

FLORA & FAUNA ASSESSMENT REPORT

SYDNEY GRAMMAR SCHOOL

WEIGALL SPORTS COMPLEX

NEILD AVENUE, RUSHCUTTERS BAY

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Reference No.	FF_Rpt_SGS_Rev D
Document Status & Date:	26 th June 2020

Executive Summary

Fraser Ecological has been engaged by Sydney Grammar School (c/o Jattca Property Solutions & Allen Jack and Cottier) to provide a Flora & Fauna Assessment Report for the proposed development at Sydney Grammar School Weigall Sports Complex.

Weigall is in Woollahra local government area (LGA). Land to the west is in the City of Sydney (the boundary between the City of Sydney and Woollahra LGAs is the centre line of Neild Avenue). Rushcutters Creek (a highly modified urban concrete lined urban drainage channel that flows into Rushcutters Bay/ Sydney Harbour Catchment) occurs 200m north of the proposed development site. It will not be impacted by the proposed development

Section 7.9 of the *Biodiversity Conservation Act 2016* indicates that there are some circumstances in which the Planning Agency Head and the Environment Agency Head will determine that a proposed development is not likely to have a significant impact on biodiversity values and as such, Biodiversity Assessment Report (BDAR) is not required to be prepared. The primary purpose of this assessment is determine the requirement for a Biodiversity Assessment Report (BDAR) under the *Biodiversity Conservation Act 2016*.

A visual inspection was undertaken on the 13th January 2020 to identify and evaluate the current vegetation community occurring on the subject site, identify any threatened flora and fauna species and assess the current nature and extent of fauna habitats. Targeted fauna surveys were not undertaken as part of this assessment.

The site's vegetation does not form part of an important habitat corridor. It is surrounded by large areas of urbanisation and high-volume traffic road networks associated with the Sydney CBD. Vegetation mapping previously undertaken in the area was reviewed. This included a review of *The Native Vegetation of the Sydney Metropolitan Area - Version 3.1* (OEH, 2016) VIS_ID 4489.

The subject site (southern edge of the SGS Weigall Playing Fields) is dominated by hard surface from existing man-made structures including tennis courts and viewing shelter (Barry Pavillion) as well as a paved car park near Neild Avenue which are proposed for demolition. The proposed car park at the south-east corner of the site (near Alma Street) is currently occupied by hard stand cricket nets and pitches which are also proposed for demolition (refer to proposed plans within Appendix A). Planted exotic and non-indigenous native trees immediately surround these structures where the proposed development works will occur.

The main plant species proposed for removal are introduced Peppercorn Tree (*Schinus areira*). Non-indigenous native planted trees included:

- *Lophostemon confertus* (Brush Box)
- *Syzygium paniculatum* (Lillypilly)
- *Callistemon* sp. (Bottlebrush)
- *Corymbia citriodora* (Lemon Scented Gum)
- *Hymenosporum flavum* (Native Frangipani)
- *Araucaria cunninghamiana* (Hoop Pine)
- *Eucalyptus nicholii* (Narrow Leaf Peppermint)

Reference to 1943 aerial imagery confirms the historical absence of native vegetation on the site for a long period of time. Planted trees occurred along the Neild Avenue boundary of the SGS Weigall Playing Fields

Locally indigenous canopy, shrub and groundcover species are absent on the subject site. There is no indicative or remnant native species that provide any evidence of a remnant native vegetation community. Prior to European settlement it is likely that the site once supported PCT 1778 *Smooth-barked Apple – Coast Banksia/ Cheese Tree open forest on sandstone slopes on the foreshores of the drowned river valleys of Sydney* vegetation community. The vegetation on-site does not form part of a recognised native vegetation community and does not form part of a Threatened Ecological Community listed under the *Biodiversity Conservation Act 2016*.

Based on the detailed field survey and information provided in this assessment report it is concluded that:

1. The proposal does not trigger the requirements for any biodiversity credits to be retired in accordance with the Biodiversity Offsets Scheme. The site is not within an area mapped under the 'Sensitive Biodiversity Values Map' and does not exceed the BOS area threshold.
2. Nearly all of the vegetation occurring on-site is of poor ecological significance with extremely low likelihood of regeneration from a native soil seedbank, hence, the planted vegetation is not at a self-sustaining 'community' level and is not considered a viable remnant. It comprises of planted specimens and is not a PCT as defined under the Biodiversity Assessment Method (NSW OEH 2017).
3. No remnant threatened flora species emanating from the original native vegetation community listed within the Biodiversity Conservation Act (2016) or the EP&BC Act (1999) were observed during surveys;
4. The impact on the threatened flora and fauna species are considered minimal given the low value of habitat proposed for removal. Five part tests were undertaken as a precautionary measure for mobile fauna that may use the site as marginal foraging habitat.
5. A referral to the Australian Government Department of the Environment is not likely to be required as it was determined that the proposal would not have a significant impact on nationally listed threatened or migratory species listed under the EPBC Act (1999).
6. A Species Impact Statement is not required for the proposed development. The proposed development is not likely to have a significant effect on threatened species, populations or ecological communities or their habitats listed under the Biodiversity Conservation Act (2016).
7. A Biodiversity Assessment Report (BDAR) is not required to be prepared under Section 7.9 of the Biodiversity Conservation Act 2016 as the proposed development is not likely to have a significant impact on biodiversity values. A waiver under this legislation is recommended.

Definitions

The following terminology has been used for this report and is consistent with the NSW Threatened Species Assessment Guidelines (Department of Environment and Climate Change (now Office of Environment and Heritage) 2007):

- Subject site - means the area directly affected by the proposal.
- Study area - means the subject site and any additional areas, which are likely to be affected by the proposal, either directly or indirectly.
- Locality - the same meaning as ascribed to local population of a species or local occurrence of an ecological community.

Abbreviations

Abbreviation	Meaning
AOBV	Areas of Outstanding Biodiversity Value
BAM	Biodiversity Assessment Methodology
BC Act	<i>Biodiversity Conservation Act 2016</i>
BDAR	Biodiversity Development Assessment Report
DCP	Development Control Plan
DEC	Department of Environment and Conservation
DECC	Department of Environment and Climate Change
DECCW	Department of Environment, Climate Change and Water
DEE	Department of Environment and Energy
EEC	Endangered Ecological Community
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
Ha	Hectare
LEP	Local Environmental Plan
LGA	Local Government Area
MU	Map Unit
NPWS	NSW National Parks and Wildlife Service
OEH	Office of Environment and Heritage
PCT	Native vegetation classification system approved by the NSW Plant Community Type Control Panel
PFC	Projected Foliage Cover
SAIL	Serious and Irreversible Impacts
TBCD	Threatened Biodiversity Data Collection
TEC	Threatened Ecological Community

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INTRODUCTION

Fraser Ecological has been engaged by Sydney Grammar School (c/o Jattca Property Solutions & Allen Jack and Cottier) to provide a Flora & Fauna Assessment Report for the proposed development at Sydney Grammar School Weigall Sports Complex.

Weigall is in Woollahra local government area (LGA). Land to the west is in the City of Sydney (the boundary between the City of Sydney and Woollahra LGAs is the centre line of Neild Avenue).

The proposed development is considered to be State Significant Development (SD) under Section 4.3.6. of the EPA Act 1979 pursuant to SEPP 2011 (State and Regional Development). Under Schedule 2 of the EPA regulation the Secretary's Environmental Assessment Requirements (SEARS) were sought to enable the preparation of an Environmental Impact Statement (EIS).

The project is classified as Stage Significant Development under Clause 15 of Schedule 1 of State Environmental Planning Policy (State and Regional Development) 2011, as the Capital Investment Value (CIV) exceeds \$20 million for the purpose of alterations or additions to an existing school.

Section 7.9 of the *Biodiversity Conservation Act 2016* indicates that there are some circumstances in which the Planning Agency Head and the Environment Agency Head will determine that a proposed development is not likely to have a significant impact on biodiversity values and as such, Biodiversity Assessment Report (BDAR) is not required to be prepared.

The primary purpose of this assessment is determine the requirement for a Biodiversity Assessment Report (BDAR) under the *Biodiversity Conservation Act 2016*.

1.1 Description of the site and proposal

The State Significant Development Application (SSDA) site is part of the Weigall Playing Fields located on Neild Avenue at Rushcutters Bay.

Weigall accommodate SGS's sports facilities (cricket, rugby, football, tennis and basketball), pavilion buildings, various grandstands and amenities.

Weigall (the 'study area') is bordered by:

- Neild Avenue to the west (Neild Avenue is classified as a collector road and also forms part of the State Road MR625 managed by Roads and Maritime Services)
- State Rail land and the Eastern Suburbs Railway viaduct to the north
- White City (Hakoah Club and Maccabi Tennis Club), SGS Edgecliff Preparatory School, Vialoux Avenue, Alma Street and residential development to the south
- Residential development to the south and north-east
- A Sydney Water stormwater channel which traverses the site
- A right of way from Alma Street, benefiting the site, which crosses White City.

Rushcutters Creek occurs long the north-eastern boundary of the Wiegall Cricket ground.

The proposed SGS Weigall Sports Complex (the 'subject site') comprises the following:

(a) New building accommodating the following facilities:

- i. Lower ground floor: Aquatic facilities, bathrooms, changerooms, storage, services, car parking and servicing
- ii. Ground floor: Entry lobby, reception and office and car parking
- iii. Level 1: Multipurpose indoor sports hall, flexible sporting spaces, bathrooms, changerooms, storage and services
- iv. Level 2: Flexible spaces for sports training and coaching and services.

(b) Driveway entry from Neild Avenue (comprising potential relocation of existing driveway southwards with existing driveway potential retained for maintenance access)

(c) Landscaping of the site including tree removal/replacement, fencing and lighting

(d) Building identification signage.

The proposed plans are provided in Appendix A. See Figures 1-2 for the location and site maps.

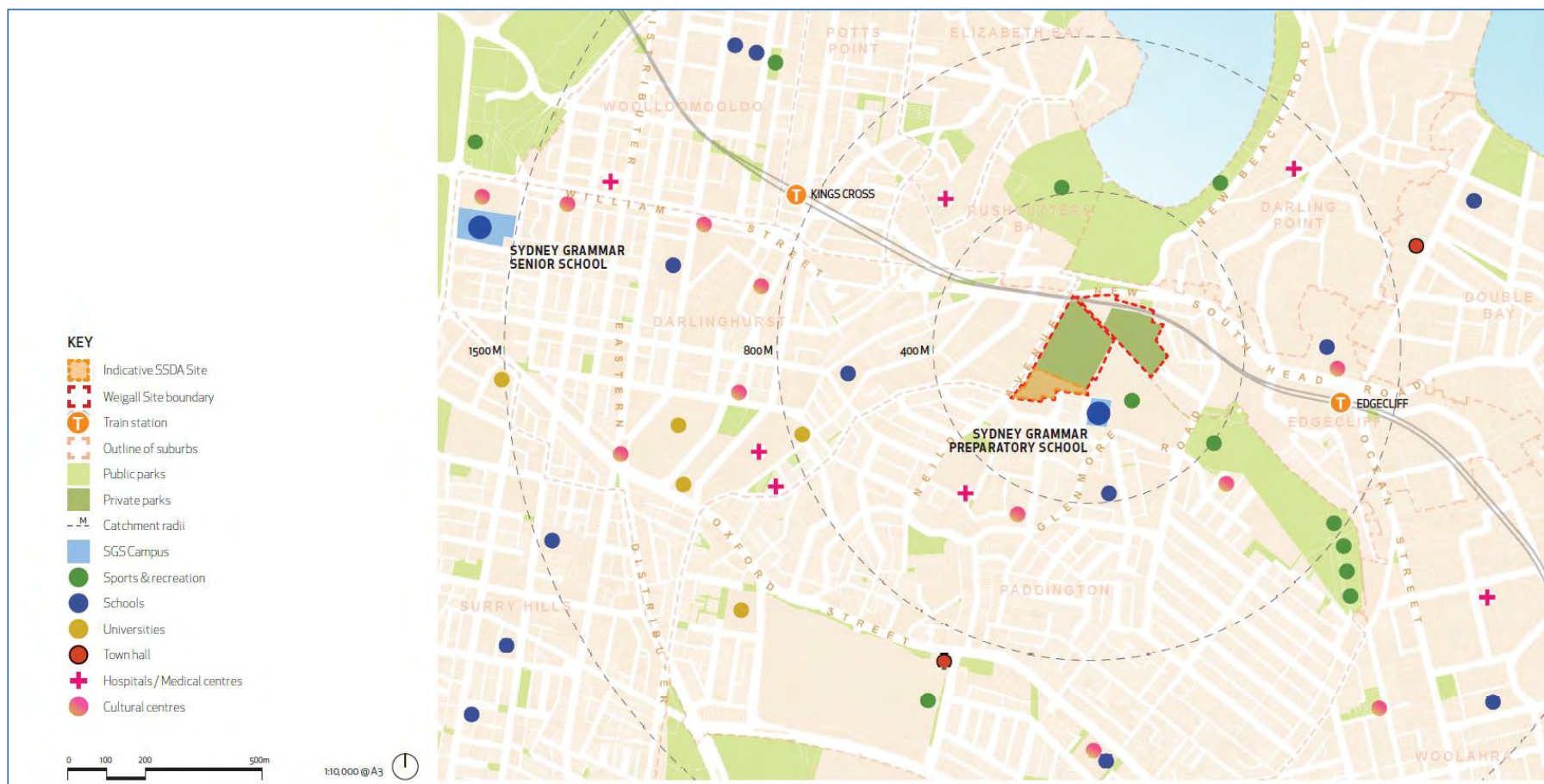


Figure 1: Locality map of the site (Source: Allen Jack & Cottier 2019)



Figure 2: Map of the study area (Source: Allen Jack & Cottier 2020)



Figure 3: Map of the subject site (Source: Allen Jack & Cottier 2020)



Figure 3A: Close up aerial map of the subject site (Source: Nearmap.com)

2 METHODS

2.1 Field Surveys

A visual inspection was undertaken on the 13th January 2020 to identify and evaluate the current vegetation community occurring on the subject site, identify any threatened flora and fauna species and assess the current nature and extent of fauna habitats. Targeted fauna surveys were not undertaken as part of this assessment.

Features of the vegetation including floristics, structure, extent, type and projective foliage cover, presence of weed species and other significant features were noted and recorded). All flora recorded were predominantly identified to family, genus and species level with confirmation according to *Field Guide to the Native Plants of Sydney* (Robinson, 2003), *Weeds of the south-east: an identification guide for Australia* (Richardson, 2006), *Tree & Shrubs in Rainforest of New South Wales and Southern QLD* (Williams et al 1984), *Native Plants of the Sydney District* (Fairly and Moore 2000) and the Botanic Gardens Trust (2009) PlantNET flora database.

It was not possible to determine with certainty all the fauna that utilise habitats in the subject site. This is because of the likely seasonal occurrences of some fauna species, the occasional occurrence of vagrant species, and because some species are difficult to detect because of their timid or cryptic behaviour. Therefore, fauna investigations comprised an assessment of fauna habitats present on site and an indication of their potential to support native wildlife populations and, in particular, threatened species.

The fauna habitat assessment criteria included:

- **Mammals:** extent of ground cover, shrub layer and tree canopy, hollow-bearing trees, substrate type (for burrowing etc), evidence such as droppings, diggings, footprints, scratches on trees, nests, burrow paths and runways.
- **Birds:** structural; features such as the extent and nature of the canopy, understorey and ground strata and flowering character
- **Reptiles and amphibians:** cover shelter, suitable substrate, basking and breeding site availability, reptiles and frogs sought in likely sheltering places
- **Invertebrates:** logs and other debris, leaf and bark accumulations around base of trees, grass clumps, loose soil for burrowing
- **Wildlife corridor values:** Importance of the creek systems and riparian vegetation as movement corridors for fauna, especially birds, aquatic fauna, mammals (e.g. microchiropteran bats) & amphibians

Wildlife habitat, in its broadest definition, includes any vegetation or other physical structure that meets an animal's needs for food, shelter, and/or reproduction. Habitat provided by indigenous vegetation usually provide the best habitat, as they are richest in

diversity and, resources for indigenous fauna species. However, disturbed and degraded areas can provide habitat for native flora and fauna species.

Wildlife habitat can be comprised of a number of elements. These include intact canopy, mid-storey and understorey layers in a vegetation community, particular plant species which may provide food or shelter resources for fauna species, hollows and cracks in living or dead trees, fallen logs and woody debris, deep leaf litter, exposed sandstone rocks supporting water seeps, and caves. Different resources for food, shelter, and reproduction occur in these habitat elements that may satisfy the varied needs of a particular species, or, more often, the needs of a number of different species.

2.2 Assessment of conservation value

The conservation value of flora and fauna habitats on the subject site was determined by reference to the following criteria:

- Representativeness - whether the vegetation communities of the site are unique, typical or common in the bioregion. In addition the criteria takes into account whether or not such vegetation units are presently held in conservation reserves;
- the presence of threatened or regionally significant species on the site;
- the extent of human influence on the natural environment of the site and the condition of habitats (e.g. the presence of weeds, fire frequency, etc.);
- the uniqueness of the natural values of the site;
- the amount of native vegetation to be cleared or modified by the proposed development in relation to what remnant vegetation will remain in the locality; and
- the relative importance of the site as a corridor for the movement of wildlife.

2.3 Information sources

2.3.1 Database Searches

The following database searches were undertaken, in order to compile a list of threatened flora and fauna species predicted to occur in the area:

- Review of threatened fauna and flora records within a 10 km radius of the site, contained in the OEH Atlas of NSW Wildlife (NSW BioNet).
- Review of the MNES records within a 10 km radius of the site, using the Commonwealth Department of Environment and Energy (DEE), EPBC Act Protected Matters Search Tool.

2.3.2 Previous Vegetation Mapping

The Native Vegetation of the Sydney Metropolitan Area - Version 3.1 (OEH, 2016) VIS_ID 4489

This layer contains digital mapping of the native vegetation communities of the Sydney Metropolitan area. Vegetation communities have been derived from the analysis of 2200 floristic sites collated for the study area. Identified vegetation communities have been related to currently listed threatened ecological communities listed under the NSW TSC Act, 1995 and the Commonwealth EPBC Act, 1999. Native vegetation communities have been mapped using a combination of detailed image interpretation, relationships between sample sites and abiotic environmental variables.

The derived digital data layer includes fields that describe the vegetation community, interpreted dominant species and understorey characteristics, interpretation confidence, disturbance type and severity, NSW vegetation formation and classes and related NSW Plant Community Types. These are described in detail in technical reports OEH (2016) The Native Vegetation of the Sydney Metropolitan Area. Volume 1: Technical Report. Version 3.0. Office of Environment and Heritage Sydney. OEH (2016) The Native Vegetation of the Sydney Metropolitan Area. Volume 2: Vegetation Community Profiles. Version 3.0. NSW Office of Environment and Heritage, Sydney. Version 3.0 of the Native Vegetation of the Sydney Metropolitan Area updates the Plant Community Type and Biometric Vegetation Type of each map unit.

2.3.3 Literature Review

Information sources reviewed included, but were not necessarily limited to:

- Aerial Photograph Interpretation (API);
- Relevant guidelines, including:
 - OEH *Biodiversity Assessment Method*, 2017 No 469
 - *NSW Guide to Surveying Threatened Plants* (OEH, 2016)
 - '*Species credit*' *threatened bats and their habitats: NSW survey guide for the Biodiversity Assessment Method* (OEH, 2018)
 - *Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities* (Department of Environment and Conservation (DEC), 2004)
- OEH Threatened Species, Populations and Ecological Communities website
- Commonwealth DEE Species, Profile and Threats Database;

2.3.4 Other sources and consultant reports

A desktop survey was performed to ensure all relevant documentation is considered when preparing the plan.

Documents and other information resources utilised include:

- Aerial photographs (Google Maps, NearMaps & DPI Land Information)
- NSW Land and Property Information SIX Maps Viewer (<https://maps.six.nsw.gov.au/>)
- Tree Assessment Schedule prepared by Tree IQ (Arboricultural Consultant) dated 18/12/19
- Proposed Demolition Site Plan prepared by Allen Jack and (Appendix A)
- REQUEST FOR SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS prepared by Robinson Urban Planning dated 20th December 2019
- The Native Vegetation of the Sydney Metropolitan Area' produced by the NSW Office of Environment and Heritage (2013) mapped using QGIS software overlaid with cadastral boundaries obtained from the NSW Planning Portal database collection
- Soil Landscapes of the Sydney 1:100,000 Sheet (Chapman and Murphy 1989) using the Espade Version 2.0 managed by the NSW Office of Environment and Heritage accessed 15th January 2019

2.3.5 Legislative background

The criteria used to assess likely impacts upon threatened species, populations or endangered ecological communities vary between Commonwealth and State jurisdictions. The following describes the legislative requirements for each level.

Commonwealth biodiversity requirements

The *Environment Protection and Biodiversity Conservation Act (1999)* (EPBC Act) is a nationally applicable Act that is administered by the Department of the Environment, Water, Heritage and the Arts. This Act requires approval for actions that are likely to have a significant impact on matters of National Environmental Significance (NES).

There are seven matters of NES that are triggers for Commonwealth assessment and approval. These are:

1. World Heritage properties;
2. National Heritage places;
3. Ramsar wetlands of international importance;
4. Nationally threatened species and communities;
5. Migratory species;
6. Nuclear actions; and
7. Commonwealth marine environment.

Threatened species and ecological communities are listed under Part 13, Division 1, Subdivision A of the EPBC Act 1999. Migratory species are listed under part 13, Division2, Subdivision A of the Act.

The Department of the Environment and Water Resources identifies the following:

“Under the EPBC Act a person must not take an action that has, will have or is likely to have significant impact on any of these matter of NES without approval from the Commonwealth Environment Minister. There are penalties for taking such an action without approval.

In general, an action that may need approval under the Act will involve some physical interaction with the environment, such as clearing native vegetation, building a new road, discharging pollutants into the environment, or offshore seismic survey.

If, following a referral, it is determined that that an action is likely to have a significant impact, and approval is therefore required, the action is called a 'controlled action'. The proposal will then undergo a formal assessment and approval process, and cannot proceed unless approval is granted.

If it is determined that an action is not likely to have a significant impact, then the action is not a controlled action. Approval under the EPBC Act is not required and the action may proceed, subject to obtaining any other necessary permits or approvals.”

State biodiversity requirements

Local Government Act 1993

The Act sets out the responsibilities of Councils including public land management, activity approvals, corporate and operation planning, orders and enforcement powers, setting rates and charges (LGSA 2009). Section 7(e) of the Act requires Councils, Councillors and Council employees to have regard to the principles of ecologically sustainable development in carrying out their responsibilities. The Charter (Section 8) also requires Councils to properly manage, develop, protect, restore, enhance and conserve the environment of the area for which it is responsible, in a manner that is consistent with and promotes the principles of ecologically sustainable development. Under this Act, Councils are required to have Plans of Management for all Council owned land.

Biodiversity Conservation Act 2016

The BC Act sets out the biodiversity assessment requirement for any development or activity that requires assessment or approval under the EP&A Act. The main elements of the Act:

- New Biodiversity Offsets Scheme (BOS)
- New assessment methodology - Biodiversity Assessment Method (BAM)
- Establishment of a Biodiversity Conservation Fund (collects and directs spending of offset monies throughout the state)
- Expansion of Biodiversity Certification for large rezoning proposal and masterplan ‘green field’ type developments (streamlined assessment at strategic planning stage)

It also consolidates:

- existing wildlife licensing requirements
- nominations of areas of outstanding biodiversity values
- updated criteria for listing threatened species and communities
- biodiversity offsets scheme
- Biocertification (large scale master planning development)
- Biodiversity stewardship agreements (where offset credits are created)

In relation to Council DAs assessments, Part 4 local development requires application of the BAM to determine whether an offset obligation if it either:

-
- Exceeds the BOS threshold (also referred to as 'area trigger')
 - Located in an area of 'Sensitive Biodiversity Values'

The Act sets out the Biodiversity Assessment Methodology (BAM) which directs the methodology to be undertaken by accredited assessors (consultants) to produce a Biodiversity Assessment Report (BAR) submitted with a development application. The BAM sets out a detailed, complex and quantitative assessment methodology for producing the assessment report (BAR).

The methodology sets a framework for decision makers (Council assessment officers) to determine whether or not the proposal will have 'Serious and Irreversible Impact (SAIL)' for certain threatened species and communities (referred to as 'candidate entities').

For local developments, the new regulations make the new Offset Scheme mandatory for applications assessed under part of the Act that exceed the BOS thresholds. Under the Act, an offsets calculator will be used by accredited and appropriately trained assessors.

The subject site is not mapped on Office of Environment and Heritage (OEH)'s Sensitive Biodiversity Values Map (<https://www.environment.nsw.gov.au/biodiversity/biodiversity-values-map.htm>).

The proposed development is considered to be State Significant Development (SD) under Section 4.3.6. of the EPA Act 1979 pursuant to SEPP 2011 (State and Regional Development).

Under Schedule 2 of the EPA regulation the Secretary's Environmental Assessment Requirements (SEARS) were sought to enable the preparation of an Environmental Impact Statement (EIS).

The project is classified as Stage Significant Development under Clause 15 of Schedule 1 of State Environmental Planning Policy (State and Regional Development) 2011, as the Capital Investment Value (CIV) exceeds \$20 million for the purpose of alterations or additions to an existing school.

Section 7.9 of the NSW *Biodiversity Conservation Act 2016 (BC Act)*, requires all development applications for State Significant Development to be accompanied by a Biodiversity Development Assessment Report (BDAR) unless both the Planning Agency Head and the Environment Agency Head determine that the proposed development is not likely to have any significant impact on biodiversity values.

The main steps in the biodiversity assessment process for State Significant Development are as follows:

1. The Planning Agency Head and the Environment Agency Head determines if the Biodiversity Offsets Scheme applies to the State Significant Development and specifies the environmental assessment requirements;
2. The proponent engages an accredited person to assess the development site using the Biodiversity Assessment Method (BAM) and a BDAR is prepared;

-
3. The approval authority considers any serious and irreversible impacts and determines whether there are additional and appropriate measures to minimise impacts;
 4. The approval authority sets an offset obligation as part of the Conditions of Approval; and
 5. The proponent meets their offset obligation and begins their development.

The Biodiversity Assessment Method (BAM) sets out clear and repeatable methods to conduct an assessment of direct and indirect impacts. The BAM is supported by the BAM Tool, which is a web-based tool that quantifies direct impacts using 'biodiversity credits'.

Two types of credits are generated by the BAM Tool, ecosystem credits and species credits. Ecosystem credits are calculated based on a number of variables including landscape features, native vegetation and ecosystem credit species (species that are reliably predicted by habitat surrogates). Species credits are calculated based on the number of individuals (flora) or the area of habitat (fauna) of species credit species (species that are not reliably predicted by habitat surrogates).

Section 7.9 of the BC Act indicates that there are some circumstances in which the Planning Agency Head and the Environment Agency Head will determine that a proposed development is not likely to have a significant impact on biodiversity values and as such, a BDAR is not required to be prepared. Biodiversity values are defined under the BC Act and the Biodiversity Conservation Regulation 2017 (BC Regulation), and include:

- Vegetation integrity—being the degree to which the composition, structure and function of vegetation at a particular site and the surrounding landscape has been altered from a near natural state;
- Habitat suitability—being the degree to which the habitat needs of threatened species are present at a particular site;
- Threatened species abundance—being the occurrence and abundance of threatened species or threatened ecological communities, or their habitat, at a particular site;
- Vegetation abundance—being the occurrence and abundance of vegetation at a particular site;
- Habitat connectivity—being the degree to which a particular site connects different areas of habitat of threatened species to facilitate the movement of those species across their range;
- Threatened species movement—being the degree to which a particular site contributes to the movement of threatened species to maintain their lifecycle;
- Flight path integrity—being the degree to which the flight paths of protected animals over a particular site are free from interference;

-
- Water sustainability—being the degree to which water quality, water bodies and hydrological processes sustain threatened species and threatened ecological communities at a particular site.

For a waiver to be applied for future development at the subject site, it needs to be demonstrated that the above listed biodiversity values will not be significantly impacted.

3 LANDSCAPE FEATURES

3.1 IBRA Bioregions and Subregions

Dominant landscape forms have been used to divide Australia into bioregions. The site is within the NSW Sydney Basin Bioregion IBRA bioregion and Pittwater IBRA Subregion as depicted in Figure 4.

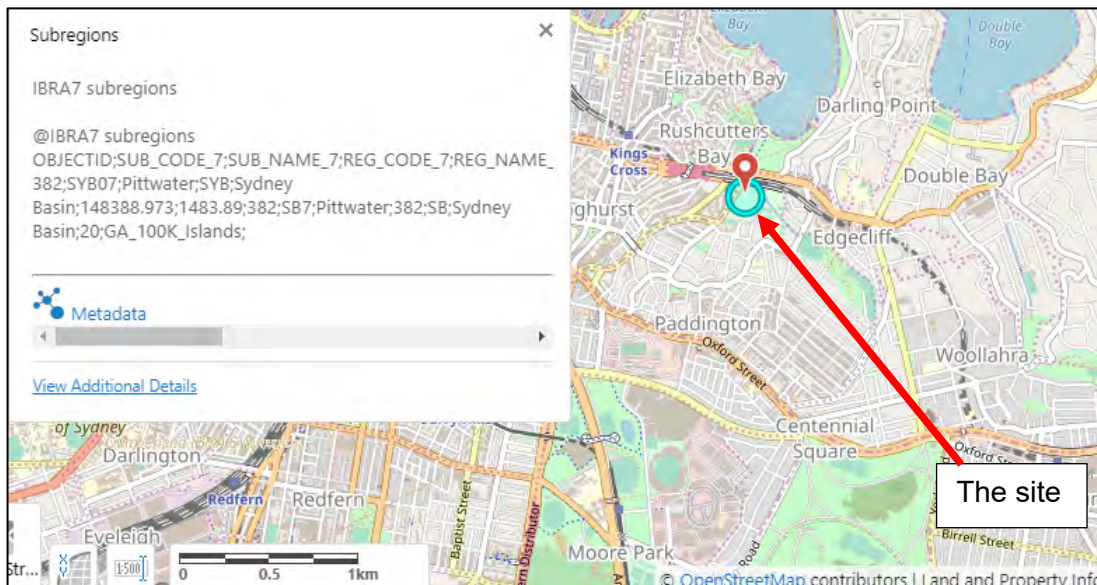


Figure 1: Location of site within the Pittwater IBRA sub-region (red arrow)
(Map source: geo.seed.nsw.gov.au)

3.2 NSW Landscape Regions (Mitchell Landscapes)

Mitchell Landscapes are used to describe areas in NSW in a broad sense and group together areas with relatively homogenous geomorphology, soils and broad vegetation types and are mapped at a scale of 1:250000. The subject site is within the Port Jackson Landscape as depicted in Figure 5. This landscape region has an estimated cleared fraction of 0.85 and has 'over-cleared' land status.

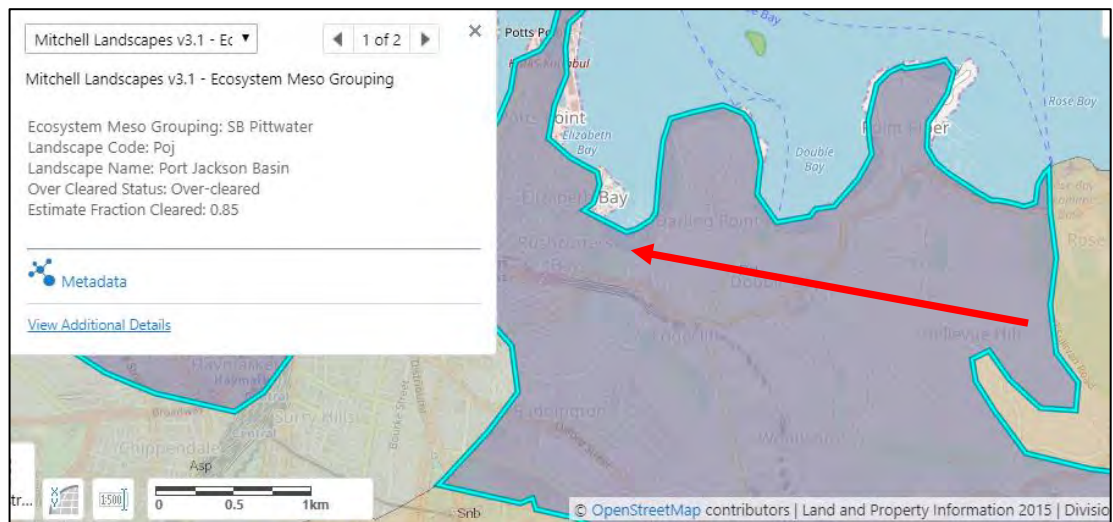


Figure 2: Location of site within the Port Jackson Landscape (red arrow)

3.3 Native Vegetation Extent

All areas of native vegetation cover, within the site and within a 1,500 m buffer area surrounding the site, have been mapped (refer to Figure 6). It is estimated, from this mapping, that the native vegetation cover would be 0-10% category provided within the Biodiversity Assessment Methodology (NSW OEH 2017).

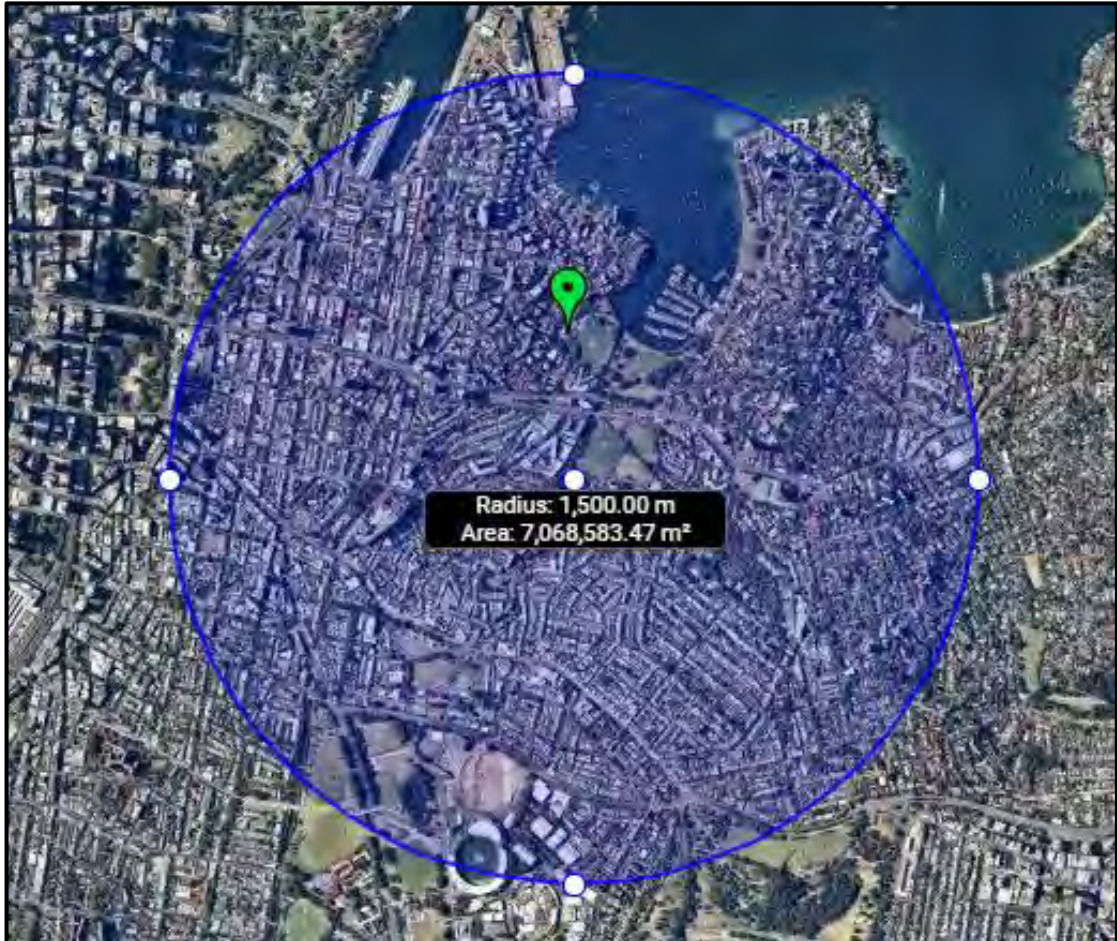


Figure 3: 1500m buffer area of the site

3.4 Wetland, Rivers, Streams and Estuaries

No significant wetlands, rivers, streams and estuaries are present on the subject land or within close proximity to the site.

Rushcutters Creek (a highly modified urban concrete lined urban drainage channel that flows into Rushcutters Bay/ Sydney Harbour Catchment) occurs 200m north of the proposed development site. It will not be impacted by the proposed development.

3.5 Connectivity Features

The biodiversity value of corridor networks is well known. Landscapes that retain more connections between patches of otherwise isolated areas of vegetation are more likely to maintain more numerous and more diverse populations of various plant and animal species (Lindenmayer and Fischer, 2006).

Conversely, a lack of landscape connectivity can have a range of negative impacts on species populations (Lindenmayer and Fischer, 2006). It is thought that if existing remnants are left to persist without sufficient immigration to maintain genetic diversity, continued losses of biodiversity are certain (Parker et al. 2008).

For highly mobile species such as bats and birds, the site forms part of a 'urban stepping stone' type connectivity of the site means that fauna maybe be seasonally transient through the site. However, the site for the proposed development does not contain unique or critical habitat features that would have a likely significant impact upon the local population of a threatened species.

Furthermore, the proposed development will not fragment urban bushland or significantly impact upon the corridor function of trees on site, as a large proportion of trees will be retained around the development site.

The site's vegetation does not form part of an important habitat corridor. It is surrounded by large areas of urbanisation and high-volume traffic road networks associated with the Sydney CBD.

3.6 Areas of Geological Significance and Soil Hazard Features

Not present.

Soil landscape mapping of the site obtained from eSPADE (soil map information published by the NSW Department of Planning, Industry and Environment) identifies the site as '9130 xx' – disturbed' as per Figure 7 provided below.

The locality has historically been altered since European settlement (significant landform modification/ reclamation). The underlying geology would be Hawkesbury Sandstone.

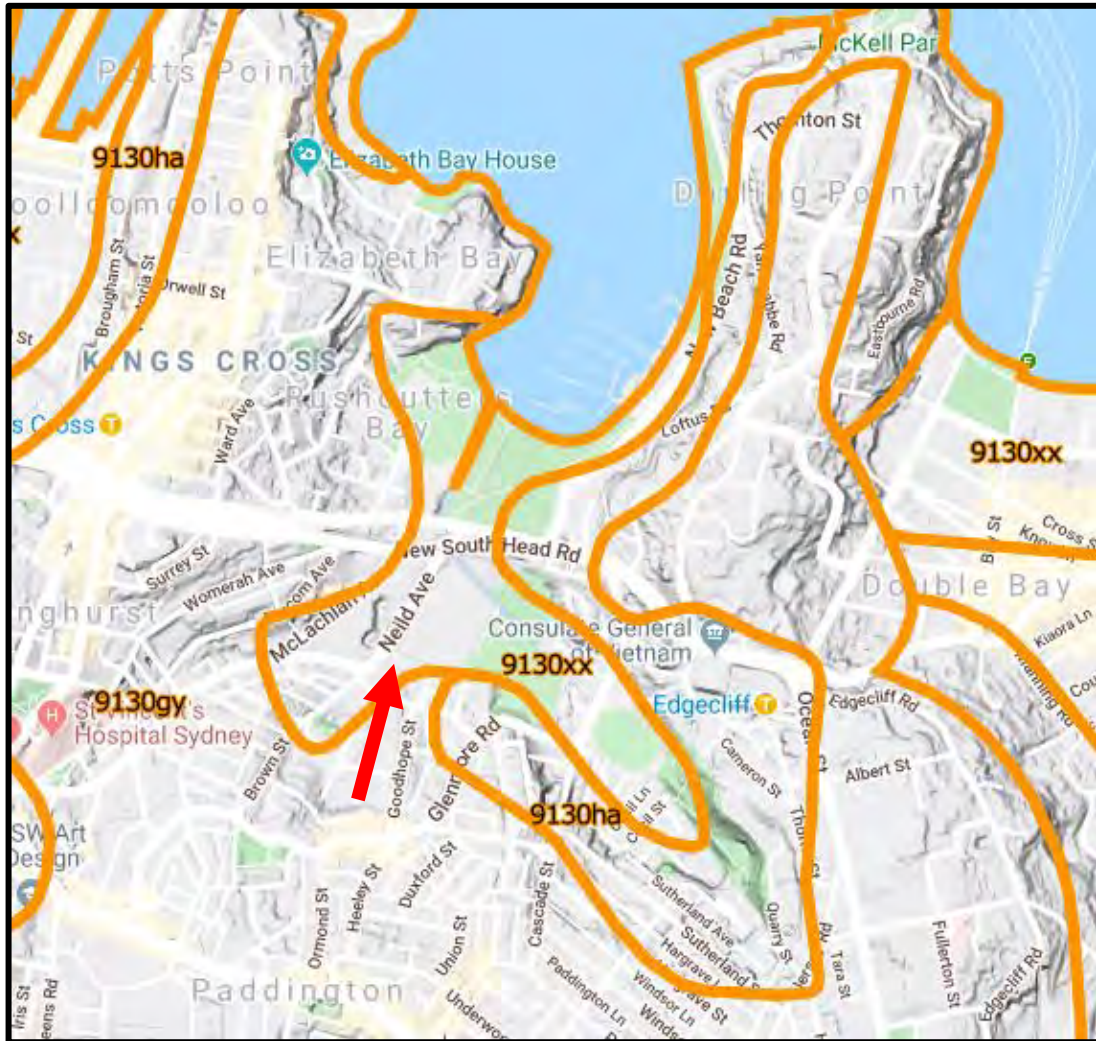


Figure 7: Soil landscapes mapping (Source: www.espade.com)

3.7 Areas of Outstanding Biodiversity Value

Under the BC Act, the Minister for the Environment may declare Areas of Outstanding Biodiversity Value (AOBV). These are special areas that contain irreplaceable biodiversity values that are considered important to NSW, Australia or globally.

No listed AOBV occur within the site or within a 1,500 m buffer around the site.

3.8 Site Context

3.8.1 Native Vegetation Cover

Native vegetation cover is calculated as a percentage cover on the subject land and the surrounding 1,500 m buffer area. Cover estimates are based on the cover of native woody and non-woody vegetation relative to the approximate benchmarks for the PCT, considering vegetation condition and extent. The native vegetation cover is estimated at approximately less than 5%.

3.8.2 Patch Size

Patch size is used to describe an area of intact native vegetation, that includes native vegetation with a gap of less than 100 m from the next area of moderate to good condition native vegetation. This gap is less than or equal to 30 m for non-woody ecosystems.

The patch size of the vegetation on the subject land has been calculated as approximately less than 0.25ha based upon the absence of locally indigenous native vegetation.

The site is within highly urbanised context and there is some connectivity to planted street trees that would not be technically classified as native vegetation.

4 NATIVE VEGETATION

4.1 Plant Community Types

Vegetation mapping previously undertaken in the area was reviewed. This included a review of **The Native Vegetation of the Sydney Metropolitan Area - Version 3.1 (OEH, 2016) VIS_ID 4489**.

The subject site (southern edge of the SGS Weigall Playing Fields) is dominated by hard surface from existing man-made structures including tennis courts and viewing shelter (Barry Pavillion) as well as a paved carpark near Neild Avenue which are proposed for demolition.

Planted exotic and non-indigenous native trees immediately surround these structures where the proposed development works will occur.

The main plant species proposed for removal are introduced Peppercorn Tree (*Schinus areira*).

Non-indigenous native planted trees included:

- *Lophostemon confertus* (Brush Box)
- *Syzygium paniculatum* (Lillypilly)
- *Callistemon* sp. (Bottlebrush)
- *Corymbia citriodora* (Lemon Scented Gum)
- *Hymenosporum flavum* (Native Frangipani)
- *Araucaria cunninghamiana* (Hoop Pine)
- *Eucalyptus nicholii* (Narrow Leaf Peppermint)

Reference to 1943 aerial imagery (Figure 8) also confirm the absence of native vegetation on the site. Planted trees occurred along the Neild Avenue boundary of the SGS Weigall Playing Fields

Native vegetation maps produced by NSW Office of Environment & Heritage (2016) do not identify the site as containing any mapped native vegetation community (Figure 9). Only a very small portion of riparian/ mangrove forest vegetation is mapped along the foreshore of Rushcutter's Bay itself (outside the subject property).

Locally indigenous canopy, shrub and groundcover species are absent on the subject site. There is no indicative or remnant native species that provide any evidence of a remnant native vegetation community. Prior to European settlement it is likely that the site once supported PCT 1778 *Smooth-barked Apple – Coast Banksia/ Cheese Tree open forest on sandstone slopes on the foreshores of the drowned river valleys of Sydney* vegetation community.

The site survey verified that the vegetation on-site does not form part of a recognised native vegetation community and does not form part of a Threatened Ecological Community listed under the *Biodiversity Conservation Act 2016*.

The full list of plant species recorded on-site (correlating with the tree numbering ID system used by TREE IQ Arboricultural Consultants depicted in Figure 10 and Appendix A) include:

- Tree 11 *Lophostemon confertus* (Brush Box) – planted native (not locally indigenous) – native to Northern NSW
- Tree 12 *Lophostemon confertus* (Brush Box) – planted native (not locally indigenous) – native to Northern NSW
- Tree 13 *Schinus areira* (Peppercorn) native to South America
- Tree 15 *Schinus areira* (Peppercorn) native to South America
- Tree 16 *Schinus areira* (Peppercorn) native to South America
- Tree 17 *Schinus areira* (Peppercorn) native to South America
- Tree 18 *Schinus areira* (Peppercorn) native to South America
- Tree 19 *Schinus areira* (Peppercorn) native to South America
- Tree 21 *Eucalyptus nicholii* (Narrow Leaf Peppermint) – planted native (not locally indigenous) – native to Northern NSW
- Tree 22 *Sapium sebiferum* (Chinese Tallow Tree) native to Asia
- Tree 23 *Sapium sebiferum* (Chinese Tallow Tree) native to Asia
- Tree 24 *Sapium sebiferum* (Chinese Tallow Tree) native to Asia
- Tree 27 *Ulmus parvifolia* (Chinese Elm) native to Asia
- Tree 28 *Araucaria columnaris* (Cook Pine) – planted native (not locally indigenous) – native to New Caledonia
- Tree 29 *Ulmus parvifolia* (Chinese Elm) native to Asia
- Tree 30 *Hymenosporum flavum* (Native Frangipani) – planted native (not locally indigenous) – native to Northern NSW
- Tree 31 *Jacaranda mimosifolia* (Jacaranda)
- Tree 32 *Corymbia citriodora* (Lemon Scented Gum) – planted native (not locally indigenous) – native to north of Coffs Harbour
- Tree 33 *Corymbia citriodora* (Lemon Scented Gum) – planted native (not locally indigenous) - native to north of Coffs Harbour
- Tree 117 *Araucaria cunninghamiana* (Hoop Pine) – planted native (not locally indigenous) native to Northern NSW and SE QLD
- Tree 118 *Callistemon sp.* (Bottlebrush) planted native
- Tree 119 *Lagerstroemia indica* (Crepe Myrtle) native to Asia
- Tree 120 *Syzygium paniculatum* (Lillypilly) – planted native (not locally indigenous)
- Tree 122 *Syzygium paniculatum* (Lillypilly) – planted native (not locally indigenous)

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- Tree 123 *Syzygium paniculatum* (Lillypilly) – planted native (not locally indigenous)
 - Tree 124 *Syzygium paniculatum* (Lillypilly) – planted native (not locally indigenous)
 - Tree 125 *Syzygium paniculatum* (Lillypilly) – planted native (not locally indigenous)
 - Tree 126 *Syzygium paniculatum* (Lillypilly) – planted native (not locally indigenous)
 - Tree 127 *Syzygium paniculatum* (Lillypilly) – planted native (not locally indigenous)
 - Tree 128 *Syzygium paniculatum* (Lillypilly) – planted native (not locally indigenous)
 - Tree 129 *Syzygium paniculatum* (Lillypilly) – planted native (not locally indigenous)
 - Tree 130 *Syzygium paniculatum* (Lillypilly) – planted native (not locally indigenous)

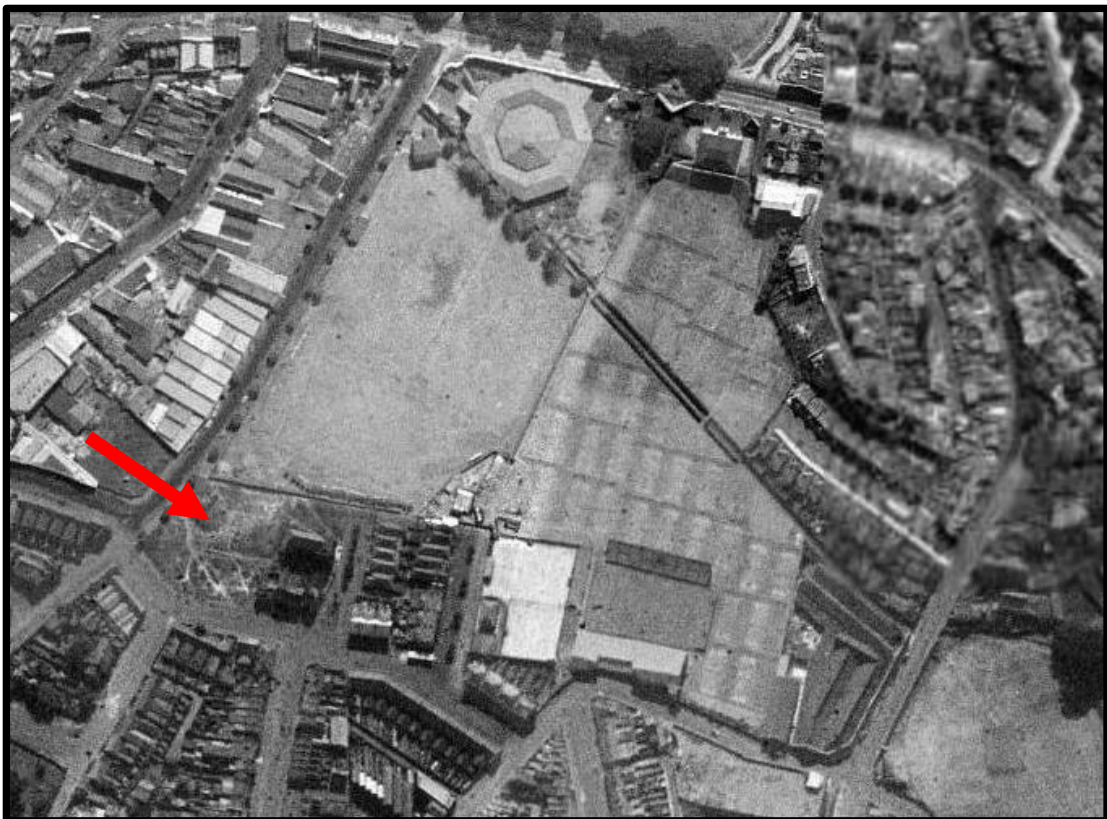


Figure 8: 1943 aerial imagery of the subject site (Source: www.sixmaps.com.au)

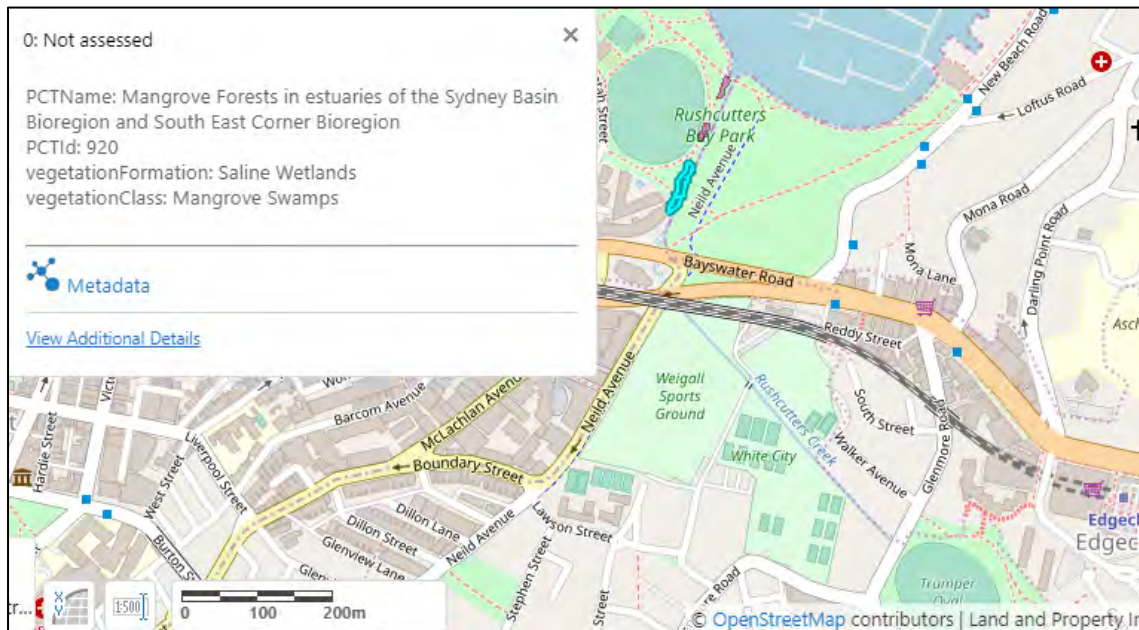


Figure 9: NSW Office of Environment and Heritage Sydney Metro (2013) vegetation mapping Identifying the site (red arrow) broadly as ‘urban exotic/ native’



Figure 10: Tree location plan prepared by Tree IQ dated December 2019 showing Tree ID numbering around the proposed development Note: No trees will be removed for the proposed carpark

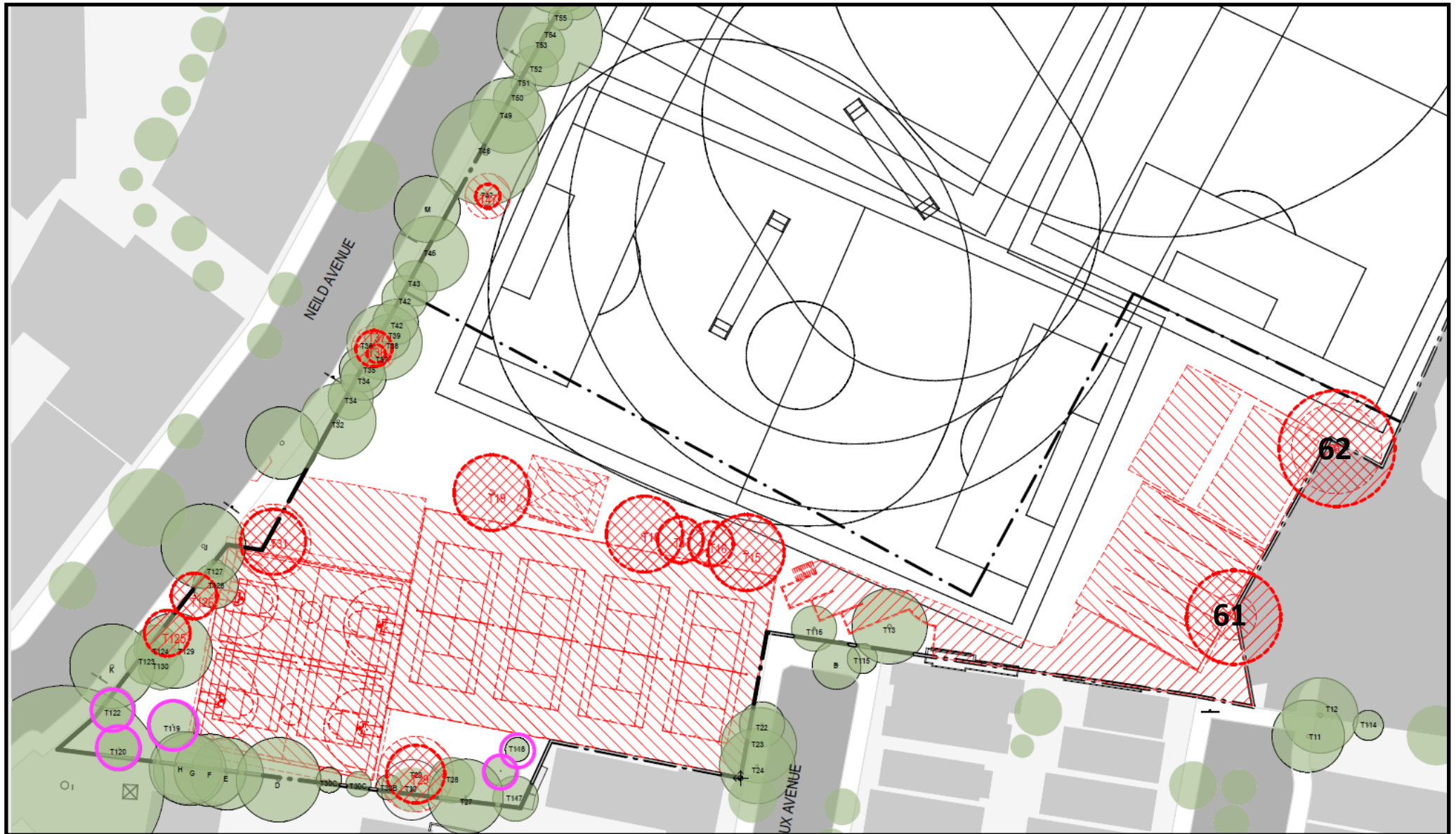


Figure 10a: Demolition plan showing corresponding tree numbers from the arboricultural consultant (Tree IQ) noting Tree 61 (*Phoenix canariensis*) and Tree 62 (*Jacaranda mimosifolia*) are also non-native introduced species (Source: Allen Jack and Cottier dated June 2020)

4.2 Fauna habitat and species

Fauna habitats present on site are limited to:

- *upper canopy connectivity and foraging resources within exotic canopy trees*
- *seed, pollen and fruit resources from Myrtaceae species*

The remnant trees on site function as a potential habitat corridor/ stepping stone for mobile species including microchiropteran bats, flying foxes, variety of common urban bird species and potentially Common Brush Tail Possum.

No important habitat resources in the form of hollow-bearing trees were recorded on-site.

4.3 Vegetation Integrity Assessment

4.3.1 Vegetation Zones

For the purposes of the BAM, a vegetation zone is an area of native vegetation on the site that is the same PCT and has a similar broad condition state. The vegetation zones for the PCT occurring on the site are described below.

According to the NSW PCT classifications in the BioNet Vegetation Classification, no PCT was identifiable on-site as evidence of the remnant vegetation community on-site is absent.

No vegetation zones, BAM plots and quadrats in accordance with the Biodiversity Assessment Method were required for this assessment.

4.3.2 Vegetation Integrity Scores

For remnant vegetation zone identified on the site, usually a quantitative measure for each zone, of the composition, structure and function attributes listed in Table 3 of the BAM. These attributes are listed below:

- Growth form groups used to assess composition and structure:
 - Tree
 - Shrub
 - Grass and grass like
 - Forb
 - Fern
 - Other
- Attributes used to assess function:
 - Number of large trees
 - Tree regeneration
 - Tree stem size class
 - Total length of fallen logs
 - Litter cover
 - High threat exotic vegetation cover
 - Hollow-bearing trees

However, due to highly modified and planted origin of all vegetation occurring on-site, no plot-based surveys were required in accordance with s.5.3.4 of the BAM, and therefore, the Vegetation Integrity Score assigned to vegetation occurring on-site is zero/ non applicable.

4.3.3 Threatened species recorded on-site

No remnant threatened flora species were recorded on site.

However, two (2) planted species that are listed as threatened were recorded on-site:

- *Syzygium paniculatum* (Lillypilly)
- *Eucalyptus nicholii* (Narrow Leaf Peppermint)

Both species are very common urban horticultural plantings in parks and gardens throughout Sydney.

***Syzygium paniculatum* (Lillypilly)**

On the south coast the Magenta Lilly Pilly occurs on grey soils over sandstone, restricted mainly to remnant stands of littoral (coastal) rainforest.

On the central coast Magenta Lilly Pilly occurs on gravels, sands, silts and clays in riverside gallery rainforests and remnant littoral rainforest communities.

It is listed as Endangered under the NSW *Biodiversity Conservation Act 2016* and Vulnerable under the Commonwealth *Environment Protection and Biodiversity Conservation Act 2016*.

Tree IQ (Arboricultural Consultants) identify trees numbered 123, 124, 125 and 130 as requiring removal to facilitate the proposed development (Appendix A).

An Assessment of Significance has been undertaken as a precautionary measure (Appendix C).

***Eucalyptus nicholii* (Narrow Leaf Peppermint)**

This species is sparsely distributed but widespread on the New England Tablelands from Nundle to north of Tenterfield, being most common in central portions of its range. Found largely on private property and roadsides, and occasionally in conservation reserves. Planted as urban trees, windbreaks and corridors.

It is listed as Vulnerable under the NSW *Biodiversity Conservation Act 2016* and Vulnerable under the Commonwealth *Environment Protection and Biodiversity Conservation Act 2016*.

None of these trees are proposed for removal.

Other threatened flora previously recorded within 10km of the site that have been considered in this assessment are shown in Appendix B.

The proposal is unlikely to constitute a significant impact on threatened plant species given that:

- 1) the proposed works would only remove poor quality habitat for these species
- 2) other areas of better quality habitat will be retained immediately adjacent to within the subject site and surrounding landscape
- 3) the proposal is not likely to fragment habitat to an extent that it would prevent dispersal and/or pollination of the local viable population that exists within the sub-catchment

The proposal is unlikely to significantly impact on threatened flora listed under the NSW *Biodiversity Conservation Act 2016* and Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

No indirect evidence of threatened fauna species or habitats critical to survival of a local population of threatened fauna were recorded on site. Threatened fauna recorded previously within 10km of the site that have been considered in this assessment are shown in Appendix B.

Threatened fauna that may occasionally use the site as a marginal foraging area include:

- Grey-headed Flying Fox
- Eastern Freetail-bat
- Little Bent-wing Bat
- Eastern Bent-wing Bat
- Yellow-bellied Sheath-tail-bat
- Greater Broad-nosed bat
- Southern Myotis
- Eastern False Pipistrelle

An Assessment of Significance has been undertaken for these species as a precautionary measure (Appendix C).

5 IMPACTS

5.1 Impacts on fauna species

The proposed development is unlikely to result in the loss of biodiversity at a local, regional, state or national level. This is because of the small area of bushland to be removed from the site, the highly degraded or modified habitat area to be developed, the unlikelihood of the status of threatened or regionally significant species being significantly placed at risk, and the broader distribution of other fauna and flora species. Impacts on wildlife corridor.

The native vegetation present on the subject site is likely to function as a stepping stone for the movement of mobile fauna such as birds, microchiropteran bats and megachiropteran bats, through the presence of inter connecting canopy connectivity of trees. The proposal will not significantly impact upon the movement of wildlife and genetic exchange and dispersal of plant pollen in the local ecosystem.

However, the proposed development is not likely to have a significant impact on native fauna species. No hollow-bearing trees or other important fauna habitat is proposed for removal.

Potential direct impacts to fauna species include:

- Loss of marginal foraging habitat; and
- Noise disturbance from construction work.

Potential indirect impacts to fauna species include:

- Minor hydrological changes resulting in altered fauna habitats.

5.2 Impacts on migratory species

Under the EPBC Act, a migratory species is significantly impacted on if a proposal will or is likely to: -

- substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycle), destroy or isolate an area of important habitat of the migratory species; or

-
- result in invasive species that are harmful to the migratory species becoming established in an area of important habitat of the migratory species; or
 - seriously disrupt the life cycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of the species.
 - Significant habitat for migratory species does not exist on site.

5.3 Impacts on aquatic environment

Potential impacts on aquatic habitat include changes in drainage, runoff from construction sites, buildings and landscape surfaces, erosion and sedimentation during construction, and contamination from nutrients, oils and heavy metals.

These impacts would be avoided or minimised if standard environmental protection measures issued as part of the conditions of consent by Council are implemented during construction.

5.4 Serious and Irreversible Impacts

The OEH (2017) *Guidance to Assist a Decision-maker to Determine a Serious and Irreversible Impact* lists the ecological communities and species that are 'potential serious and irreversible impact (SAII) entities'.

None of the ecological communities, or species relevant to this assessment are potential SAI entities.

5.5 Potential Direct Impacts

Potential direct impacts to flora and fauna include:

Risk of runoff, erosion and sedimentation, during construction

Surface water quality may be affected during construction activities. Construction activities could potentially encourage soil erosion and increase the sediment loads in downstream areas. Further, accidental leaks/spills of oil, fuel, cement or other substances entering watercourses could pollute surface waters.

Temporary noise, dust, light and vibration disturbance, during construction work

Impacts of noise, dust, light and vibration upon fauna are difficult to predict. Potential impacts may include effects on predator-prey interactions and changes to mating and nesting behaviour.

5.5.1 Potential Indirect Impacts

Potential indirect impacts to flora and fauna include:

Minor hydrological changes

Hard surfaces created as a result of construction typically cause some hydrological changes; however, in this case, hydrological changes are expected to be very minor. All water run-off will be directed to the existing urban stormwater management system.

5.5.2 Minimisation of Impacts

Several mitigation measures are proposed to minimise potential impacts; these are summarised in Table 5-1. These include measures to be implemented in the pre-construction, construction and post-construction phases. It is considered that these measures would serve to minimise any potential direct or indirect impacts.

5.6 Summary of Impacts

The following table addresses Section 7.9 of the NSW *Biodiversity Conservation Act 2016 (BC Act)* that requires the Planning Agency Head and the Environment Agency Head determine that the proposed development is not likely to have any significant impact on biodiversity values as follows:

Table 5.6: Summary of impacts Section 7.9 of the NSW *Biodiversity Conservation Act 2016* (BC Act)

s.79 Biodiversity value	Description	Outcome of assessment
Vegetation integrity	The degree to which the composition, structure and function of vegetation at a particular site and the surrounding landscape has been altered from a near natural state.	According to the NSW PCT classifications in the BioNet Vegetation Classification, no PCT was identifiable on-site as evidence of the remnant vegetation community on-site is absent. The main plant species proposed for removal are introduced Peppercorn Tree (<i>Schinus areira</i>). Refer to Section 4.1. The composition, structure and function of the native vegetation is of low ecological significance and considered to be in poor condition.
Habitat suitability	The degree to which the habitat needs of threatened species are present at a particular site.	No hollow-bearing trees or other important fauna habitat is proposed for removal. Refer to Section 4.3.
Threatened species abundance	The occurrence and abundance of threatened species or threatened ecological communities, or their habitat, at a particular site.	Appendix B considers all threatened species previously recorded within 10km of the site. The likelihood of occurrence is considered to be low. Two (2) planted species that are listed as threatened were recorded on-site: <ul style="list-style-type: none"> • <i>Syzygium paniculatum</i> (Lillypilly) • <i>Eucalyptus nicholii</i> (Narrow Leaf Peppermint) Both species are very common urban horticultural plantings in parks and gardens throughout Sydney. Section 4.3.3 identifies mobile threatened fauna that may occasionally use the site as a marginal foraging resource. An Assessment of Significance has been undertaken for species as a precautionary measure (Appendix C).
Vegetation abundance	The occurrence and abundance of vegetation at a particular site	The subject site (southern edge of the SGS Weigall Playing Fields) is dominated by hard surface from existing man-made structures including tennis courts and viewing shelter (Barry Pavillion) as well as a paved carpark near Neild Avenue which are proposed for

		demolition. The occurrence of and abundance of native vegetation is relatively low. Planted exotic and non-indigenous native trees immediately surround these structures where the proposed development works will occur.
Habitat connectivity	The degree to which a particular site connects different areas of habitat of threatened species to facilitate the movement of those species across their range;	The proposal will not significantly impact upon the movement of wildlife and genetic exchange and dispersal of plant pollen in the local ecosystem. The native vegetation present on the subject site is likely to function as a stepping stone for the movement of urban mobile fauna such as birds, microchiropteran bats and megachiropteran bats, through the presence of inter connecting canopy connectivity of trees. However, the proposed development is not likely to have a significant impact on native fauna species. Refer to Section 3.5.
Threatened species movement	The degree to which a particular site contributes to the movement of threatened species to maintain their lifecycle.	The native vegetation present on the subject site is likely to function as a stepping stone for the movement of urban mobile fauna such as birds, microchiropteran bats and megachiropteran bats, through the presence of inter connecting canopy connectivity of trees. However, the proposed development is not likely to have a significant impact on native fauna species. Refer to Section 3.5, 5.1 and 5.2.
Flight path integrity	The degree to which the flight paths of protected animals over a particular site are free from interference.	The proposed development will not interrupt flight paths of protected animals including migratory species (Refer to Section 5.2).
Water sustainability	The degree to which water quality, water bodies and hydrological processes sustain threatened species and threatened ecological communities at a particular site.	There are no significant aquatic habitats present on the subject site.

6 RECOMMENDATIONS

This chapter outlines the recommended protocols to be followed during clearing to minimise the impacts of construction on the site.

a) Fencing of vegetation to be retained

All vegetation that is to be retained on site for each stage will be enclosed by exclusion fencing to prevent inadvertent damage to vegetation, in particular by machinery. This fencing will remain in place until all works have been finished in the area. No vehicles or machinery will be permitted to enter areas of vegetation to be retained.

b) Hygiene Protocols

To avoid the spread of *Phytophthora cinnamomi* and other soil borne pathogens, appropriate hygiene procedures and guidelines described in Best Practice Management Guidelines for *P. cinnamomi* within the Sydney Metropolitan Catchment Management Authority Area (Botanic Gardens Trust, 2008) will be followed.

This will involve the disinfection of all machinery, clothing (such as boots and gloves), and tools which have been in contact with soil with a spray prior to entering and leaving the site. Recommended disinfectant products include:

- Non corrosive disinfectants including Coolacide®, Phytoclean®, or Biogram® which can be for cleaning footwear, tools, tyres, machinery and other items in contact with soil;
- 70% Methylated spirits solution in a spray bottle which is suitable for personal use (clothing); and
- Sodium Hypochlorite 1%, which is effective, but can damage clothing and degrades rapidly in light.

Additionally, contractors will be required to clean equipment and clothing prior to commencing work and after completion of work, in order to prevent transport of weed propagules.

c) Weeds

Pre-clearance surveys will determine locations of any infestations of significant weeds (priority weeds as listed under the Biosecurity Act 2015 or Weeds of National Significance (WONS)) requiring specific controls. The locations of any infestations will be recorded and measures for appropriate disposal to minimise the risk of spread of weeds during clearing will be specified prior to clearing.

d) Tree Monitoring

Regular monitoring of tree protection in adherence with the approved tree protection plan throughout the development process must be undertaken in consultation with the Consulting Arborist AQF level 5 for the project to ensure that tree protection measures are maintained. Inspections with certification are to be carried out regularly with reports until completion of construction. Any problems will be rectified that may occur. A Qualified Arborist with appropriate qualifications and experience will be on site if any excavation work within the Tree Protection Zone is required and will provide notes in the final report. Maintenance will continue after three months of completion. All of these works shall be done in accordance with *Australian Standards 4970 Protection of Trees on Development Sites 2009*.

e) Avoiding compaction

It is important to minimise compaction of the soil around the Tree Protection Zone. We recommend no heavy machinery operate within the three meters area of the preserved trees and no machines operate within the setbacks given in Tree Survey Table 1 for high and moderate to high retention value trees. For smaller machines we recommend restricted access within the Tree Protection Zone and also limit movement in this area with smaller type machines.

f) Tree Protection barriers

Where required must be prepared in accordance with the following:

Tree Protection Barriers must be installed of either linked Steel Construction Panelling of 1.8 metre height around the High retention value and moderate to high retention value trees within the development.

Barrier mesh with steel pickets every two metres would be suitable to protect trees adjacent the buffer zone to the development, the trees adjacent the building envelopes, swale areas (including drainage) and road.

All Tree Protection Zone fencing shall be established in accordance with the Arboricultural Report.

g) Prohibitions

All works must not enter the Tree Protection Zone (Australian Standards 4970 -2009 Protection of Trees on Development Sites).

Prohibitions including any spill, washout, compaction, littering hoarding or storage, fuelling, weed propagation, Filling or excavation of soil are not to take place within the TPZ of preserved trees unless consent authority is informed.

h) Root Pruning

Roots that are to be pruned and trenches within the TPZ of preserved trees must have hessian covering over the cut area to prevent dehydration to the root plate and roots. Any necessary excavation within TPZ of high value preserved trees must be undertaken by sensitive methods such as pneumatic or by hand and be under supervision of a AQF level 5 Arborist as prescribe in Sections 4.5.5 of AS 4970-2009.

No soil level changes in TPZ of retained trees outside proposed building envelopes- excepting for remedial works under supervision by the AQF level 5 arborist. Any re-landscaping within TPZ of remediated or preserved will need to be done by hand. All root pruning must be carried out under the supervision of an AQF level 5 arborist and utilizing a sharp saw for all larger diameter cuts.

Remedial works may improve the quality and root volume of trees, which are damaged from compaction.

All root pruning to be carried out in accordance with AS 4373 2007 - Pruning of amenity trees.

Excavation and root pruning within the TPZ should be undertaken in accordance with the Arboricultural Report or as directed by the Project Arborist.

i) Construction Environmental Management Plan (CEMP)

Develop a Construction Environmental Management Plan (CEMP) with relevant mitigation measures to ameliorate potential impacts to biodiversity values outside of the development area.

The CEMP should include:

- Sediment and Erosion Control Plan
- the establishment of clearly defined areas, such as the works area and any 'no-go' areas
- within/adjacent to work site boundaries that are not to be in any way disturbed or damaged by the works

-
- construction fencing pre and during construction to ensure that construction related impacts are contained within the construction areas.

7 CONCLUSION

Based on the detailed field survey and information provided in this assessment report it is concluded that:

- 1) The proposal does not trigger the requirements for any biodiversity credits to be retired in accordance with the Biodiversity Offsets Scheme. The site is not within an area mapped under the 'Sensitive Biodiversity Values Map' and does not exceed the BOS area threshold.
- 2) Nearly all of the vegetation occurring on-site is of poor ecological significance with extremely low likelihood of regeneration from a native soil seedbank, hence, the planted vegetation is not at a self-sustaining 'community' level and is not considered a viable remnant. It comprises of planted specimens and is not a PCT as defined under the Biodiversity Assessment Method (NSW OEH 2017).
- 3) No remnant threatened flora species emanating from the original native vegetation community listed within the *Biodiversity Conservation Act (2016)* or the EP&BC Act (1999) were observed during surveys;
- 4) The impact on the threatened flora and fauna species are considered minimal given the low value of habitat proposed for removal. Five part tests were undertaken as a precautionary measure for mobile fauna that may use the site as marginal foraging habitat. 5)
- 6) A referral to the Australian Government Department of the Environment is not likely to be required as it was determined that the proposal would not have a significant impact on nationally listed threatened or migratory species listed under the EPBC Act (1999).
- 7) A Species Impact Statement is not required for the proposed development. The proposed development is not likely to have a significant effect on threatened species, populations or ecological communities or their habitats listed under the *Biodiversity Conservation Act (2016)*.
- 8) A Biodiversity Assessment Report (BDAR) is not required to be prepared under Section 7.9 of the *Biodiversity Conservation Act 2016* as the proposed development is not likely to have a significant impact on biodiversity values. A waiver under this legislation is recommended.

8 BIBLIOGRAPHY

- Cropper, S. (1993). *Management of Endangered Plants*. CSIRO Publications, East Melbourne, Victoria.
- Department of Environment and Resource Management (2011). *National recovery plan for the large-eared pied bat *Chalinolobus dwyeri**. Report to the Department of Sustainability, Environment, Water, Population and Communities, Canberra.
- DEC (2004). *Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities*. Working Draft November 2004.
- DEE (2008). *Approved Conservation Advice for *Cynanchum elegans* (White-flowered Wax Plant)*. A statement for the purposes of approved conservation advice (s266B of the Environment Protection and Biodiversity Conservation Act 1999).
- DEE (2008). *Approved Conservation Advice for *Cryptostylis hunteriana* (Leafless Tongue-orchid)*. A statement for the purposes of approved conservation advice (s266B of the Environment Protection and Biodiversity Conservation Act 1999).
- DEE (2018). *Species Profile and Threats Database*. Accessed June-September 2018. <<http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl>>
- DEWHA (2013). *Matters of National Environmental Significance Significant Impact Guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999*. Commonwealth of Australia.
- Greater Taree Local Environment Plan 2010.*
- Greater Taree Development Control Plan 2010.*
- Harden, G. (ed) (2002). *Flora of New South Wales, Volume 2*. Revised edition. New South Wales University Press, NSW.
- Harden, G. (ed) (2000). *Flora of New South Wales, Volume 1*. Revised edition. New South Wales University Press, NSW.
- Harden, G. (ed) (1993). *Flora of New South Wales, Volume 4*. New South Wales University Press, NSW.
- Harden, G. (ed) (1992). *Flora of New South Wales, Volume 3*. New South Wales University Press, NSW.
- Johnson A. (2018) *Ecological Assessment for Development Application Lot 131 DP75 44 22, 200 Nowendoc Road, Killawarra, N.S.W. 2429*. Report prepared by Dr. Anthony T. Johnson.
- Morcombe, M. and Stewart, D. (2010). *The Michael Morcombe eGuide to the Birds of Australia*. PDA Solutions Pty Ltd.

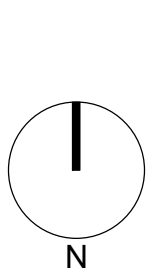
-
- Murray, M., Bell, S., Hoyer, G. (2002). *Flora and Fauna Survey Guidelines: Lower Hunter Central Coast Region 2002*. Lower Hunter & Central Coast Regional Environmental Management Strategy, NSW.
- NSW Office of Water (2012). *Guidelines for Riparian Corridors on Waterfront Land*. July 2012.
- NSW Scientific Committee (2012) *Listing guidelines version 1.3, January 2012. Guidelines for interpreting listing criteria for species, populations and ecological communities under the NSW Threatened Species Conservation Act*.
- OEH (2016). *NSW Guide to Surveying Threatened Plants* (OEH, 2016)
- OEH (2017). *Biodiversity Assessment Method*, 2017 No 469.
- OEH (2017). *Guidance to Assist a Decision-maker to Determine a Serious and Irreversible Impact*.
- OEH (2018a) *Saving NSW Threatened Species*, accessed June-September 2018. <<http://www.environment.nsw.gov.au/threatenedspecies/>>.
- OEH (2018b) *Atlas of NSW Wildlife (BioNET)*, accessed June-September 2018. <<http://www.bionet.nsw.gov.au/>>.
- OEH (2018c) *Six Maps*, accessed June-September 2018. <http://maps.six.nsw.gov.au/apps/channels_3.5/?config=vegetation>.
- OEH (2018d). *'Species credit' threatened bats and their habitats: NSW survey guide for the Biodiversity Assessment Method*. 3 October 2018
- PAJ Enterprises Pty Ltd (undated). *Vegetation of the Greater Taree City Council Area – Users Guide*.
- Perception Planning (2018) *Statement of Environmental Effects for a Proposed (Private) Road at 200 & 226 Nowendoc Road, Killawarra, NSW, 2429 (Lot: 131 DP: 754422 & Lot: 5 DP: 255108)*. A report prepared by Perception Planning Pty Ltd on behalf of Ben and Carol South.
- Robinson, L. (2003). *Field Guide to the Native Plants of Sydney*. 3rd ed. Kangaroo Press, Cammeray NSW.
- Robinson, M. (1998). *A Field Guide to Frogs of Australian*. New Holland Publishers (Australia Pty Ltd).
- Rose, H. & Rose, C. (2012). *Grasses of Coastal NSW*. Department of Primary Industries, NSW.
- Richardson, F.J., Richardson, R.G. and Shepherd, R.C.H. (2016). *Weeds of the South-East: An Identification Guide for Australia*. 3rd Edition. R.G and F.J. Richardson, Meredith Vic.

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- Scotts, D. (2003). *Key habitats and corridors for forest fauna: A landscape framework for conservation in north-east New South Wales*. NSW NPWS Occasional Paper 32, NSW National Parks and Wildlife Service, Sydney.
- Triggs, B. (2004). *Tracks, Scats and Other Traces: a Field Guide to Australian Mammals*. Oxford University Press, Australia.
- Van Dyck, S., Gynther, I. and Baker, A. (2013). *Field Companion to the Mammals of Australia*. New Holland Publishers, Sydney.

APPENDIX A PROPOSED PLANS



Revisions		Description	Checked ADC	Approved LC
No.	Date			
1	14/05/2020	ISSUED TO CONSULTANTS FOR INFORMATION	ADC	LC
2	10/06/2020	ISSUED TO AUTHORITIES FOR INFORMATION	ADC	LC



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Project
SGS Weigall Sports Complex
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Proj. No. 19086

Drawing Title
SITE PLAN
Sheet Status
NOT FOR CONSTRUCTION

Scale
1 : 500 @A1
Drawing No.
A1001
Issue
2



APPENDIX B CONSIDERATION OF THREATENED SPECIES PREVIOUSLY RECORDED WITHIN 10KM OF THE SITE (NSW OEH BIONET DATABASE SEARCHES)

APPENDIX B-1: Threatened flora previously recorded within 10km of the site (Source: NSW Bionet accessed 15th January 2020)

Scientific Name	Common Name	NSW status (BC Act)	Comm. Status (BC Act)	Previous records within 10km radius of site	Potential habitat on site?
<i>Allocasuarina portuensis</i>	Nielsen Park She-oak	E1,3	E	68	No
<i>Hibbertia puberula</i>		E1		1	No
<i>Doryanthes palmeri</i>	Giant Spear Lily	V,P		2	No
<i>Tetradlea glandulosa</i>		V		3	No
<i>Tetradlea juncea</i>	Black-eyed Susan	V	V	3	No
<i>Amperea xiphoclada</i> var. <i>pedicellata</i>		E4	X	1	No
<i>Acacia terminalis</i> subsp. <i>terminalis</i>	Sunshine Wattle	E1	E	89	No
<i>Grammitis stenophylla</i>	Narrow-leaf Finger Fern	E1,3		1	No
<i>Prostanthera marifolia</i>	Seaforth Mintbush	E4A,3	CE	6	No
<i>Callistemon linearifolius</i>	Netted Bottle Brush	V,3		2	No
<i>Eucalyptus camfieldii</i>	Camfield's Stringybark	V	V	4	No
<i>Eucalyptus fracta</i>	Broken Back Ironbark	V		1	No
<i>Eucalyptus nicholii</i>	Narrow-leaved Black Peppermint	V	V	1	No

Scientific Name	Common Name	NSW status (BC Act)	Comm. Status (BC Act)	Previous records within 10km radius of site	Potential habitat on site?
<i>Eucalyptus pulverulenta</i>	Silver-leafed Gum	V	V	1	No
<i>Eucalyptus scoparia</i>	Wallangarra White Gum	E1	V	1	Not for its native distribution. Planted specimens were recorded on-site.
<i>Melaleuca biconvexa</i>	Biconvex Paperbark	V	V	1	No
<i>Melaleuca deanei</i>	Deane's Paperbark	V	V	3	No
<i>Rhodamnia rubescens</i>	Scrub Turpentine	E4A		1	N
<i>Syzygium paniculatum</i>	Magenta Lilly Pilly	E1	V	105	Not for its native distribution. Planted specimens were recorded on-site.
<i>Triplarina imbricata</i>	Creek Triplarina	E1	E	1	No
<i>^Caladenia tessellata</i>	Thick Lip Spider Orchid	E1,P,2	V	1	No
<i>^Diuris arenaria</i>	Sand Doubletail	E1,P,2		1	No
<i>^Prasophyllum fuscum</i>	Slaty Leek Orchid	E4A,P,2	V	1	No
<i>Dichanthium setosum</i>	Bluegrass	V	V	1	No

Scientific Name	Common Name	NSW status (BC Act)	Comm. Status (BC Act)	Previous records within 10km radius of site	Potential habitat on site?
<i>Grevillea caleyi</i>	Caley's Grevillea	E4A,3	CE	1	No
<i>Persoonia hirsuta</i>	Hairy Geebung	E1,P,3	E	5	No
<i>Asterolasia buxifolia</i>		E1		1	No
<i>Pimelea curviflora</i> var. <i>curviflora</i>		V	V	1	No

BSC Act (Biodiversity Conservation Act 2016): **E1 =Critically Endangered E= Endangered V= Vulnerable** EPBC Act (Environment Protection Biodiversity Conservation Act 1999): **E1 =Critically Endangered E= Endangered V= Vulnerable** ROTAP CODES Source: Briggs, J.D. & Leigh J.H. (1988) Rare or threatened Australian plants. **Plant Codes:** Distribution **1: Known from type collection only. 2: Geographic range < 100km. 3: Geographic range > 100km.** Conservation **E: Endangered (at risk of disappearing in 1 or 2 decades) V: Vulnerable (at risk of disappearing in 20 - 50 years). R: Rare (rare in Australia but currently not endangered or vulnerable). K: Poorly known Reservation. C: Population reserved adequately reserved (>1000 plants). I: Inadequately reserved (<1000 plants) - Adequacy of reservation unknown.**

APPENDIX B-2: Threatened fauna previously recorded within 10km of the site (Source: NSW Bionet accessed 15th January 2020)

Scientific Name	Common Name	NSW status (BC Act)	Comm. Status (BC Act)	Previous records within 10km radius of site	Potential habitat on site?
<i>Pseudophryne australis</i>	Red-crowned Toadlet	V,P		49	No
<i>Litoria aurea</i>	Green and Golden Bell Frog	E1,P	V	7	No
<i>Caretta caretta</i>	Loggerhead Turtle	E1,P	E	2	No
<i>Chelonia mydas</i>	Green Turtle	V,P	V	2	No
<i>Dermochelys coriacea</i>	Leatherback Turtle	E1,P	E	1	No
<i>Anseranas semipalmata</i>	Magpie Goose	V,P		10	No
<i>Ptilinopus superbus</i>	Superb Fruit-Dove	V,P		9	No
<i>Diomedea exulans</i>	Wandering Albatross	E1,P	E,J	1	No
<i>Thalassarche chrysostoma</i>	Grey-headed Albatross	P	E	1	No
<i>Botaurus poiciloptilus</i>	Australasian Bittern	E1,P	E	1	No
<i>Ixobrychus flavicollis</i>	Black Bittern	V,P		1	No
<i>Erythrotriorchis radiatus</i>	Red Goshawk	E4A,P,2	V	1	No
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	V,P	C	29	No

Scientific Name	Common Name	NSW status (BC Act)	Comm. Status (BC Act)	Previous records within 10km radius of site	Potential habitat on site?
<i>Hieraaetus morphnoides</i>	Little Eagle	V,P		2	No
^^ <i>Lophoictinia isura</i>	Square-tailed Kite	V,P,3		1	No
^^ <i>Pandion cristatus</i>	Eastern Osprey	V,P,3		1	No
<i>Burhinus grallarius</i>	Bush Stone-curlew	E1,P		3	No
<i>Haematopus fuliginosus</i>	Sooty Oystercatcher	V,P		4	No
<i>Haematopus longirostris</i>	Pied Oystercatcher	E1,P		1	No
<i>Onychoprion fuscata</i>	Sooty Tern	V,P		3	No
<i>Sternula albifrons</i>	Little Tern	E1,P	C,J,K	3	No
^^ <i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo	V,P,3		1	No
^ <i>Calyptorhynchus lathamii</i>	Glossy Black-Cockatoo	V,P,2		3	No
<i>Glossopsitta pusilla</i>	Little Lorikeet	V,P		7	No
^^ <i>Lathamus discolor</i>	Swift Parrot	E1,P,3	CE	7	No
^^ <i>Neophema pulchella</i>	Turquoise Parrot	V,P,3		1	No
^^ <i>Ninox connivens</i>	Barking Owl	V,P,3		2	No
^^ <i>Ninox strenua</i>	Powerful Owl	V,P,3		139	No
^^ <i>Tyto novaehollandiae</i>	Masked Owl	V,P,3		2	No
<i>Epthianura albifrons</i>	White-fronted Chat	V,P		1	No

Scientific Name	Common Name	NSW status (BC Act)	Comm. Status (BC Act)	Previous records within 10km radius of site	Potential habitat on site?
<i>Epthianura albifrons</i>	White-fronted Chat population in the Sydney Metropolitan Catchment Management Area	E2,V,P		1	No
<i>Daphoenositta chrysoptera</i>	Varied Sittella	V,P		1	No
<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	V,P		2	No
<i>Petroica boodang</i>	Scarlet Robin	V,P		1	No
<i>Stagonopleura guttata</i>	Diamond Firetail	V,P		1	No
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V,P	E	1	No
<i>Phascolarctos cinereus</i>	Koala	V,P	V	4	No
<i>Cercartetus nanus</i>	Eastern Pygmy-possum	V,P		1	No
<i>Petaurus norfolcensis</i>	Squirrel Glider	V,P		1	No
<i>Aepyprymnus rufescens</i>	Rufous Bettong	V,P		1	No
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V,P	V	1393	Yes marginal foraging present
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail-bat	V,P		2	Yes marginal foraging present

Scientific Name	Common Name	NSW status (BC Act)	Comm. Status (BC Act)	Previous records within 10km radius of site	Potential habitat on site?
<i>Micronomus norfolkensis</i>	Eastern Coastal Free-tailed Bat	V,P		10	Yes marginal foraging present
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	V,P	V	2	Yes marginal foraging present
<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	V,P		1	Yes marginal foraging present
<i>Myotis macropus</i>	Southern Myotis	V,P		41	Yes marginal foraging present
<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bat	V,P		1	Yes marginal foraging present
<i>Dugong dugon</i>	Dugong	E1,P		3	No
<i>Arctocephalus forsteri</i>	New Zealand Fur-seal	V,P		7	No
<i>Arctocephalus pusillus doriferus</i>	Australian Fur-seal	V,P		7	No
<i>Eubalaena australis</i>	Southern Right Whale	E1,P	E	3	No

Scientific Name	Common Name	NSW status (BC Act)	Comm. Status (BC Act)	Previous records within 10km radius of site	Potential habitat on site?
<i>Megaptera novaeangliae</i>	Humpback Whale	V,P	V	6	No
<i>Petalura gigantea</i>	Giant Dragonfly	E1		1	No
<i>Miniopterus australis</i>	Little Bent-winged Bat	V,P		3	Yes marginal foraging present
<i>Miniopterus orianae oceanensis</i>	Large Bent-winged Bat	V		75	Yes marginal foraging present

BC Act (Biodiversity Conservation Act 2016): E1 =Critically Endangered E= Endangered V= Vulnerable

EPBC Act (Environment Protection Biodiversity Conservation Act 1999): E1 =Critically Endangered E= Endangered V= Vulnerable

APPENDIX C ASSESSMENTS OF SIGNIFICANCE ('FIVE PART TESTS')

Commonwealth Assessment of Significance

The *Environment Protection and Biodiversity Conservation Act, (1999)* requires that Commonwealth approval be obtained for certain actions. The Act provides an assessment and approvals systems for actions that have a significant impact on matters of National Environment Significance (NES). These may include:-

- Wetlands protected by international treaty (the Ramsar Convention);
- Nationally listed threatened species and ecological communities;
- Nationally listed migratory species.

Actions are projects, developments, undertakings, activities, series of activities or alteration of any of these. An action that needs Commonwealth approval is known as a controlled action. A controlled action needs approval where the Commonwealth decides the action would have a significant effect on a NES matter.

Where a proposed activity is located in an area identified to be of NES, or such that it is likely to significantly affect threatened species, ecological communities, migratory species or their habitats, the matter needs to be referred to the Australian Government Department of the Environment (AGDE).

The following assessment in accordance with the EP&BC Act Policy Statement 1.1 *Significant Impact Guideline* is provided:

i. Are there any Matters of National Environmental Significance located in the area of the proposed action?

A search of the Protected Matters Search Tool was conducted for EPBC Listed threatened and migratory species recorded within 10 km of the subject site (Appendix A).

Suitable habitat is present for the following nationally listed threatened species recorded from the Protected Matters Search which occur or which may occur within 10 km of the subject site:

Threatened Fauna Species

- Grey-headed Flying Fox (*Pteropus poliocephalus*)

ii. Considering the proposed action at its broadest scope, is there potential for impacts on Matters of National Environmental Significance?

The proposal will require the removal of a relatively small area of suitable foraging habitat for nationally listed locally occurring Grey-headed Flying Fox (*Pteropus poliocephalus*) which are highly mobile species.

iii. Are there any proposed measures to avoid or reduce impacts on Matters of National Environmental Significance?

No, as no matters of national environmental significance were observed during surveys.

iv. Are any impacts of the proposed action on Matters of National Environmental Significance likely to be significant impacts?

With regard to nationally listed threatened species it is considered that the proposal is not likely to:

- lead to a long-term decrease in the size of an important population of a species;
- reduce the area of occupancy of an important population;
- fragment an existing important population into two or more populations;
- adversely affect habitat critical to the survival of a species;
- disrupt the breeding cycle of an important population;
- modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline;
- result in invasive species that are harmful to a threatened species becoming established in the threatened species' habitat;
- introduce disease that may cause a species to decline; or
- interfere with the recovery of the species.

The following reasons are provided:

- There are larger areas of higher quality habitat for locally occurring nationally listed threatened and migratory species present within the locality, including lands reserved for conservation; and
- No nationally listed threatened species were observed within the subject site during surveys.

With regard to nationally listed migratory species it is considered that the proposal is not likely to:

- substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species;
- result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species; or
- seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.

The following reasons are provided:

- The subject site has not been identified as containing important habitat for a nationally listed migratory species; and
- No nationally listed migratory species have been recorded within the subject site during surveys.

CONCLUSION

It is considered that the proposed action is not likely to have a significant impact on nationally listed threatened.

NSW Assessment of Significance ('five part test')

Section 78A of the *Environmental Planning and Assessment Act, 1979* (EP&A Act) enables a person to apply to a consent authority to carry out development that is permissible under an environmental planning instrument. In assessing a development application a consent authority must, pursuant to 79C of the EP&A Act take into consideration, where relevant, the likely impacts of the development on the natural and built environments.

Section 5A subsection 1 of the *Environmental Planning and Assessment Act 1979* states that **each** of the factors in subsection 2 must be taken into account in deciding whether there is likely to be a significant effect on threatened species, populations or ecological communities, or their habitats, and any **assessment guidelines**.

Species Impact Statement (SIS) is required if an activity is on land that is, or is part of critical habitat; or there is likely to be a significant effect as determined under s.5A of the EP&A Act, the seven part assessment of significance.

Definitions:

- Critical habitat: the whole or any part or parts of the area or areas of land comprising the habitat of an endangered species, population or ecological community that is critical to the survival of the species, population or ecological community.
- Significant impact: if the Assessment of Significance determines that a there will be a significant effect on threatened species, populations or ecological communities, or their habitats a SIS will be required.
- Assessment guidelines means assessment guidelines issued and in force under section 94A of the Biodiversity Conservation Act 2016 or, subject to section 5C, section 220ZZA of the [Fisheries Management Act 1994](#).
- Key threatening process means a threatening process specified in Schedule 3 of Biodiversity Conservation Act 2016 or, subject to section 5C, Part 7A of the Fisheries Management Act 1994

Five part test for Grey-Headed Flying-fox, Eastern Freetail-bat, Little Bent-wing Bat, Eastern Bent-wing Bat, Yellow-bellied Sheathtail-bat, Greater Broad-nosed bat, Southern Myotis and Eastern False Pipistrelle (State Biodiversity Conservation Act 2016)

(a) "...in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction..."

The site does not contain a Grey-headed Flying Fox camp. Temporary camps occur nearby in the Royal Botanic Gardens periodically.

No nesting or maternity sites were observed on site for all of the subject species. It is not anticipated that any hollow-bearing trees (and therefore nesting sites) will be removed making the proposal unlikely to place the species at risk of extinction.

(b) "...in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

(i) ..is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

(ii).. is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction..."

An Endangered Ecological Community means a threatened ecological community specified in BC Act. Therefore, not applicable to the subject threatened species.

(c) "...in relation to the habitat of a threatened species, population or ecological community:

(i)... the extent to which habitat is likely to be removed or modified as a result of the action proposed...", and

(ii) ... whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action..., and

(iii)...the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality...

The proposal will impact upon marginal foraging habitat that would be considered of insignificant value to this species. Vegetation removal for the future construction of the proposal will not prevent the subject species from foraging on similar habitat resources in the locality. The proposal is unlikely to impact on the long-term survival of the subject species within the Locality or Region.

(d) "whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),"

The Study Area is not listed as an area of outstanding biodiversity value.

(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.”

“Clearing of Native Vegetation” is a Key Threatening Process listed in Schedule 3 of the *Biodiversity Conservation Act 2016*. The vegetation proposed for removal is from the original soil seedbank and is planted. Given these species is highly mobile/migratory, and the area to be cleared is considered to be of relative small, and large areas of foraging habitat is still available in the locality it is considered that the proposal would not significantly exacerbate this KTP.

Conclusion

It is not considered that the proposal would have a significant impact on the subject species, their populations or habitats. Therefore, the preparation of a Species Impact Statement is NOT REQUIRED.

Five part test for *Syzygium paniculatum* (Lillypilly) (State Biodiversity Conservation Act 2016)

Tree IQ (Arboricultural Consultants) identified trees numbered 123, 124, 125 and 130 as requiring removal to facilitate the proposed development.

(a) “...in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction...”

On the south coast the Magenta Lilly Pilly occurs on grey soils over sandstone, restricted mainly to remnant stands of littoral (coastal) rainforest. On the central coast Magenta Lilly Pilly occurs on gravels, sands, silts and clays in riverside gallery rainforests and remnant littoral rainforest communities.

This species has been planted and is not remnant to the original vegetation community. Many other specimens of the same species will be retained on-site.

(b) “...in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

(i) ..is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

(ii).. is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction...”

An Endangered Ecological Community means a threatened ecological community specified in BC Act. Therefore, not applicable to the subject threatened species.

(c) “...in relation to the habitat of a threatened species, population or ecological community:

(i)... the extent to which habitat is likely to be removed or modified as a result of the action proposed...”, and

(ii) ... whether an area of habitat is likely to become fragmented or isolated from other areas

of habitat as a result of the proposed action..., and

(iii)...the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality...

n/a

The species is planted not a remnant to original vegetation community.

This is verified through 1943 aerial imagery that shows the site absent of any trees.

(d) “whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),”

The Study Area is not listed as an area of outstanding biodiversity value.

(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.”

“Clearing of Native Vegetation” is a Key Threatening Process listed in Schedule 3 of the *Biodiversity Conservation Act 2016*. The vegetation proposed for removal is from the original soil seedbank and is planted.

Conclusion

It is not considered that the proposal would have a significant impact on the subject species, their populations or habitats. Therefore, the preparation of a Species Impact Statement is NOT REQUIRED.

APPENDIX D EPBC PROTECTED MATTERS DATABASE SEARCH RESULTS



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 15/01/20 09:11:11

[Summary](#)

[Details](#)

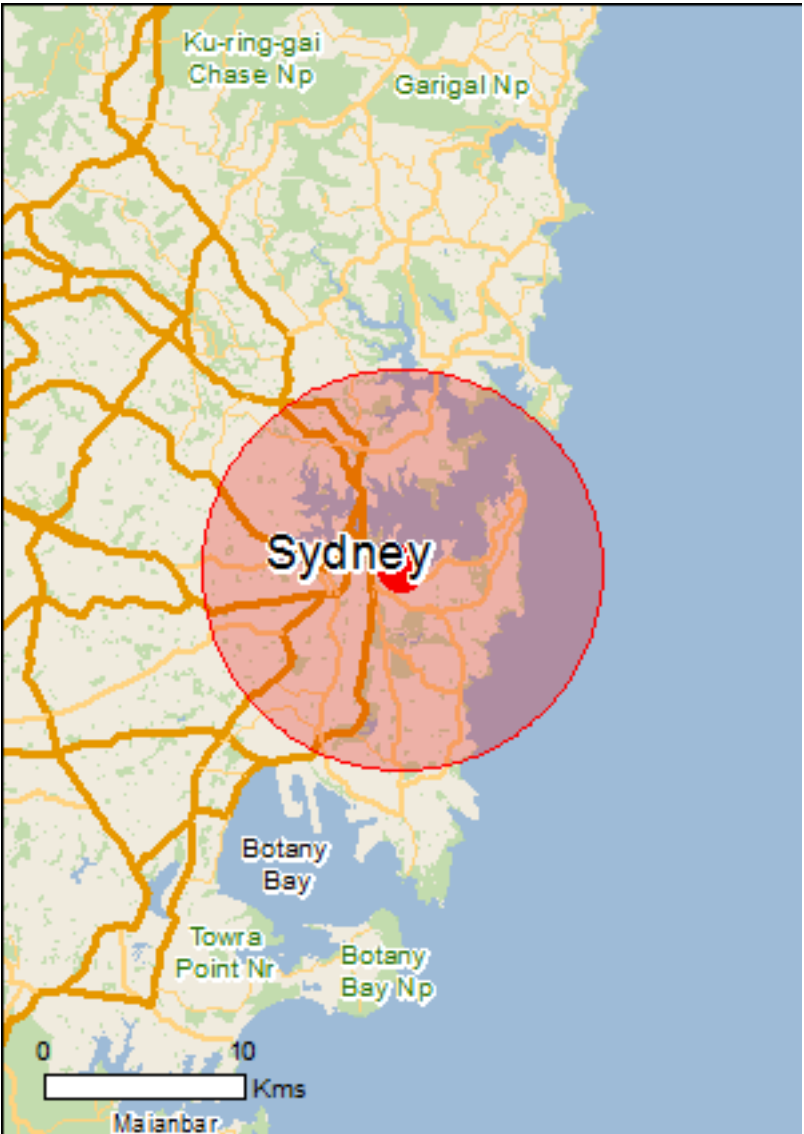
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

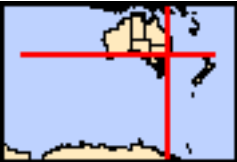
[Acknowledgements](#)



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

[Coordinates](#)

[Buffer: 10.0Km](#)



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	6
National Heritage Places:	10
Wetlands of International Importance:	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	9
Listed Threatened Species:	88
Listed Migratory Species:	82

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	56
Commonwealth Heritage Places:	76
Listed Marine Species:	106
Whales and Other Cetaceans:	16
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	4
Regional Forest Agreements:	None
Invasive Species:	48
Nationally Important Wetlands:	1
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

World Heritage Properties		[Resource Information]
Name	State	Status
Australian Convict Sites (Cockatoo Island Convict Site Buffer Zone)	NSW	Buffer zone
Australian Convict Sites (Hyde Park Barracks Buffer Zone)	NSW	Buffer zone
Sydney Opera House - Buffer Zone	NSW	Buffer zone
Australian Convict Sites (Cockatoo Island Convict Site)	NSW	Declared property
Australian Convict Sites (Hyde Park Barracks)	NSW	Declared property
Sydney Opera House	NSW	Declared property
National Heritage Properties		[Resource Information]
Name	State	Status
Indigenous		
Cyprus Hellene Club - Australian Hall	NSW	Listed place
Historic		
Bondi Beach	NSW	Listed place
Centennial Park	NSW	Listed place
Cockatoo Island	NSW	Listed place
First Government House Site	NSW	Listed place
Hyde Park Barracks	NSW	Listed place
North Head - Sydney	NSW	Listed place
Sydney Harbour Bridge	NSW	Listed place
Sydney Opera House	NSW	Listed place
Bondi Surf Pavilion	NSW	Within listed place
Wetlands of International Importance (Ramsar)		[Resource Information]
Name	Proximity	
Towra point nature reserve	Within 10km of Ramsar	

Listed Threatened Ecological Communities	[Resource Information]
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For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Castlereagh Scribbly Gum and Agnes Banks Woodlands of the Sydney Basin Bioregion	Endangered	Community may occur within area
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community likely to occur within area
Coastal Upland Swamps in the Sydney Basin Bioregion	Endangered	Community likely to occur within area
Cooks River/Castlereagh Ironbark Forest of the Sydney Basin Bioregion	Critically Endangered	Community may occur within area
Eastern Suburbs Banksia Scrub of the Sydney Region	Endangered	Community known to occur within area
Littoral Rainforest and Coastal Vine Thickets of Eastern Australia	Critically Endangered	Community likely to occur within area
Posidonia australis seagrass meadows of the Manning-Hawkesbury ecoregion	Endangered	Community likely to occur within area
Shale Sandstone Transition Forest of the Sydney Basin Bioregion	Critically Endangered	Community may occur within area
Western Sydney Dry Rainforest and Moist Woodland on Shale	Critically Endangered	Community may occur within area

Listed Threatened Species	[Resource Information]
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Name	Status	Type of Presence
Birds		

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [Office of Environment and Heritage, New South Wales](#)
- [Department of Environment and Primary Industries, Victoria](#)
- [Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [Department of Environment, Water and Natural Resources, South Australia](#)
- [Department of Land and Resource Management, Northern Territory](#)
- [Department of Environmental and Heritage Protection, Queensland](#)
- [Department of Parks and Wildlife, Western Australia](#)
- [Environment and Planning Directorate, ACT](#)
- [Birdlife Australia](#)
- [Australian Bird and Bat Banding Scheme](#)
- [Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [Museum Victoria](#)
- [Australian Museum](#)
- [South Australian Museum](#)
- [Queensland Museum](#)
- [Online Zoological Collections of Australian Museums](#)
- [Queensland Herbarium](#)
- [National Herbarium of NSW](#)
- [Royal Botanic Gardens and National Herbarium of Victoria](#)
- [Tasmanian Herbarium](#)
- [State Herbarium of South Australia](#)
- [Northern Territory Herbarium](#)
- [Western Australian Herbarium](#)
- [Australian National Herbarium, Canberra](#)
- [University of New England](#)
- [Ocean Biogeographic Information System](#)
- [Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [Geoscience Australia](#)
- [CSIRO](#)
- [Australian Tropical Herbarium, Cairns](#)
- [eBird Australia](#)
- [Australian Government – Australian Antarctic Data Centre](#)
- [Museum and Art Gallery of the Northern Territory](#)
- [Australian Government National Environmental Science Program](#)
- [Australian Institute of Marine Science](#)
- [Reef Life Survey Australia](#)
- [American Museum of Natural History](#)
- [Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact Us](#) page.

APPENDIX E QUALIFICATION, LICENSING AND CERTIFICATION

CERTIFICATE OF ACCREDITATION AS A BIODIVERSITY ASSESSMENT METHOD ASSESSOR under the *Biodiversity Conservation Act 2016* (NSW)

BAM Assessor		
Alex Fraser		
Accreditation number	Accreditation date (Date of issue)	Expiry Date of
BAAS18156	19/10/18	18/10/21

The person named above is accredited under section 6.10 of the *Biodiversity Conservation Act 2016* (NSW) (**BC Act**) as a Biodiversity Assessment Method Assessor to apply the Biodiversity Assessment Method in connection with the preparation of biodiversity stewardship site assessment reports, biodiversity development assessment reports and biodiversity certification assessment reports pursuant to Part 6 of the BC Act.

The accreditation is in force until and including the Expiry Date. The accreditation is subject to the conditions set out in the *Accreditation Scheme for the Application of the Biodiversity Assessment Method*, under the BC Act, and the conditions specified on the reverse of this certificate.



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A/Director Conservation Programs Branch
Office of Environment & Heritage

NOTES

- OEH maintains a register of Accredited Biodiversity Assessment Method (BAM) Assessors accessible from the OEH website.
- The BAM Assessor's accreditation expires on the Expiry Date unless renewed in accordance with the *Accreditation Scheme for the Application of the Biodiversity Assessment Method*. It is the BAM Assessor's responsibility to monitor the Expiry Date of their accreditation, and apply for any renewal with sufficient time for the application to be processed prior to the Expiry Date.
- Words and expressions used in this accreditation instrument and which are also used in the Act have the same meaning.

SUMMARY OF CONDITIONS UNDER SCHEME

The following are conditions of all accreditations granted under the Scheme:

1. an accredited person must prepare Biodiversity Assessment Reports (and conduct surveys and other activities in connection with the preparation of such reports) in accordance with:
 - a. the Biodiversity Assessment Method Manual,
 - b. the Credit Calculator Operational Manual,
 - c. Accredited Person Code of Conduct.
 - d. this Scheme,
 - e. any guidance materials published by the Office of Environment and Heritage in connection with preparation of Biodiversity Assessment Reports or the application of the BAM
 - f. any accreditation requirements notified by the Office of Environment and Heritage to the accredited assessor from time to time.
2. an accredited person must maintain a detailed and up to date working knowledge of, and comply with, all relevant legislation.
3. an accredited person must maintain records of surveys and assessments, including field data sheets and targeted flora and fauna surveys, undertaken and used as part of the preparation of a Biodiversity Assessment Report, for at least ten years after certification of the relevant Biodiversity Assessment Report.
4. all records required kept by an accredited person must be in legible form, or in a form that can be readily be reduced to a legible form.
5. an accredited person must provide to the Office of Environment and Heritage any information related to biodiversity assessment reports required to be provided by all accredited persons, or by a group of accredited persons, by way of a notice specified on a website maintained by it, in the form and within the time frames required in that notice.
6. an accredited person must comply with any scientific licence conditions relating to survey records

Note. Information that the Environment Agency Head (EAH) may require to be provided may include information collected during the application of the BAM such as site specific survey data.

Note. In addition to the conditions above, accredited persons must comply with obligations under the BC Act and regulations, including Part 6 Division 3 of the BC Act. Failure to comply with any of the conditions above may result in the EAH exercising the power to vary, suspend or cancel that accreditation under Part 5 of this Scheme.

Certificate of Accreditation for Alex Fraser (BAM Assessor Number BAAS18156) as a Biodiversity Assessment Method Assessor under the *Biodiversity Conservation Act 2016*

Issued by the Office of Environment and Heritage
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