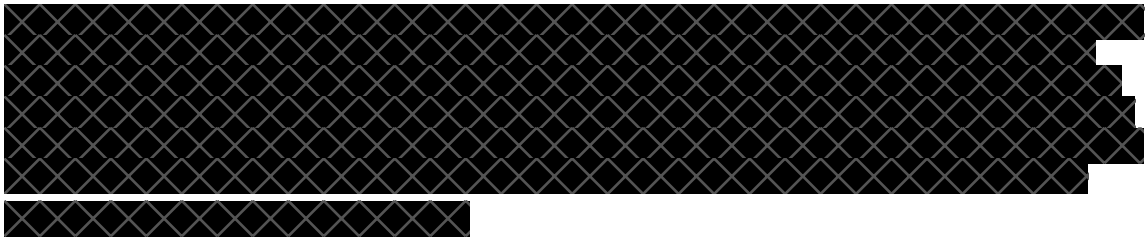
Note: only one of the four Principles needs to be met for the species to be an SAII entity.

- **Little Penguin Endangered population at Manly-** The Little Penguins at Manly are considered to possibly meet Principles 2 and 3. The Little Penguins at Manly are listed as an Endangered species population in Schedule 1 of the BC Act.

- Principle 2- species with a very small population size are those that have;

fewer than 50 mature individuals independent of whether there are any threats, or
fewer than 250 mature individuals and the species has an observed, estimated or projected continuing decline:

o of at least 25% in three years or one generation (whichever is longer) OR
o where the number of mature individuals in each subpopulation is <50 OR
o the percentage of mature individuals in one subpopulation is 90-100% OR
o the population is subject to extreme fluctuations in the number of individuals (IUCN 2017).



- Principle 3- Species with a limited geographic distribution are those that;

have an area of occupancy (sensu IUCN 2017) of ≤10 km2, or
have an extent of occurrence (sensu IUCN 2017) of ≤100 km2, and
have at least two of the following three conditions:
o are severely fragmented or only known from one location
o continuing decline
o extreme fluctuations OR
inhabit less than or equal to three locations in New South Wales.

The Endangered species (population) of Little Penguins at Manly breeding habitat occurs at one location in Manly that officially extends from Manly Point to Cannae Point, but breeding has also been recorded at other sites in Manly, such as under Manly Wharf and at the former aquarium. The essential breeding habitat for this population occupies an area of less than 10km however, the species is spread over a much wider area from Coffs Harbour to South Australia. The Little Penguins forage over a larger area in the harbour and ocean. This Principal is not considered to be met.

Step 2. Evaluate the nature of Impact on a Potential Entity

These are potential residual impacts on Potential Entities after steps have been taken to avoid and mitigate impact.

- The proposal will not impact roosting, nesting or moulting habitat. No current or recent breeding habitat for the Little Penguin will be impacted.
- The proposal will not permanently remove or degrade any habitat. There may be temporary disturbance to adjacent nesting penguins during construction if the recommendations in this report are not followed.
- This step is not considered to be met.

Step 3. Determine if Impacts Exceed Threshold

Impact assessment information from steps 1 and 2 can be compared to the impact threshold for the SAII entity. Impact thresholds are for potential SAII entities are in the Threatened Biodiversity Data Collection (not yet available).

- There is no threshold for Little Penguins in the TBDC. If the recommendations (particularly those relating to reducing impacts during construction) are followed it is considered that the proposal will not be an SAII for Little Penguins.

Steps 4 and 5 *are for the decision-maker to decide whether they consider the potential SAII to be a SAII and the steps required to be undertaken once that decision has been reached.*

Allocasuarina portuensis, Nielsen Park She-oak is assumed to be a SAII species (it does not occur in the TBDC), it does not occur on this site and there is no suitable habitat.

Actions and measures to avoid direct and indirect impacts to SAII candidate species has already been discussed in section 8.4 of this BDAR.

9.3 Assessment of Offset Requirements for Impacts

9.3.1 Impact on Threatened Ecological Communities and Species

No Threatened Ecological Communities that are at risk of SAII are likely to occur on the site.

The credits required to offset the CPW CEEC are listed in Table in section 10.1

9.3.2 Date of BAM Calculation Finalisation

This BAM Calculator assessment was finalised on the 4th July 2021. This report is to be submitted to Council within 14 days of this date, in accordance with section 6.15 of the BC Act. The offset credits in the table below were calculated in the BAM-Calc on the date of finalisation. The cost of each credit is on an open market and varies over time, the current price can be determined at this website: https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/biodiversity-offsets-scheme/offsets-payment-calculator.

9.4 Assessment of Impacts Not Requiring Assessment

The Site does not include any Biocertified Land or impacts that have been previously offset.

Impacts that do not require offsetting include parts of the site that have native vegetation, but the integrity score is below the minimum requirements:

- An integrity score of 15 where the PCT is representative of an Endangered or Critically Endangered Ecological Community;
- An integrity score of 17 if the PCT is associated with Threatened species habitat (for ecosystem credit species) or is representative of a Vulnerable Ecological Community;
- An integrity score of 20 if the PCT is not representative of a TEC or Threatened species habitat.

Vegetation Zone 1 is below the minimum integrity score requirements, and thus, does not have a requirement to be offset.

10 Impact Summary

As described in Chapter 10 of the BAM 2020.

The BAM sets a standard that will result in no net loss of biodiversity values in NSW where:

a. the impacts on biodiversity values from a development, activity, clearing or biodiversity certification proposal are avoided, minimised or mitigated through reasonable measures, as per Chapter 7, and
b. b. all residual direct impacts on biodiversity values from clearing native vegetation and habitat loss are offset by:
    i. retiring the required number of biodiversity credits determined in Section 10.1, with a class of credit identified in Section 10.2 that meets the 'like-for-like' rules under clause 6.3 of the BC Regulation, or
    ii. in the case of a development, activity, clearing or biodiversity certification proposal, undertaking biodiversity conservation actions that qualify as biodiversity conservation measures under the offset rules and are listed in the ancillary rules, and the action benefits the entity that is impacted by the proposal.

10.1 Calculation of the Impacts to Direct Impacts

Impacts to Vegetation and Ecosystem Credits

PCT	Vegetation Zone	Area (ha)	Existing Integrity Score	Management Zone (Impact or not)	Area (ha)	Future Integrity Score	Credits Required
1778	VZ1 - Very Disturbed	0.0163	2.8	MZ1 Cleared	0.0163	0	0

10.1.1 Justification for future integrity scores

The Management Zones 1 (0.0163ha) within the development footprint are conservatively assumed to be will be totally cleared of all native vegetation and the integrity score will become 0.

In a Streamline-Small Area BAM assessment, Candidate Species Credit Species do not need to be assessed as long as they are not found on the site incidentally and they are not potential SAII entities.

Impact offsets for Species Credit Species

Species Credit Species requiring offsetting	Credits Required
None	0

10.1.2 Modification of the Number of Credits Required

Section 6.12 of the BC Act Regulations allow the Determining Authority to add or reduce the number of Biodiversity Credits required.

It is not considered that any increase in the number of credits required to be retired is needed.

10.2 Credit Classes

Shown on the BAM Calculator Reports in Appendix A.

10.3 Offset Rules

Shown on the BAM Calculator Reports in Appendix A.

11 References

Australian Standard 4970 – 2009 Protection of Trees on Development Sites

Department of the Environment, Water, Heritage and the Arts, Species Profile and Threats Database, Web Site viewed 10/12/2015, http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl

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NSW Rural Fire Service, 2006, Planning for Bushfire Protection, A Guide for Councils, Planners, Fire Authorities and Developers

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Cropper, S.C. (1993) Management of Endangered Plants. CSIRO Publications Victoria
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OEH (2016) *NSW Guide to Surveying Threatened Plants*. Office of Environment and Heritage, Department of Premier and Cabinet, Sydney.

DPIE EES (2020) *Biodiversity Assessment Method*, DPIE EES, Sydney

PlantNET (The NSW Plant Information Network System). Royal Botanic Gardens and Domain Trust, Sydney. http://plantnet.rbgsyd.nsw.gov.au

Appendix A: BAM Calculator Reports

BAM Credit Summary Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00026022/BAAS17083/21/00026023	16 Addison Rd Manly	10/06/2021
Assessor Name	Report Created	BAM Data version *
Nick Skelton	04/07/2021	45
Assessor Number	BAM Case Status	Date Finalised
BAAS17083	Finalised	04/07/2021
Assessment Revision	Assessment Type	BOS entry trigger
0	Part 4 Developments (Small Area)	BOS Threshold: Biodiversity Values Map

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	TEC name	Current Vegetation integrity score	Change in Vegetation integrity (loss / gain)	Area (ha)	BC Act Listing status	EPBC Act listing status	Species sensitivity to gain class (for BRW)	Biodiversity risk weighting	Potential SAII	Ecosystem credits
Coastal sandstone foreshores forest											
1	1778_HighlyDisturbed	Not a TEC	8.2	8.2	0.01			High Sensitivity to Potential Gain	2.50		0
										Subtotal	**0**
										Total	**0**

BAM Credit Summary Report

Species credits for threatened species

Vegetation zone name	Habitat condition (Vegetation Integrity)	Change in habitat condition	Area (ha)/Count (no. individuals)	BC Act Listing status	EPBC Act listing status	Biodiversity risk weighting	Potential SAII	Species credits

BAM Candidate Species Report

Proposal Details

Assessment Id 00026022/BAAS17083/21/00026023	Proposal Name 16 Addison Rd Manly	BAM data last updated * 10/06/2021
Assessor Name Nick Skelton	Report Created 04/07/2021	BAM Data version * 45
Assessor Number BAAS17083	Assessment Type Part 4 Developments (Small Area)	BAM Case Status Finalised
Assessment Revision 0	Date Finalised 04/07/2021	BOS entry trigger BOS Threshold: Biodiversity Values Map

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

List of Species Requiring Survey

Name	Presence	Survey Months
Acacia terminalis subsp. Eastern Sydney Sunshine wattle	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☑ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Allocasuarina portuensis Nielsen Park She-oak	No (surveyed)	☑ Jan ☑ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Eudyptula minor - endangered population Little Penguin in the Manly Point Area (being the area on and near the shoreline from Cannae Point generally northward to the point near the intersection of Stuart Street and Oyama Cove Avenue, and extending 100 metres offshore from that shoreline)	No (surveyed)	☑ Jan ☑ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Perameles nasuta - endangered population Long-nosed Bandicoot, North Head	No (surveyed)	☑ Jan ☑ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Syzygium paniculatum Magenta Lilly Pilly	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☑ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Threatened species assessed as not on site

Refer to BAR for detailed justification

Common name	Scientific name	Justification in the BAM-C
Large Bent-winged Bat	Miniopterus orianae oceanensis	Habitat constraints
Large-eared Pied Bat	Chalinolobus dwyeri	Habitat degraded
Little Bent-winged Bat	Miniopterus australis	Habitat constraints
Regent Honeyeater	Anthochaera phrygia	Habitat constraints
Swift Parrot	Lathamus discolor	Habitat constraints

BAM Predicted Species Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00026022/BAAS17083/21/00026023	16 Addison Rd Manly	10/06/2021
Assessor Name	Report Created	BAM Data version *
Nick Skelton	04/07/2021	45
Assessor Number	Assessment Type	BAM Case Status
BAAS17083	Part 4 Developments (Small Area)	Finalised
Assessment Revision	BOS entry trigger	Date Finalised
0	BOS Threshold: Biodiversity Values Map	04/07/2021

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Threatened species reliably predicted to utilise the site. No surveys are required for these species. Ecosystem credits apply to these species.

Common Name	Scientific Name	Vegetation Types(s)
Barking Owl	Ninox connivens	1778-Coastal sandstone foreshores forest
Dusky Woodswallow	Artamus cyanopterus cyanopterus	1778-Coastal sandstone foreshores forest
Eastern Coastal Free-tailed Bat	Micronomus norfolkensis	1778-Coastal sandstone foreshores forest
Eastern Osprey	Pandion cristatus	1778-Coastal sandstone foreshores forest
Grey-headed Flying-fox	Pteropus poliocephalus	1778-Coastal sandstone foreshores forest
Koala	Phascolarctos cinereus	1778-Coastal sandstone foreshores forest
Large Bent-winged Bat	Miniopterus orianae oceanensis	1778-Coastal sandstone foreshores forest
Little Bent-winged Bat	Miniopterus australis	1778-Coastal sandstone foreshores forest
Little Eagle	Hieraaetus morphnoides	1778-Coastal sandstone foreshores forest
Little Lorikeet	Glossopsitta pusilla	1778-Coastal sandstone foreshores forest

BAM Vegetation Zones Report

Proposal Details

Assessment Id	Assessment name	BAM data last updated *
00026022/BAAS17083/21/00026023	16 Addison Rd Manly	10/06/2021
Assessor Name	**Report Created**	**BAM Data version ***
Nick Skelton	04/07/2021	45
Assessor Number	**Assessment Type**	**BAM Case Status**
BAAS17083	Part 4 Developments (Small Area)	Finalised
Assessment Revision	**Date Finalised**	**BOS entry trigger**
0	04/07/2021	BOS Threshold: Biodiversity Values Map

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Vegetation Zones

#	Name	PCT	Condition	Area	Minimum number of plots	Management zones
1	1778_HighlyDisturbed	1778-Coastal sandstone foreshores forest	HighlyDisturbed	0.01	1	MZ1 (0.01 ha)

BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id
00026022/BAAS17083/21/00026023

Proposal Name
16 Addison Rd Manly

BAM data last updated *
10/06/2021

Assessor Name
Nick Skelton

Assessor Number
BAAS17083

BAM Data version *
45

Proponent Names
Sarah Joyce

Report Created
04/07/2021

BAM Case Status
Finalised

Assessment Revision
0

Assessment Type
Part 4 Developments (Small Area)

Date Finalised
04/07/2021

BOS entry trigger
BOS Threshold: Biodiversity Values Map

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
Nil		

Species
Nil

Additional Information for Approval

BAM Biodiversity Credit Report (Like for like)

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
Calyptorhynchus lathami / Glossy Black-Cockatoo

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
1778-Coastal sandstone foreshores forest	Not a TEC	0.0	0	0	0

1778-Coastal sandstone foreshores forest

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Sydney Coastal Dry Sclerophyll Forests This includes PCT's: 1778	Sydney Coastal Dry Sclerophyll Forests >=90%	1778_HighlyDisturbed	No	0	Pittwater, Cumberland, Sydney Cataract, Wyong and Yengo. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

BAM Biodiversity Credit Report (Like for like)

Species Credit Summary

No Species Credit Data

Credit Retirement Options

Like-for-like credit retirement options

BAM Biodiversity Credit Report (Variations)

Proposal Details

Assessment Id
00026022/BAAS17083/21/00026023

Proposal Name
16 Addison Rd Manly

BAM data last updated *
10/06/2021

Assessor Name
Nick Skelton

Assessor Number
BAAS17083

BAM Data version *
45

Proponent Name(s)
Sarah Joyce

Report Created
04/07/2021

BAM Case Status
Finalised

Assessment Revision
0

Assessment Type
Part 4 Developments (Small Area)

Date Finalised
04/07/2021

BOS entry trigger
BOS Threshold: Biodiversity Values Map

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
Nil		

Species
Nil

Additional Information for Approval

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

BAM Biodiversity Credit Report (Variations)

Name
Calyptorhynchus lathami / Glossy Black-Cockatoo

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
1778-Coastal sandstone foreshores forest	Not a TEC	0.0	0	0	0.00

1778-Coastal sandstone foreshores forest

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Sydney Coastal Dry Sclerophyll Forests This includes PCT's: 1778	Sydney Coastal Dry Sclerophyll Forests >=90%	1778_HighlyDisturbed	No	0	Pittwater,Cumberland, Sydney Cataract, Wyong and Yengo. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 1	1778_HighlyDisturbed	No	0	IBRA Region: Sydney Basin, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Species Credit Summary

No Species Credit Data

BAM Biodiversity Credit Report (Variations)

Credit Retirement Options

Like-for-like options

Masked Owl	Tyto novaehollandiae	1778-Coastal sandstone foreshores forest
New Holland Mouse	Pseudomys novaehollandiae	1778-Coastal sandstone foreshores forest
Powerful Owl	Ninox strenua	1778-Coastal sandstone foreshores forest
Regent Honeyeater	Anthochaera phrygia	1778-Coastal sandstone foreshores forest
Spotted-tailed Quoll	Dasyurus maculatus	1778-Coastal sandstone foreshores forest
Square-tailed Kite	Lophoictinia isura	1778-Coastal sandstone foreshores forest
Swift Parrot	Lathamus discolor	1778-Coastal sandstone foreshores forest
Varied Sittella	Daphoenositta chrysoptera	1778-Coastal sandstone foreshores forest
White-bellied Sea-Eagle	Haliaeetus leucogaster	1778-Coastal sandstone foreshores forest
White-throated Needletail	Hirundapus caudacutus	1778-Coastal sandstone foreshores forest

Threatened species assessed as not within the vegetation zone(s) for the PCT(s)

Common Name	Scientific Name	Plant Community Type(s)
Glossy Black-Cockatoo	Calyptorhynchus lathami	1778-Coastal sandstone foreshores forest

Threatened species assessed as not within the vegetation zone(s) for the PCT(s)

Refer to BAR for detailed justification

Common Name	Scientific Name	Justification in the BAM-C
Glossy Black-Cockatoo	Calyptorhynchus lathami	Habitat constraints

Biodiversity payment summary report

Assessment Id	Payment data version	Assessment Revision	Report created
00026022/BAAS17083/21/00026023		0	04/07/2021

Assessor Name	Assessor Number	Proposal Name	BAM Case Status
Nick Skelton	BAAS17083	16 Addison Rd Manly	Finalised

Assessment Type	Date Finalised	BOS entry trigger
Part 4 Developments (Small Area)	04/07/2021	BOS Threshold: Biodiversity Values Map

PCT list

Price calculated	PCT common name	Credits
Yes	**1778 -** Coastal sandstone foreshores forest	0

Species list

Price calculated	Species	Credits

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Biodiversity payment summary report

IBRA sub region	PCT common name	Threat status	Offset trading group	Risk premium	Administrative cost	Methodology adjustment factor	Price per credit	No. of ecosystem credits	Final credits price
Pittwater	**1778 -** Coastal sandstone foreshores forest	No	Sydney Coastal Dry Sclerophyll Forests >90%	18.87%	$339.90	1.7425	$ 10,440.88	0	$0.00

Subtotal (excl. GST)	**$0.00**
GST	**$0.00**
Total ecosystem credits (incl. GST)	**$0.00**

Species credits for threatened species

Species profile ID	Species	Threat status	Price per credit	Risk premium	Administrative cost	No. of species credits	Final credits price

No species available

Grand total	**Contact BCT for pricing**

Appendix B: Data Sheet

GIS Environmental Consultants
Ph: (02) 9939 5129, Mobile: 0419 438 672
ecology@ecology.net.au, ecology.net.au

BAM Functional 20x50m Plot Data Sheet

See Back of Sheet for Methods

Version June 2018

Address: 16 Addison Rd Manly | Plot: 1

Date: 24 / 2 / 21 | Plot Origin Coordinate MGA: 341223 E

Start time: : | 62 57829 S

Recorder: Josh | Origin Midline Bearing: 232 °

Other Ecologist: NICK | 400m2 Plot Dimensions: 20 x 20

Confirm PCT codes: Confidence H M (L) | 1000m2 Plot Dimensions: —

Vegetation Types: Coastal sandstone foreshore forest | Confirm Vegetation Zones: Boundaries on Survey Map

Slope: -10° Aspect: SW Drainage: moderate Landform: low headland Soil: sandstone Soil Depth: Shallow

Note: Tally large trees, large trees dependent on PCT Class Benchmarks (See Table on Back)

Tree Stems (20x50)

Diameter (cm)	Presence/ Absence Or Tally if large
<5	P
5 to 9	P
10 to 19	P
20 to 29	A
30 to 49	A
50 to 79	A
80+	A

Coarse Woody Debris
Length of fallen Logs >10cm Diameter (cm): —

Hollow bearing trees (inside 20x50) Tally: Non

Hollows (Tree No, Dimensions, Height) site: N/A

Note: For hollows, count only the presene of a stem containing hollows. For a multi-stemmed tree, only the largest stem is included in the count/estimate. Stems may be dead and may be shrubs

Litter Cover % in 1x1m (see Fig.)

Sub Plot	Percentage (%)
1	95
2	0
3	10
4	5
5	0

Rock Cover % in 20x50	30-40

Structure Estimate Cover of native vascular plants by growth form group

Growth form	% Cover in 20x20 plot
Trees	23
Shrubs	0
Grasses sedges and restio	0
Forbs (Herb)	68
Ferns	<0.1
Other - tree fern, vine,	0
palm, cycad, epi, Xanth	0

Disturbance	Notes
Clearing inc. logging, APZ, mechanical	yes house/landscaping
Grazing identify native/stock	NO
Fire History Years since, heat	Not in last 30y
Weediness % cover	30
Soil Erosion Slope Existing Potential	Yes storm water off cliff
Added Nutrients Soil, sewage, stormwater	—

Fauna Observed

Observation Types; Observed (O), Observed and Heard call (OW), Heard call (W), Scat (P), Nest/roost (E), Tracks or scratchings (F), Burrow (FB), Crushed Cones (G), Hair (H), Feathers or skin (I), Dead (K), Camera (Q), In scat (X), Bone or teeth or shell (Y), In raptor/owl pellet (Z), Ultrasonic bat detector (U)

Observ type	Species	Observ type	Species	Observ type	Species
O	water dragon				
O	skink garden				
O	Seagull				
O	Noisy miner				

Weather: Temp 27°C | Recent Rain: overcast | Wind: light

- [x] Photo taken of plot from origin
- [x] Photo of general site
- [x] All Boxes Filled Out
- [x] Random Meander on rest of property
- [x] Photo's taken from the 4 corners of 20x20m plot
- [x] Photos taken of data sheets
- [x] Photo of canopy pointing up in centre of 20x20 plot

Finish Time: | Man Hours:

24 January 2020

Sarah Penelope Joyce
C/- Foreshore Design Solutions Po Box 6037
HAMMONDVILLE NSW 2170

Dear Sir/Madam

Application Number:	**DA2019/0808**
Address:	**Lot 2 DP 325220 , 16 Addison Road, MANLY NSW 2095**
Proposed Development:	**Construction of a swimming pool and associated works**

Please find attached the Notice of Determination for the above mentioned Application.

Please be advised that a copy of the Assessment Report associated with the application is available on Council's website at www.northernbeaches.nsw.gov.au

Please read your Notice of Determination carefully and the assessment report in the first instance.

If you have any further questions regarding this matter please contact the undersigned on 1300 434 434 or via email quoting the application number, address and description of works to council@northernbeaches.nsw.gov.au

Regards,

Kye Miles
Planner

northern beaches council

NOTICE OF DETERMINATION

Application Number:	DA2019/0808
Determination Type:	Development Application

APPLICATION DETAILS

Applicant:	Sarah Penelope Joyce
Land to be developed (Address):	Lot 2 DP 325220 , 16 Addison Road MANLY NSW 2095
Proposed Development:	Construction of a swimming pool and associated works

DETERMINATION - APPROVED

Made on (Date)	24/01/2020
Consent to operate from (Date):	24/01/2020
Consent to lapse on (Date):	24/01/2025

Detail of Conditions

The conditions, which have been applied to the consent, aim to ensure that the Environmental Impacts of Development are minimised and the Health and Safety of the community is maintained in accordance with the relevant standards and the Building Code of Australia.

Note:

If the works are to be certified by a Private Certifying Authority, then it is the certifier's responsibility to ensure all outstanding fees and bonds have been paid to Council prior to the issue of the Construction Certificate or as otherwise specified by Consent conditions.

DEVELOPMENT CONSENT OPERATIONAL CONDITIONS

1. **Approved Plans and Supporting Documentation**
The development must be carried out in compliance (except as amended by any other condition of consent) with the following:

a) Approved Plans

Architectural Plans - Endorsed with Council's stamp		
Drawing No.	**Dated**	**Prepared By**
DA9.5 - Pool Plan	15 April 2019	Patterson
DA9.6 - Elevation	15 April 2019	Patterson
DA9.7 - Section	15 April 2019	Patterson
DA9.12 - Demolition Plan	15 April 2019	Patterson

Reports / Documentation – All recommendations and requirements contained within:		
Report No. / Page No. / Section No.	**Dated**	**Prepared By**
Biodiversity Development Assessment Report	19 March 2019	GIS Environmental Consultants
Construction Management Plan	24 June 2019	Marine Advisory Services P/L

b) Any plans and / or documentation submitted to satisfy the Conditions of this consent.

c) The development is to be undertaken generally in accordance with the following:

Waste Management Plan		
Drawing No/Title.	**Dated**	**Prepared By**
Waste Management Plan	16 July 2019	Sarah Joyce

In the event of any inconsistency between conditions of this consent and the drawings/documents referred to above, the conditions of this consent will prevail.

Reason: To ensure the work is carried out in accordance with the determination of Council and approved plans.

2. **Compliance with Other Department, Authority or Service Requirements**
The development must be carried out in compliance with all recommendations and requirements, excluding general advice, within the following:

Other Department, Authority or Service	**EDMS Reference**	**Dated**
DPI Fisheries	Response DPI Fisheries Referral	11 September 2019

(NOTE: For a copy of the above referenced document/s, please see Application Tracking on Council's website www.northernbeaches.nsw.gov.au)

Reason: To ensure the work is carried out in accordance with the determination and the statutory requirements of other departments, authorities or bodies.

3. **Prescribed conditions (Demolition):**

(a) A sign must be erected in a prominent position on any site on which building work, subdivision work or demolition work is being carried out:

(i) showing the name of the principal contractor (if any) for any building work and a telephone number on which that person may be contacted outside working hours, and

(ii) stating that unauthorised entry to the work site is prohibited.

Any such sign is to be maintained while the building work, subdivision work or demolition work is being carried out, but must be removed when the work has been completed.

(b) Residential building work within the meaning of the Home Building Act 1989 must not be carried out unless the Principal Certifying Authority for the development to which the work relates (not being the Council) has given the Council written notice of the following information:

(i) in the case of work for which a principal contractor is required to be appointed:

A. the name and licence number of the principal contractor, and

B. the name of the insurer by which the work is insured under Part 6 of that Act,

(ii) in the case of work to be done by an owner-builder:

A. the name of the owner-builder, and

B. if the owner-builder is required to hold an owner-builder permit under that Act, the number of the owner-builder permit.

If arrangements for doing the residential building work are changed while the work is in progress so that the information notified under becomes out of date, further work must not be carried out unless the Principal Certifying Authority for the development to which the work relates (not being the Council) has given the Council written notice of the updated information.

(c) Development that involves an excavation that extends below the level of the base of the footings of a building on adjoining land, the person having the benefit of the development consent must, at the person's own expense:

(i) protect and support the adjoining premises from possible damage from the excavation, and

(ii) where necessary, underpin the adjoining premises to prevent any such damage.

(iii) must, at least 7 days before excavating below the level of the base of the footings of a building on an adjoining allotment of land, give notice of intention to do so to the owner of the adjoining allotment of land and furnish particulars of the excavation to the owner of the building being erected or demolished.

(iv) the owner of the adjoining allotment of land is not liable for any part of the cost of work carried out for the purposes of this clause, whether carried out on the allotment of land being excavated or on the adjoining allotment of land.

Reason: Legislative Requirement.

4. **Prescribed Conditions**

(a) All building works must be carried out in accordance with the requirements of the Building Code of Australia (BCA).

(b) BASIX affected development must comply with the schedule of BASIX commitments specified within the submitted BASIX Certificate (demonstrated compliance upon plans/specifications is required prior to the issue of the Construction Certificate);

(c) A sign must be erected in a prominent position on any site on which building work, subdivision work or demolition work is being carried out:

(i) showing the name, address and telephone number of the Principal Certifying Authority for the work, and

(ii) showing the name of the principal contractor (if any) for any building work and a telephone number on which that person may be contacted outside working hours, and

(iii) stating that unauthorised entry to the work site is prohibited.

Any such sign is to be maintained while the building work, subdivision work or demolition work is being carried out, but must be removed when the work has been completed.

(d) Residential building work within the meaning of the Home Building Act 1989 must not be carried out unless the Principal Certifying Authority for the development to which the work relates (not being the Council) has given the Council written notice of the following information:

(i) in the case of work for which a principal contractor is required to be appointed:

A. the name and licence number of the principal contractor, and

B. the name of the insurer by which the work is insured under Part 6 of that Act,

(ii) in the case of work to be done by an owner-builder:

A. the name of the owner-builder, and

B. if the owner-builder is required to hold an owner-builder permit under that Act, the number of the owner-builder permit.

If arrangements for doing the residential building work are changed while the work is in progress so that the information notified under becomes out of date, further work must not be carried out unless the Principal Certifying Authority for the development to which the work relates (not being the Council) has given the Council written notice of the updated information.

(e) Development that involves an excavation that extends below the level of the base of the footings of a building on adjoining land, the person having the benefit of the development consent must, at the person's own expense:

(i) protect and support the adjoining premises from possible damage from the excavation, and

(ii) where necessary, underpin the adjoining premises to prevent any such damage.

(iii) must, at least 7 days before excavating below the level of the base of the footings of a building on an adjoining allotment of land, give notice of intention to do so to the owner of the adjoining allotment of land and furnish particulars of the excavation to the owner of the building being erected or demolished.

(iv) the owner of the adjoining allotment of land is not liable for any part of the cost of work carried out for the purposes of this clause, whether carried out on the allotment of land being excavated or on the adjoining allotment of land.

In this clause, allotment of land includes a public road and any other public place.

Reason: Legislative requirement.

5. **General requirements (Demolition):**
(a) Unless authorised by Council:

Demolition and excavation works are restricted to:

- 8.00 am to 5.00 pm Monday to Friday only.

(Excavation work includes the use of any excavation machinery and the use of jackhammers, rock breakers, excavators, loaders and the like, regardless of whether the activities disturb or alter the natural state of the existing ground stratum or are breaking up/removing materials from the site).

(b) At all times after the submission a Notice of Commencement to Council, a copy of the Development Consent is to remain onsite at all times until completion of demolition works. The consent shall be available for perusal of any Authorised Officer.

(c) Where demolition works have been completed and new construction works have not commenced within 4 weeks of the completion of the demolition works that area affected by the demolition works shall be fully stabilised and the site must be maintained in a safe and clean state until such time as new construction works commence.

(d) Onsite toilet facilities (being either connected to the sewer or an accredited sewer management facility) for workers are to be provided for construction sites at a rate of 1 per 20 persons.

(e) The applicant shall bear the cost of all works that occur on Council's property.

(f) No building, demolition, excavation or material of any nature shall be placed on Council's footpaths, roadways, parks or grass verges without Council Approval.

(g) Demolition materials and builders' wastes are to be removed to approved waste/recycling centres.

(h) All sound producing plant, equipment, machinery or fittings will not exceed more than 5dB(A) above the background level when measured from any property boundary and will comply with the Environment Protection Authority's NSW Industrial Noise Policy.)

(i) No trees or native shrubs or understorey vegetation on public property (footpaths, roads, reserves, etc.) or on the land to be developed shall be removed or damaged during construction unless specifically approved in this consent including for the erection of any fences, hoardings or other temporary works.

Reason: To ensure that works do not interfere with reasonable amenity expectations of residents and the community.

6. **General Requirements**

(a) Unless authorised by Council:
Building construction and delivery of material hours are restricted to:

- 7.30 am to 4.30 pm inclusive Monday to Friday.

Demolition and excavation works are restricted to:

- 8.00 am to 4.30 pm Monday to Friday only.

(Excavation work includes the use of any excavation machinery and the use of jackhammers, rock breakers, excavators, loaders and the like, regardless of whether the activities disturb or alter the natural state of the existing ground stratum or are breaking up/removing materials from the site).

(b) At all times after the submission the Notice of Commencement to Council, a copy of the Development Consent and Construction Certificate is to remain onsite at all times until the issue of a final Occupation Certificate. The consent shall be available for perusal of any Authorised Officer.

(c) Where demolition works have been completed and new construction works have not commenced within 4 weeks of the completion of the demolition works that area affected by the demolition works shall be fully stabilised and the site must be maintained in a safe and clean state until such time as new construction works commence.

(d) Onsite toilet facilities (being either connected to the sewer or an accredited sewer management facility) for workers are to be provided for construction sites at a rate of 1 per 20 persons.

(e) Prior to the release of the Construction Certificate, payment of the Long Service Levy is required. This payment can be made at Council or to the Long Services Payments Corporation. Payment is not required where the value of the works is less than $25,000. The Long Service Levy is calculated on 0.35% of the building and construction work. The levy rate and level in which it applies is subject to legislative change. The applicable fee at the time of payment of the Long Service Levy will apply.

(f) The applicant shall bear the cost of all works associated with the development that occurs on Council's property.

(g) No building, demolition, excavation or material of any nature and no hoist, plant and machinery (crane, concrete pump or lift) shall be placed on Council's footpaths, roadways, parks or grass verges without Council Approval.

(h) Demolition materials and builders' wastes are to be removed to approved waste/recycling centres.

(i) No trees or native shrubs or understorey vegetation on public property (footpaths, roads, reserves, etc.) or on the land to be developed shall be removed or damaged during construction unless specifically approved in this consent including for the erection of any fences, hoardings or other temporary works.

(j) Prior to the commencement of any development onsite for:

i) Building/s that are to be erected

ii) Building/s that are situated in the immediate vicinity of a public place and is dangerous to persons or property on or in the public place

iii) Building/s that are to be demolished

iv) For any work/s that is to be carried out

v) For any work/s that is to be demolished

The person responsible for the development site is to erect or install on or around the development area such temporary structures or appliances (wholly within the development site) as are necessary to protect persons or property and to prevent unauthorised access to the site in order for the land or premises to be maintained in a safe or healthy condition. Upon completion of the development, such temporary structures or appliances are to be removed within 7 days.

(k) Requirements for new swimming pools/spas or existing swimming pools/spas affected by building works.

(1) Child resistant fencing is to be provided to any swimming pool or lockable

cover to any spa containing water and is to be consistent with the following;

Relevant legislative requirements and relevant Australian Standards (including but not limited) to:

(i) Swimming Pools Act 1992

(ii) Swimming Pools Amendment Act 2009

(iii) Swimming Pools Regulation 2008

(iv) Australian Standard AS1926 Swimming Pool Safety

(v) Australian Standard AS1926.1 Part 1: Safety barriers for swimming pools

(vi) Australian Standard AS1926.2 Part 2: Location of safety barriers for swimming pools.

(2) A 'KEEP WATCH' pool safety and aquatic based emergency sign, issued by Royal Life Saving is to be displayed in a prominent position within the pool/spa area.

(3) Filter backwash waters shall be conveyed to the Sydney Water sewerage system in sewered areas or managed on-site in unsewered areas in a manner that does not cause pollution, erosion or run off, is separate from the irrigation area for any wastewater system and is separate from any onsite stormwater management system.

(4) Swimming pools and spas must be registered with the Division of Local Government.

Reason: To ensure that works do not interfere with reasonable amenity expectations of residents and the community.

FEES / CHARGES / CONTRIBUTIONS

7. **Policy Controls**
Northern Beaches 7.12 Contributions Plan 2019

A monetary contribution of $2,090.00 is payable to Northern Beaches Council for the provision of local infrastructure and services pursuant to section 7.12 of the Environmental Planning & Assessment Act 1979 and the Northern Beaches Section 7.12 Contributions Plan 2019. The monetary contribution is based on a development cost of $209,000.00.

The monetary contribution is to be paid prior to the issue of the first Construction Certificate or Subdivision Certificate whichever occurs first, or prior to the issue of the Subdivision Certificate where no Construction Certificate is required. If the monetary contribution (total or in part) remains unpaid after the financial quarter that the development consent is issued, the amount unpaid (whether it be the full cash contribution or part thereof) will be adjusted on a quarterly basis in accordance with the applicable Consumer Price Index. If this situation applies, the cash contribution payable for this development will be the total unpaid monetary contribution as adjusted.

The proponent shall provide to the Certifying Authority written evidence (receipt/s) from Council that the total monetary contribution has been paid.

The Northern Beaches Section 7.12 Contributions Plan 2019 may be inspected at 725 Pittwater Rd, Dee Why and at Council's Customer Service Centres or alternatively, on Council's website

at www.northernbeaches.nsw.gov.au

This fee must be paid prior to the issue of the Construction Certificate. Details demonstrating compliance are to be submitted to the Principal Certifying Authority.

Reason: To provide for contributions in accordance with the Contribution Plan to fund the provision of new or augmented local infrastructure and services.

8. **Security Bond**

A bond (determined from cost of works) of $1,500 and an inspection fee in accordance with Council's Fees and Charges paid as security to ensure the rectification of any damage that may occur to the Council infrastructure contained within the road reserve adjoining the site as a result of construction or the transportation of materials and equipment to and from the development site.

An inspection fee in accordance with Council adopted fees and charges (at the time of payment) is payable for each kerb inspection as determined by Council (minimum (1) one inspection).

All bonds and fees shall be deposited with Council prior to Construction Certificate or demolition work commencing, details demonstrating payment are to be submitted to the Certifying Authority prior to the issue of the Construction Certificate.

To process the inspection fee and bond payment a Bond Lodgement Form must be completed with the payments (a copy of the form is attached to this consent and alternatively a copy is located on Council's website at www.northernbeaches.nsw.gov.au).

Reason: To ensure adequate protection of Council's infrastructure.

CONDITIONS TO BE SATISFIED PRIOR TO THE ISSUE OF THE CONSTRUCTION CERTIFICATE

9. **Access Spaces – Bandicoot Habitat**
Any new gates or fences are to be designed to include gaps appropriate to maintain bandicoot access through and within the site. Gaps are to be at least 150mm high and 300m wide. This condition does not apply to pool fencing.

Plans are to be amended accordingly prior to issue of the Construction Certificate.

Reason: To maintain bandicoot access to existing and proposed habitat within and surrounding the site.

10. **Project Ecologist**
A project ecologist is to be employed for the duration of works located below the cliff line to ensure compliance with Biodiversity Conservation conditions. The project ecologist must have one of the following memberships/accreditations:
- Practicing member of the NSW Ecological Consultants Association OR
- Biodiversity Assessment Method assessor accreditation under the NSW Biodiversity Conservation Act 2016.

The details of the Project Ecologist engaged for the development are to be provided to the Principal Certifying Authority prior to the issue of a Construction Certificate.

Reason: To prevent impacts to threatened species, endangered ecological communities and their habitats in accordance with the Biodiversity Conservation Act 2016.

11. **Preparation of CEMC**
A Construction Environmental Management Checklist (CEMC) is to be prepared and is to incorporate all measures for the protection of native vegetation, wildlife and habitats during the construction phase. Protection measures specified in the checklist must include all requirements of conditions of this consent and section 7.2 of the Biodiversity Development Assessment Report (GIS Environmental March 2019). The CEMC is to address all construction-related impacts on biodiversity. The Project Ecologist is also to identify critical stages during construction where they are required to conduct interim inspections of the site/works. The checklist is to be certified by the Project Ecologist as complying with this condition and provided to the Principal Certifying Authority prior to the issue of the Construction Certificate.

Reason: To prevent impacts to threatened species, endangered ecological communities and their habitats in accordance with the Biodiversity Conservation Act 2016.

12. **Compliance with standards (Demolition):**
The development is required to be carried out in accordance with all relevant Australian Standards.

Details demonstrating compliance with the relevant Australian Standard are to be submitted to Council prior to the commencement of demolition works.

Reason: To ensure the development is constructed in accordance with appropriate standards.

13. **Sydney Water "Tap In"**
The approved plans must be submitted to the Sydney Water Tap in service, prior to works commencing, to determine whether the development will affect any Sydney Water assets and/or easements. The appropriately stamped plans must then be submitted to the Certifying Authority demonstrating the works are in compliance with Sydney Water requirements.

Please refer to the website www.sydneywater.com.au for:
- "Tap in" details - see http://www.sydneywater.com.au/tapin
- Guidelines for Building Over/Adjacent to Sydney Water Assets.

Or telephone 13 000 TAP IN (1300 082 746).

Reason: To ensure compliance with the statutory requirements of Sydney Water.

CONDITIONS THAT MUST BE ADDRESSED PRIOR TO ANY COMMENCEMENT

14. **Pre-Construction Dilapidation Report**
Dilapidation reports, including photographic surveys, of the following adjoining properties must be provided to the Principal Certifying Authority prior to any works commencing on the site (including demolition or excavation). The reports must detail the physical condition of those properties listed below, both internally and externally, including walls, ceilings, roof, structural members and other similar items.

Property / Properties: No.14A Addison Road and No.20 Addison Road.

The dilapidation report is to be prepared by a suitably qualified person. A copy of the report must be provided to Council, the Principal Certifying Authority and the owners of the affected

properties prior to any works commencing.

In the event that access for undertaking the dilapidation report is denied by an adjoining owner, the applicant must demonstrate, in writing that all reasonable steps have been taken to obtain access. The Principal Certifying Authority must be satisfied that the requirements of this condition have been met prior to commencement of any works.

Note: This documentation is for record keeping purposes and may be used by an applicant or affected property owner to assist in any action required to resolve any civil dispute over damage rising from the works.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the commencement of any works on site.

Reason: To maintain proper records in relation to the proposed development.

15. **Protect AOBV – Penguin Habitat**
The Area of Outstanding Biodiversity Value (formerly Little Penguin Critical Habitat), including rocky cliff and intertidal areas below the formed backyard, are to be fully protected for the duration of the works. There shall be no machinery use, storage of construction materials/waste, dumping, or clearing of vegetation, soil, rock or rubble within these areas.

The Project Ecologist is to certify compliance with this condition in writing and provide this evidence to the Principal Certifying Authority at the commencement of works.

Reason: To prevent impacts to Little Penguins and the adjoining Area of Outstanding Biodiversity Value.

16. **Site Induction Required – Penguin and Bandicoot Habitat**
All workers, including site inspectors and sub-contractors, are to be made aware of the potential presence of relevant threatened species and endangered ecological communities through a site induction prior to commencement of works. The site induction is to include information about their conservation significance, potential activities on-site, means of identification and the measures to be implemented for their protection. A confirmation of induction is to be signed by every worker and the site manager.

Evidence of the site induction is to be documented and provided to the Principal Certifying Authority.

Reason: To prevent impacts to threatened species, endangered ecological communities and their habitats in accordance with the Biodiversity Conservation Act 2016.

17. **Ecologist to Induct Site Manager – Penguin and Bandicoot Habitat**
Prior to commencement of construction works, the project ecologist is to meet with the site manager to:

a) advise of conditions to be implemented for protection of relevant threatened species and endangered ecological communities;
b) ensure that all workers are appropriately briefed on required protective measures; and
c) inspect protective measures to confirm their adequacy and advise the proponent and site manager of the inspection results and their implications.

Reason: To prevent impacts to threatened species, endangered ecological communities and their habitats in accordance with the Biodiversity Conservation Act 2016.

18. **Runoff and Sediment Control – Penguin Habitat**
Appropriate runoff and sedimentation control devices must be installed prior to and maintained for the duration of works.

Reason: To prevent impacts to Little Penguins and their habitat, including the Area of Outstanding Biodiversity Value, in accordance with the Biodiversity Conservation Act 2016.

CONDITIONS TO BE COMPLIED WITH DURING DEMOLITION AND BUILDING WORK

19. **Installation and Maintenance of Sediment Control**
Prior to any works commencing on site, including demolition, sediment and erosion controls must be installed in accordance with Landcom's 'Managing Urban Stormwater: Soils and Construction' (2004). Techniques used for erosion and sediment control on site are to be adequately maintained and monitored at all times, particularly after periods of rain, and shall remain in proper operation until all development activities have been completed and the site is sufficiently stabilised with vegetation.

Reason: To protect the surrounding environment from the effects of sedimentation and erosion from the site.

20. **Traffic Control During Works**
Traffic control devices and advanced warning signs shall be provided for the protection of the works and for the safety and convenience of the public and others in accordance with RMS Traffic Control At Work Sites Manual (hand to the satisfaction of the Principal Certifying Authority. Traffic movement in both directions on public roads, and vehicular access to private properties is to be maintained at all times during the works

Reason: Public Safety

21. **Construction and repair works timing restrictions - Little Penguin habitat**
All demolition, excavation and construction works below the line of the existing cliff, including the staircase, are only permitted to be carried out outside of the Little Penguin breeding season (i.e. only between 1 March and 31 May) unless written approval of a representative of Council's Bushland & Biodiversity Team is obtained. The project ecologist is to notify Council's Bushland & Biodiversity Team of the proposed commencement date of these works at least 5 working days prior to works commencing. Any demolition, excavation and construction works below the line of the existing cliff, including to the staircase, are not to be undertaken whilst penguins are occupying breeding habitat on the property or adjoining properties at any time of year.

Compliance with this condition is to be certified by the project ecologist and evidence provided to the Principal Certifying Authority prior to issue of the Occupation Certificate.

Reason: To avoid disturbance to nesting and moulting penguins.

22. **Construction and Environmental Management Plan implementation**
All measures as described Construction and Environmental Management Plan prepared by Marine Advisory Services Pty Ltd, dated 24 June 2019 and any other pollution controls shall be implemented prior to commencement of any works at the Site and maintained until all

development activities have been completed and the site is sufficiently stabilised.

Reason: Protection of the waterway.

23. **Construction Hours – Manly LEP Clause 6.5**
Construction hours are to be adhered to, with no construction vehicles or heavy machinery used outside the hours of 7.30am and 4.30pm. Written certification of compliance with this condition is to be provided to the Principal Certifying Authority prior to issue of the Occupation Certificate.

Reason:To prevent impacts to threatened species, endangered ecological communities and their habitats in accordance with the Biodiversity Conservation Act 2016.

24. **Fauna inspections**
All holes (e.g. those excavated for footing or installations) and any construction materials/stockpiles/machinery must be inspected for penguins and bandicoots before they are moved or cleared. Filling of holes, operation of machinery and clearing of materials/stockpiles may only proceed if the inspection concludes that no penguins or bandicoots are present. A record of each inspection is to be kept with a copy of the CMEC and be made available on site for inspection by the Principal Certifying Authority or Council. If a penguin or bandicoot is found within the works area, works must cease and the Project Ecologist contacted for advice. Works are not to commence until the animal has been safely relocated away from the works area.

Written evidence of compliance with this condition is to be provided to the Principal Certifying Authority prior to issue of the Occupation Certificate.

Reason: To avoid injury to penguins and other fauna.

25. **No Artificial Lighting**
No artificial light is to be directed toward or illuminate the Area of Outstanding Biodiversity Value (formerly Little Penguin Critical Habitat) at any time during construction. No bright lighting or motion detectors which illuminate the formed back yard or foreshore areas are to be installed. Low intensity lighting may be used in the formed back yard for safety purposes only.

Details demonstrating compliance are to be submitted to the Certifying Authority prior to issue of the Occupation Certificate.

Reason: To prevent impacts to threatened species, endangered ecological communities and their habitats in accordance with the Biodiversity Conservation Act 2016.

26. **CEMC to be Implemented**
Construction is to be undertaken in accordance with the Constructional Environmental Management Checklist. Compliance is to be certified by the project ecologist and provided to the Principal Certifying Authority prior to issue of any Occupation Certificate.

Reason: To protect native vegetation, wildlife and habitats in accordance with relevant Natural Environment LEP/DCP controls.

27. **Report Dead or Injured Penguins or Bandicoots – Penguin and Bandicoot Habitat**
Any injured or dead Long-nosed Bandicoots or Little Penguins found within the worksite must be reported to the National Parks & Wildlife Service (9457 9577) or Northern Beaches Council (1300 434 434). Compliance with this condition is to be certified by the project ecologist in

writing and this evidence provided to the Principal Certifying Authority prior to issue of the Occupation Certificate.

Reason: To prevent impacts to Long-nosed Bandicoots and Little Penguins in accordance with the Biodiversity Conservation Act 2016.

CONDITIONS WHICH MUST BE COMPLIED WITH PRIOR TO THE ISSUE OF THE OCCUPATION CERTIFICATE

28. **Post-Construction Dilapidation Report**
Post-Construction Dilapidation Reports, including photos of any damage evident at the time of inspection, must be submitted after the completion of works. The report must:

- Compare the post-construction report with the pre-construction report,
- Clearly identify any recent damage and whether or not it is likely to be the result of the development works,
- Should any damage have occurred, suggested remediation methods.

Copies of the reports must be given to the property owners referred to in the Pre-Construction Dilapidation Report Condition. Copies must also be lodged with Council.

Details demonstrating compliance with this condition are to be submitted to the Principal Certifying Authority prior to the issuing of any Occupation Certificate.

Reason: To maintain proper records in relation to the proposed development.

29. **Project Ecologist Certification**
The Project Ecologist is to provide a statement in writing that they were engaged by the proponent for the duration of all works located below the cliff line. The statement is to be provided to the Principal Certifying Authority and Council prior to issue of the Occupation Certificate, and should include
confirmation of the following details:
1. That they were engaged throughout the works
2. That they carried out the induction of the Site Manager
3. That they carried out inspections of the site in accordance the CEMC
4. That no works below the cliff line were carried out at times prohibited by the condition "Construction and repair works timing restrictions - Little Penguin habitat"
5. That no scaffolding was erected or removed at times prohibited by the condition “Scaffolding timing restrictions
6. That the CEMC was implemented and followed during the works on the site
8. That the AOBV was managed and protected during works in accordance with the condition “Protect AOBV

Reason: To ensure that the works undertaken on the site maintain compliance with the conditions of consent.

30. **Staircase Gate and Advisory Signage for Penguin AOBV**
A self-closing gate with a 100mm gap at base must be installed at the top of the harbour-garden level staircase to help mitigate entry of cats, dogs and foxes into the Little Penguin Area of Outstanding Biodiversity Value. The gate must have a permanently attached sign displaying the wording below. The
sign is to be A4 in size and made of metal with permanent lettering that is at least 14 points in size. The wording is to be:

"Little Penguin Area of Outstanding Biodiversity Value
This foreshore is a declared Area of Outstanding Biodiversity Value (AOBV) for the endangered population of little penguins of Manly. The AOBV includes known breeding habitat and is critical for the survival of the penguin population. The numbers of Little Penguins in Manly have become so low that
the population is in danger of becoming extinct.

The following restrictions apply in the little penguin AOBV:
• Companion animals (assistance animals excepted) are not permitted within the AOBV;
• Touching or damaging penguin habitat (including nest boxes) is not permitted;
• No person is to come within five metres of a Little Penguin;
• Fishing is only permitted between sunrise and sunset;
• Any dead or injured penguins must be reported to Sydney Wildlife (9413 4300) or WIRES (1300 094 737)

Penalties for non-compliance may apply in accordance with Division 3.2 of the NSW Biodiversity Conservation Regulation 2017."

Written confirmation of compliance with this condition is to be provided to the Principal Certifying Authority prior to issue of the Occupation Certificate.

Reason: To prevent impacts to Little Penguins and the adjoining Area of Outstanding Biodiversity Value.

31. **Swimming Pool Requirements**
The Swimming Pool shall not be filled with water nor be permitted to retain water until:

(a) All required safety fencing has been erected in accordance with and all other requirements have been fulfilled with regard to the relevant legislative requirements and relevant Australian Standards (including but not limited) to:
(i) Swimming Pools Act 1992;
(ii) Swimming Pools Amendment Act 2009;
(iii) Swimming Pools Regulation 2008
(iv) Australian Standard AS1926 Swimming Pool Safety
(v) Australian Standard AS1926.1 Part 1: Safety barriers for swimming pools
(vi) Australian Standard AS1926.2 Part 2: Location of safety barriers for swimming pools

(b) A certificate of compliance prepared by the manufacturer of the pool safety fencing, shall be submitted to the Principal Certifying Authority, certifying compliance with Australian Standard 1926.

(c) Filter backwash waters shall be discharged to the Sydney Water sewer mains in accordance with Sydney Water's requirements. Where Sydney Water mains are not available in rural areas, the backwash waters shall be managed onsite in a manner that does not cause pollution, erosion or run off, is separate from the irrigation area for any wastewater system and is separate from any onsite stormwater management system. Appropriate instructions of artificial resuscitation methods.

(d) A warning sign stating '**YOUNG CHILDREN SHOULD BE SUPERVISED WHEN USING THIS POOL**' has been installed.

(e) Signage showing resuscitation methods and emergency contact

(f) All signage shall be located in a prominent position within the pool area.

(g) Swimming pools and spas must be registered with the *Division of Local Government*.

Details demonstrating compliance are to be submitted to the Certifying Authority prior to the issue of an Interim / Final Occupation Certificate.

Reason: To protect human life (DACPLF09)

ON-GOING CONDITIONS THAT MUST BE COMPLIED WITH AT ALL TIMES

32. **No Artificial Lighting**
No artificial light is to be directed toward or illuminate the Area of Outstanding Biodiversity Value (formerly Little Penguin Critical Habitat) post-construction in perpetuity. No bright lighting or motion detectors which illuminate the formed back yard or foreshore areas are to be installed. Low intensity lighting may be used in the formed back yard for safety purposes only.

Reason: To prevent impacts to threatened species, endangered ecological communities and their habitats in accordance with the Biodiversity Conservation Act 2016.

33. **No Planting Environmental Weeds**
No environmental weeds are to be planted on the site. Information on weeds of the Northern Beaches can be found at the NSW WeedWise website (http://weeds.dpi.nsw.gov.au/).

Reason: Weed management.

34. **Maintain Fauna Access and Landscaping Provisions – Manly LEP Clause 6.5**
All fauna access/movement and landscaping provisions specified in these conditions of consent are to be implemented and maintained for the life of the development.

Reason: To maintain fauna access to existing and proposed habitat within and surrounding the site.

35. **Dead or Injured Wildlife – Manly LEP Clause 6.5**
If construction activity associated with this development results in injury or death of a native mammal, bird, reptile or amphibian, a registered wildlife rescue and rehabilitation organisation must be contacted for advice.

Reason: To mitigate potential impacts to native wildlife resulting from construction activity.

36. **Control of Domestic Animals**
Domestic pet animals are to be kept from entering the foreshore areas at all times, i.e. Area of Outstanding Biodiversity Little Penguin habitat. Dogs and cats are to be kept in an enclosed area or on a leash such that they cannot enter areas of bushland or foreshore, unrestrained, on the site or on surrounding properties or reserves. Cats must be kept indoors between dusk and dawn. Ferrets and rabbits are to be kept in a locked hutch/run at all times.

Reason: Wildlife protection

Right to Review by the Council

You may request Council to review this determination of the application under Division 8.2 of the Environmental Planning & Assessment Act 1979. Any Division 8.2 Review of Determination application should be submitted to Council within 3 months of this determination, to enable the assessment and determination of the application within the 6 month timeframe.

NOTE: A fee will apply for any request to review the determination.

Right of Appeal

If you are dissatisfied with this decision Division 8.3 of the Environmental Planning & Assessment Act 1979 may give you the right to appeal to the Land and Environment Court within 6 months after the date on which you receive this notice.

Signed On behalf of the Consent Authority

Name Kye Miles, Planner

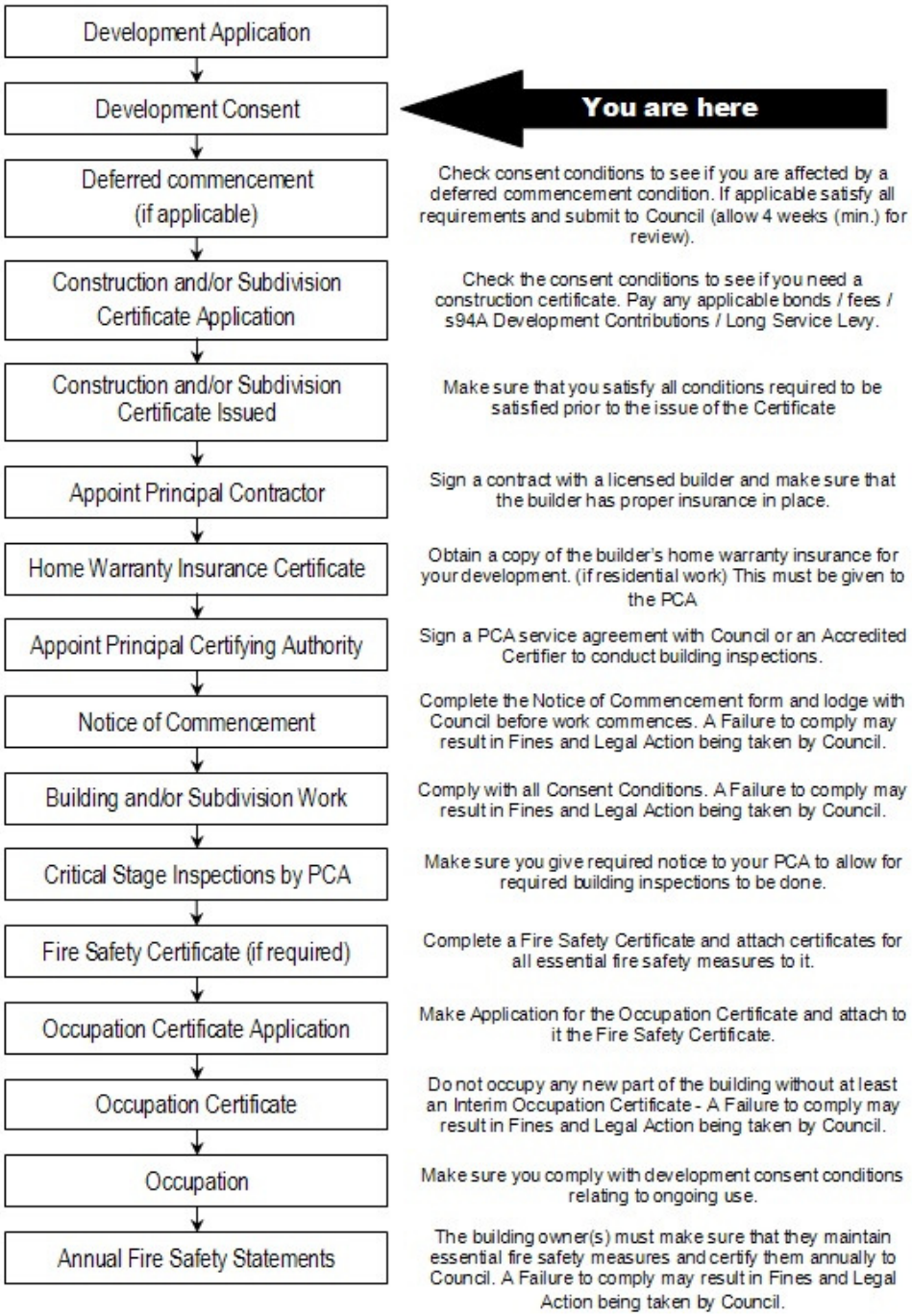
Date 24/01/2020

northern beaches council

GENERAL ADVICE

Advisory Notes (General)

Where are you in the development process?



Note: *The advice within this document is provided in good faith as a guide to assist applicants understand the broad process and will not detail every step or every requirement for demolition, building construction works or subdivision required or business operating requirements under New South Wales or Commonwealth Legislation. If you require clarification or have any questions, please contact your Certifier or Council's Planning and Development Enquiries Team.*

The attached Notice of Determination includes conditions of consent which must be complied with.

(Note: A failure to gain approval prior to the works being carried out is a serious breach of the Environmental Planning & Assessment Act 1979 which attracts penalties and may also result in legal action.)

Building Certification
The Environmental Planning and Assessment Act 1979 provides that:

- Building work cannot occur unless a construction certificate has been issued;
- Occupation of building works cannot occur unless an occupation certificate has been issued
- Subdivision cannot be registered until a subdivision certificate has been issued
- Mandatory Inspection for building work must be completed

Please refer to process chart for more detail.

(Note: A failure to gain approval prior to the works being carried out is a serious breach of the Environmental Planning & Assessment Act 1979 which attracts penalties and may also result in legal action.)

Certification Services
Construction Certificates / Occupation Certificates / Subdivision Certificates / Strata Certificates, can be issued by Council or an accredited private certifier (Note Council must be the Principal Certifying Authority (PCA) for subdivisions).

Council is well placed to provide Certification Services. Council can issue Construction Certificates and act as your Principle Certifying Authority at competitive rates. Please visit our web site www.northernbeaches.nsw.gov.au or speak to our Customer Service Officers if you have any further questions about our Certification Services or if you wish to use Council as your certifier.

Charges Associated with the Development Consent
All bonds, fees, Development Contributions or the Long Service Levy detailed within the Notice of Determination are required to be paid prior to the issuing of any Construction Certificate.

Bonds are released after:

1. 'Final Occupation Certificate' has been received by Council; and
2. Final inspection by a Council Officer where:
    - the development is complete
    - damage has not been caused to council assets during the works
    - conditions of development consent have been met.

    The bond will be released to the person or business who paid the bond to Council (The name that appears on the original receipt)

Acceptable Form of Security Bonds
Council will accept bank guarantee (in a form acceptable to Council) in lieu of cash and is required prior to the issue of a construction certificate.

Modifications to the consent
If you seek to make any changes to the development (which may include internal / external configuration of the building, variation to facades, site layout or any changes to the proposed operation or use), the modifications may require the submission and approval of an application to modify the development consent prior to the issuing of a Construction Certificate and prior to the works being

carried out. The proposed changes should be discussed with the PCA.

(Note: A failure to gain approval prior to the works being carried out is a serious breach of the Environmental Planning & Assessment Act 1979 which attracts penalties and may also result in legal action.)

Other Matters not detailed within the Notice of Determination
The Notice of Determination does not stipulate every requirement that must be completed to satisfy New South Wales and Commonwealth legislation.

You should check, as may be relevant, with other authorities including but not limited to:

- Workcover NSW for work safety and asbestos requirements
- Sydney Water – Quick Check Agent for the provision of water and sewer services
- Energy & Gas suppliers for utility services
- Department of Fair Trading for advice about builders and licensing
- Building Professionals Board for advice about private certifiers
- NSW Roads and Maritime Services for works on state roads only
- Human Rights and Equal Opportunity Commission for access issues
- NSW Land and Property Information for Land Title matters
- Australia Post for the positioning and dimensions of mail boxes in new commercial and residential developments;

Dial Before You Dig
Underground assets may exist in the area that is subject to your application. In the interests of health and safety and in order to protect damage to third party assets please contact Dial before you dig at www.1100.com.au or telephone on 1100 before excavating or erecting structures (This is the law in NSW). If alterations are required to the configuration, size, form or design of the development upon contacting the Dial before You Dig service, an amendment to the development consent (or a new development application) may be necessary. Individuals owe asset owners a duty of care that must be observed when working in the vicinity of plant or assets. It is the individual's responsibility to anticipate and request the nominal location of plant or assets on the relevant property via contacting the Dial before you dig service in advance of any construction or planning activities.

Telecommunications Act 1997 (Commonwealth)
Telstra (and its authorised contractors) are the only companies that are permitted to conduct works on Telstra's network and assets. Any person interfering with a facility or installation owned by Telstra is committing an offence under the Criminal Code Act 1995 (Cth) and is liable for prosecution. Furthermore, damage to Telstra's infrastructure may result in interruption to the provision of essential services and significant costs. If you are aware of any works or proposed works which may affect or impact on Telstra's assets in any way, you are required to contact :Telstra's Network Integrity Team on Phone Number 1800810443.
(1) if the development is likely to disturb or impact upon telecommunications infrastructure, written confirmation from the service provider that they have agreed to the proposed works must be submitted

to the Principal Certifying Authority prior to the issue of a Construction Certificate or any works commencing, whichever occurs first; and
(2) The arrangements and costs associated with any adjustment to telecommunications infrastructure shall be borne in full by the applicant/developer.

Model
If you submitted a model with the application it must be collected from the Council offices within fourteen (14) days of the date of this determination. Models not collected will be disposed of by Council.

Trade waste agreement
A Trade Waste Agreement must be obtained from Sydney Water prior to the discharge of trade wastewater to the sewer system. Trade wastewater is defined as 'discharge water containing any substance produced through industrial or commercial activities or operation on the premises'.

Waste collection
Liquid and solid wastes generated on the site must be collected, transported and disposed of in accordance with the requirements of the Protection of the Environment Operations Act 1997. Records must be kept of all waste disposal from the site.

Material to be removed from the site must be source separated on site to maximise recycling, and the material disposed of to an appropriate disposal and recycling facility in accordance with the approved Waste Management Plan.

Aboriginal Heritage
If in undertaking excavation or works and any Aboriginal site or object is, or is thought to have been found, all works are to cease immediately and the applicant is to contact the Aboriginal Heritage Officer for Warringah Council, and the Cultural Heritage Division of the Department of Environment and Climate Change (DECC).

On-Site Sewage Management System
This approval does not authorise the installation or operation of a new or modification of an existing on-site wastewater management system. An On-Site Sewage Management System must not be installed or operated unless an 'Approval to Install an On Site Sewage Management System' is obtained from Warringah Council.

Cost of Works
The applicant shall bear the cost of all works associated with the development that occurs on Council's property.

Relocation of stormwater drainage
Council is not responsible for the cost of relocating Council's stormwater drainage pipes through the subject property.

Tree preservation
Where tree work has not been approved by this Development Consent the developer is notified that a general Tree Preservation Order applies to all trees in the Northern Beaches Local Government Area. This order prohibits the ringbarking, cutting down, topping, lopping, pruning, transplanting, injuring, or wilful destruction of such trees except without the prior written consent of Council.

Storage bins on footpath and roadway
Approval is required from Council prior to the placement of any storage bin on Council's footpath and/or roadway.

Protection of Public Places
(1) If the work involved in the erection or demolition of a building:
(a) is likely to cause pedestrian or vehicular traffic in a public place to be obstructed or rendered inconvenient; or
(b) building involves the enclosure of a public place,

a hoarding and site fencing must be erected between the work site and the public place.

(2) If necessary, an awning is to be erected, sufficient to prevent any substance from, or in connection with, the work falling into the public place.
(3) The work site must be kept lit between sunset and sunrise if it is likely to be hazardous to persons in the public place.
(4) Any such hoarding, fence or awning is to be removed when the work has been completed.
(5) No access across public reserves or parks is permitted.
Note: Prior to the erection of any temporary fence or hoarding over property owned or managed by Council, written approval must be obtained.

Road Opening Permit
The developer/applicant is to obtain a "Road Opening Permit" from Council and pay all appropriate charges prior to commencement of any work on Council property. The developer/applicant shall be responsible for all public utilities and services in the area of the work, and as such shall notify all relevant Authorities, and bear all costs associated with any repairs and/or adjustments as those Authorities may deem necessary.

Special Permits
Unless otherwise specifically approved in writing by Council, all works, processes, storage of materials, loading and unloading associated with the development are to occur entirely on the property. The applicant, owner or builder must apply for specific permits available from Council. A minimum of forty-eight (48) hours notice is required for all permits except work zones, which may require additional assessment time.

- Permit for on-street mobile plant

Restrictions apply to the hours of operation and the area of operation for on street mobile plant equipment (for example cranes, concrete pumps, cherry pickers). Separate permits are required for each occasion and each piece of equipment. It is the responsibility of the applicant, owner and builder to take whatever steps are necessary to ensure that the use of any equipment does not violate adjoining property owner's rights.

- Hoarding Permit

Permits are required to erect Class A, Class B and Class C hoardings. If an 'A' Class hoarding is to alienate a section of Council's property, that section will require a permit for the occupation of Council's property.

- Storage of building materials and building waste containers (skips) on Council's property

Permits to utilise Council property for the storage of building materials and building waste containers (skips) are required for each location. Failure to obtain the relevant permits will result in the building materials or building waste containers (skips) being impounded by Council with no additional notice being given.

- Kerbside restrictions, work zones

Existing kerbside restrictions apply. An application must be made to Council for the alteration of existing kerbside restrictions or the provision of a construction zone.
Other permits may include out of construction hours permits.

Licensing requirements for removal of bonded asbestos
Anyone who removes, repairs or disturbs bonded asbestos must hold a bonded or a friable asbestos licence, or a demolition licence in accordance with Workcover requirements and the Occupational Health and Safety Act 2000.

Pool Access
Access to pools are required to be restricted by a child resistant barrier in accordance with the regulations prescribed in all relevant Acts, Regulations and Australian Standards including:

(i) Swimming Pools Act 1992;
(ii) Swimming Pools Amendment Act 2012;
(iii) Swimming Pools Regulation 2008
(iv) Australian Standard AS1926 Swimming Pool Safety
(v) Australian Standard AS1926.1 Part 1: Safety barriers for swimming pools
(vi) Australian Standard AS1926.2 Part 2: Location of safety barriers for swimming pools

It is your responsibility as a land owner to ensure any fencing is maintained.

Dewatering
Where dewatering works are required on the development site during construction, the developer/applicant must apply for and obtain a bore license from the NSW Department of Water and Energy. The bore license must be obtained prior to commencement of dewatering works.

Requirement to Notify about New Contamination Evidence
Any new information revealed during works that has the potential to alter previous conclusions about site contamination or hazardous materials shall be immediately notified to Council and the Principal Certifying Authority.

Flood Evacuation Plan
If your site is on flood prone land you may wish to consider the preparation of a flood evacuation plan.

Generally a Flood Evacuation Plan would be prepared by suitably qualified Engineer (e.g. Hydraulic) with a number of years experience in flood management and who is eligible for Membership to the Australian Institute of Engineers.

Some matters that you may wish to consider (but not limited to) include:

(i) a route of evacuation to higher ground and / or point of shelter
(ii) depth of water for a Possible Maximum Flood event surrounding the building
(iii) details of ‘last chance’ evacuation water levels / times for evacuation prior to floodwaters surrounding the building
(iv) provide details of flood warning systems and protocols
(v) details of how this information will be distributed and people educated for users of the site.

You may seek to discuss this with the State Emergency Service of NSW.

Utility Service Requirements

Where development requires the installation of, or the relocation of utility services being (but not limited to) gas, water, electricity and telecommunications, the installation of, or the relocation of utility services shall be conducted in accordance with the requirements of the relevant service provider / authority (unless stipulated by any other condition of the consent or will result in damage to threatened or endangered species defined under the Threatened Species Conservation Act 1995).

Plant & Equipment Kept Within Site
All plant and equipment used in the erection of the building, including concrete pumps, wagons, lifts, mobile cranes, etc, shall be situated within the boundaries of the site and so placed that all concrete slurry, water, debris and the like shall be discharged onto the building site, and is to be contained within the site boundaries. This does not prevent any requirement to comply with the Protection of the Environment Operations Act.

Lighting
Illumination of the site is to be arranged in accordance with the requirements of Australian Standard 4282 - 1997 Control of the obtrusive effects of outdoor lighting so as not to impact upon the amenity of the occupants of adjoining and nearby residential premises.

Silt and Sediment Control
During any onsite demolition, excavation and construction works, the site should be maintained in accordance with “The Blue Book - Managing Urban Stormwater (MUS): Soils and Construction”.

In managing the site provision shall be made throughout the period of works to prevent transmission of soil to the public road, drainage system, any riparian lands or off site in any manner. Upon completion of the development, any measures to prevent the transition of soil off site to remain in place until the site is stabilised.

A failure to prevent the transmission of silt and sediment and / or causing, water pollution, air pollution, noise pollution or land pollution may result in a breach of the Protection of the Environment Operations Act and orders, penalties and prosecutions may occur.

Maintenance of Sediment and Erosion Control Erosion and sediment controls are to be adequately maintained and monitored at all times, particularly after periods of rain.

Reason: To avoid erosion and sedimentation impacts that will result in an adverse change in watercourse or riparian land condition

Installation and Maintenance of Sediment and Erosion Control
Sediment and erosion controls must be installed in accordance with Landcom’s ‘Managing Urban Stormwater: soils and construction (2004).

Techniques used for erosion and sediment control on site are to be adequately maintained and monitored at all times, particularly after periods of rain, and shall remain in proper operation until all development activities have been completed and the site is sufficiently stabilised with vegetation.

Reason: To protect the surrounding environment from the effects of sedimentation and erosion from the site

Dividing Fences Act 1991
The construction and maintenance of side boundary fences is to be agreed upon by all adjoining property owners of the fence. Works are to be in accordance with the Dividing Fences Act 1991.

OTHER MATTERS

Child Care Centres
A license to operate a child care centre must be obtained from the NSW Department of Community Services prior to the commencement of the use of the child care centre.

Disability Access
This decision does not ensure compliance with the Commonwealth Disability Discrimination Act 1992. Applicants are strongly advised to investigate their requirements under that Act

Food Premises
Food premises are required to comply with the requirements of the Food Act 2003, the Food Standards Code and Australian Standards.

The proprietor of a food business must notify the NSW Food Authority of the details of the business. Notification may be done either online at www.foodnotify.nsw.gov.au or by lodging a completed NSW Food Authority notification form to the NSW Food Authority or Council.

Wheel washing facility
All trucks leaving the site, having had access to unpaved or contaminated areas, shall depart via a wheel wash facility in order to prevent mud, dust or debris from being deposited on Council's roads. The wheel wash facility shall be constructed prior to any truck movements occurring. Water from the wheel wash facility must not cause pollution. Any direction of Council with regard to cleaning trucks or the clean up of road pavements adjoining the site shall be complied with immediately.

Monitoring State of Roadways
The applicant shall monitor the state of roadways leading to and from the site and shall take all necessary steps to clean up any adversely impacted road pavements as directed by Council.

Storage of Dangerous Goods
Prior to the storage of any "dangerous goods" on the premises, a copy of a license obtained from the Chemical Safety Branch of Work Cover Authority must be submitted to Council.

Storage of Flammable and Combustible Liquids
Flammable and combustible liquids must be stored in accordance with Australian Standard 1940 The Storage and Handling of Flammable and Combustible Liquids.

Noise and Vibration
The premises, including operation of vehicles, shall be conducted so as to avoid offensive noise or vibration and cause no interference to adjoining or nearby occupants. Special precautions must be taken to avoid nuisance in neighbouring residential areas, particularly from machinery, vehicles, warning sirens, public address systems and the like.

Hairdressing/Beauty Treatment/ Skin penetration Requirements
The premises must comply with the following requirements before the commencement of business:
i) A hand wash basin with warm water delivered through a common spout must be provided in the treatment area. The hand wash basin must be provided with liquid soap and paper towel.
ii) The wall behind the hand wash basin from the floor to a height of 450mm above the top of the washbasin and from the centre of the washbasin to a distance of 140mm beyond each side of the wash basin, must be finished with a material that is durable, smooth, impervious to moisture and capable of being easily cleaned (eg tiles).
iii) The premises must be provided with washing, drainage, ventilation and lighting that are adequate for the carrying out of hairdressing/beauty treatment/skin penetration procedures.
iv) The floor coverings must be smooth and impervious.

v) All furniture, shelves and fittings must be constructed of, or covered with a material that is smooth, impervious to moisture and capable of being easily cleaned.
vi) Adequate lockers must be provided for the storage of employees clothing and personal effects.
vii) The premises must be provided with facilities that are adequate for the purpose of storing of hairdressing/beauty treatment/skin penetration appliance and utensils.
viii) The premises must be provided with a sink sullied with hot and cold water for washing equipment.

Food Premises Construction Requirements
The food premises must comply with the following specific construction requirements:
Solid walls must be provided in all food handling areas (solid includes brick, cement and foam filled preformed panels);
ix) Walls in food preparation and wash up areas must be finished with a smooth and impervious surface to a height of at least 2 metres.
x) Hand wash basins must be provided with warm water delivered through a common spout with taps that are hands free operation;
xi) Coving with a radius of 25mm must be provided between all floor and wall joints in food handling areas;
xii) The open space between the top of the coolroom and the ceiling must be fully enclosed and kept insect and pest proof;
xiii) The coolroom must be able to be opened from the inside with out a key and fitted with an alarm that can only be operated from within the coolroom;
xiv) The doors to the toilet air lock and toilet compartment must be tight fitting and self closing;
xv) The rear external door must be self closing or be provided with a fly screen that is self closing;
xvi) Where cooking or extensive heating processes or such other processes as may be specified are carried out in food preparation areas, an approved mechanical ventilation system shall be installed and operated in accordance with AS 1668 part 1 & 2.

Legionella Control
Cooling towers, warm water systems, water cooling systems must be registered with the Council. Details of registration are to be provided to the Council prior to operation.
Pool/Spa Safety
Owners of properties with swimming pools and spa's must meet safety compliance and registration requirements. Provisions also apply when renting/selling properties. Details are available from the Division of Local Government.
Grease Trap
Contact Sydney Water to determine what trade waste provisions you are required to provide to your food premises. Should a grease trap be required by Sydney Water, it must be located in an area that is easily accessible for the removal of waste water and must not be installed in any kitchen, food preparation or food stage area. The design and location of the grease trap should also not impede on any commercial right of way or pedestrian access.

Bandicoot/Penguin
Long-nosed Bandicoots & Little Penguins – Best Practices for Residents Residents are encouraged to follow a number of *Best Practices* to assist with the protection and management of the endangered populations of Long-nosed Bandicoots and Little Penguins:

- Long-nosed Bandicoots, Little Penguins and other native animals should never be fed as it may cause them nutritional problems, hardship if supplementary feeding is stopped, and it may increase predation.
- Feral cats or foxes should never be fed or food left out where they can access it, such as rubbish bins without lids or pet food bowls, as these animals present a significant threat to Long-nosed Bandicoots, Little Penguins and other wildlife.
- The use of insecticides, fertilisers, poisons and/or baits should be avoided on the property.

Garden insects will be kept in low numbers if Long-nosed Bandicoots are present.

- When the North Head Long-nosed Bandicoot Recovery Plan is released it should be implemented where relevant.
- Dead Long-nosed Bandicoots or Little Penguins should be reported by phoning Manly Council on 9976 1500 or Department of Environment and Conservation on 9960 6266.
- Please drive carefully as vehicle related injuries and deaths of Long-nosed Bandicoots and Little Penguins have occurred in the area. Care should also be taken at night in the drive way when moving cars as bandicoots will seek shelter beneath vehicles.
- Cat/s and or dog/s that currently live on the property should be kept indoors at night to avoid disturbance/death of native animals. Ideally, when the current cat/s and/or dog/s that live on the property no longer reside on the property it is recommended that they not be replaced by new dogs or cats.
- Report all sightings of feral rabbits, feral or stray cats and/or foxes to N B Council.