

Appendix Y

Biodiversity Waiver



Ms Anna Nowland
Principal, Planning
Ethos Urban
173 Sussex Street
Sydney NSW 2000

Our ref: EF21/18087

via email: Anowland@ethosurban.com

24 May 2022

Dear Ms Nowland

**Biodiversity Development Assessment Report Waiver Request
Powerhouse Ultimo Renewal (SSD-32927319)**

I refer to your correspondence received on 5 May 2022 seeking to waive the requirement to submit a biodiversity development assessment report (BDAR) with the above State Significant development application under section 7.9(2) of the *Biodiversity Conservation Act 2016* (BC Act).

I have reviewed your request, having regard to Sections 1.5 and 7.3 of the BC Act and Clause 1.4 of the Biodiversity Conservation Regulation 2016, and have determined that the proposed development (SSD-32927319), as described in your waiver request, is not likely to have any significant impacts on biodiversity values.

The delegated Environment Agency Head in the Environment and Heritage Group has also determined that the proposed development is not likely to have any significant impacts on biodiversity values in a letter dated 16 May 2022 and a copy of that letter is attached.

Therefore, a waiver under section 7.9(2) of the BC Act is granted for the proposed development and a BDAR is not required to accompany the SSD application.

If there are any amendments to the proposed development, a fresh request for a BDAR waiver determination will be required or a BDAR may need to be prepared.

Should you have any further enquiries, please contact Annika Hather, Key Sites Assessments, at the Department on (02) 9995 6662.

Yours sincerely,



Amy Watson
Team Leader
Key Sites Assessments

As delegate of the Secretary

- Encl: 1. Determination, delegated position within Environment and Heritage Group, DPE
2. Determination, delegated position within Planning and Assessment Division, DPE

Determination under section 7.9(2) of the Biodiversity Conservation Act 2016

I, Amy Watson, Team Leader, Key Sites Assessments, Planning and Assessment, of the Department of Planning and Environment, under section 7.9(2) of the *Biodiversity Conservation Act 2016*, determine that the proposed development is not likely to have any significant impact on biodiversity values and therefore a Biodiversity Development Assessment Report is not required.

Proposed development means the proposed redevelopment of the Powerhouse site, 500 Harris Street, Ultimo (Lot 1 DP 631345, Lot 1 DP 781732, Lot 1 DP 770031, Lot 3 DP 770031, Lot 3 DP 631345, Lot 3 DP 216854), for Stage 1 of the development of an information and education facility, including:

- concept development establishing the planning, design and assessment framework for the Powerhouse Ultimo Renewal Project
- indicative land uses, maximum building envelopes, and general parameters for the future layout and uses of the site
- strategies to guide the detailed design phases of the project including endorsement of the *Urban Design Guidelines* and *Design Excellence Strategy*
- an updated conservation management plan

and as detailed in the BDAR Waiver request report (prepared by Ecological dated 5 May 2022) and Schedule 1.

If the proposed development changes so that it is no longer consistent with this description, a further waiver request is required.

If you do not lodge the development application related to this determination for the proposed development within 2 years of the issue date of this determination, you must either prepare a BDAR or lodge a new request to have the BDAR requirement waived.

A Watson

Team Leader
Key Sites Assessments
Planning and Assessment
Department of Planning and Environment
(as delegate of the Secretary)

Date: 24 May 2022

Determination under section 7.9(2) of the Biodiversity Conservation Act 2016

I, Liza Schaeper, Acting Director Greater Sydney, of the Department of Planning and Environment, under section 7.9(2) of the *Biodiversity Conservation Act 2016*, determine that the proposed development is not likely to have any significant impact on biodiversity values and therefore a Biodiversity Development Assessment Report is not required.

Proposed development means the development as described in DOC22/357047 and Schedule 1. If the proposed development changes so that it is no longer consistent with this description, a further waiver request is required.



16/05/2022

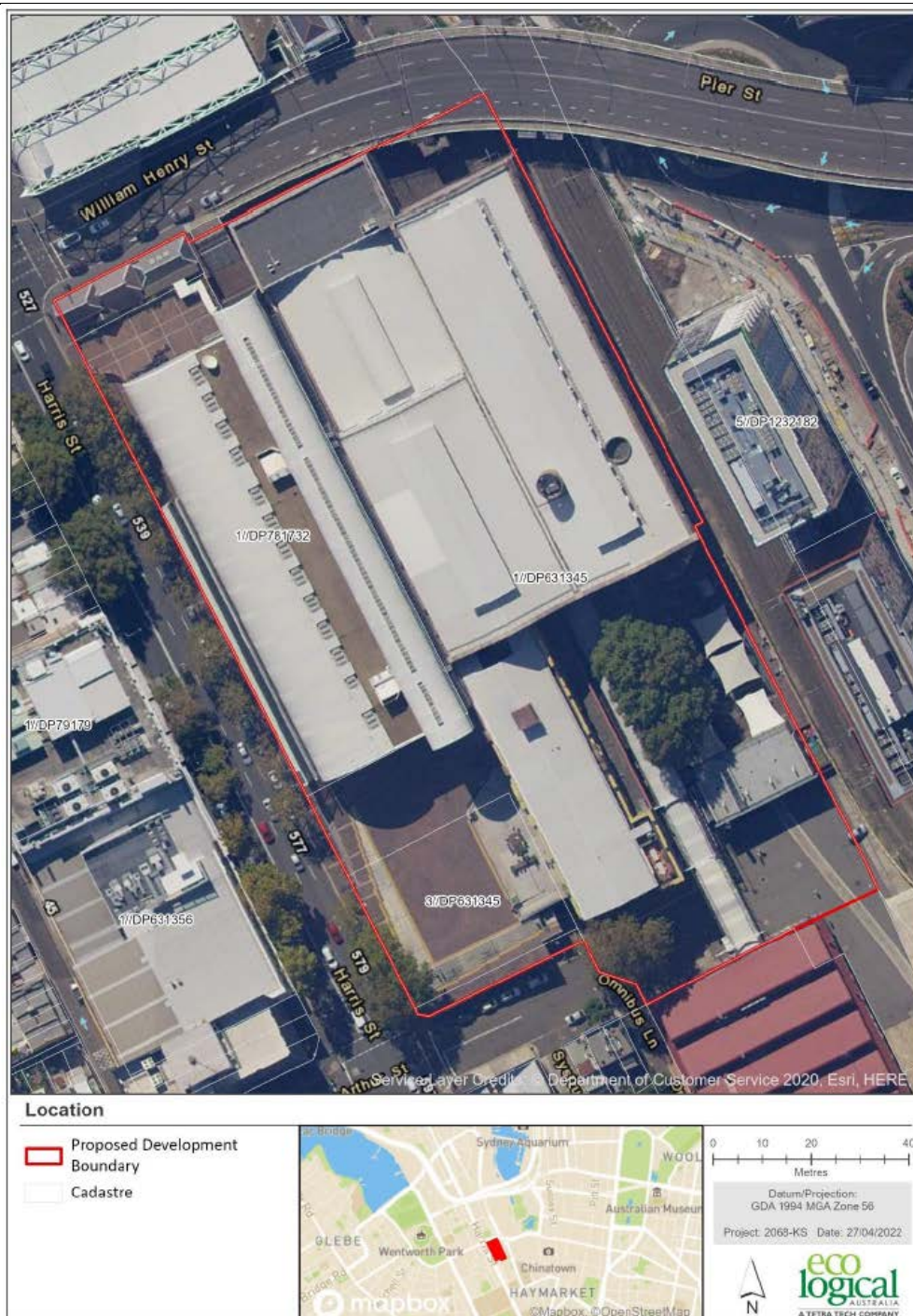
Liza Schaeper
Acting Director
Greater Sydney
Environment and Heritage Group

Date

SCHEDULE 1 – Description of the proposed development

The proposed redevelopment of the Powerhouse site, 500 Harris Street, Ultimo (Lot 1 DP 631345, Lot 1 DP 781732, Lot 1 DP 770031, Lot 3 DP 770031, Lot 3 DP 631345, Lot 3 DP 216854), for Stage 1 – concept development of an information and education facility, including:

- concept development establishing the planning, design, and assessment framework for the Powerhouse Ultimo Renewal Project.
- indicative land uses, maximum building envelopes, and general parameters for the future layout and uses of the site.
- strategies to guide the detailed design phases of the project including endorsement of the *Urban Design Guidelines and Design Excellence Strategy*.
- an updated conservation management plan.”



Development footprint showing Lot 1 DP 631345, Lot 1 DP 781732, Lot 1 DP 770031, Lot 3 DP 770031 and Lot 3 DP 631345



Development footprint showing Lot 3 DP 216854 (point 6)

A stylized topographic map with green contour lines is positioned on the left side of the page, extending from the top left towards the bottom left.

Powerhouse Ultimo Renewal Biodiversity Development Assessment Report Waiver

**Prepared for Department of Enterprise, Investment and Trade
(Create NSW)**

DOCUMENT TRACKING

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Prepared by	Aleksei Atkin
Reviewed by	Alex Gorey
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Template 2.8.1

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Abbreviations

Abbreviation	Description
BC Act	NSW <i>Biodiversity Conservation Act 2016</i>
BDAR	Biodiversity Development Assessment Report
DAWE	Commonwealth Department of Agriculture, Water and the Environment
DIPE	Department of Planning and Environment
ELA	Eco Logical Australia Pty Ltd
EP&A Act	NSW <i>Environment Planning and Assessment Act 1979</i>
EPBC Act	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
LGA	Local Government Area
SEARs	Secretary's Environmental Assessment Requirements
SSD	State Significant Development
SSDA	State Significant Development Application

Executive Summary

This assessment has been prepared on behalf of the Department of Enterprise, Investment and Trade (Create NSW) to support a State Significant Development (SSD) Development Application (DA) for alterations and additions to Powerhouse Ultimo at 500 Harris Street, Ultimo. This assessment addresses the biodiversity values of the Powerhouse Ultimo Renewal project.

The Secretary's Environmental Assessment Requirement (SEARs) have been submitted for the proposed works. In response to SEARs Condition 11 – Biodiversity, Create NSW intends to submit a request to waive the requirement of a Biodiversity Development Assessment Report (BDAR) for the proposed SSD. ELA conducted a field survey and subsequent assessment of potential impacts to biodiversity values to support this request. It was concluded that the development will not have a significant impact on biodiversity values. As an SSD, Section 7.9 (2) of the *Biodiversity Conservation Act 2016* (BC Act) states the following:

“Any such application is to be accompanied by a biodiversity development assessment report unless 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 development site contains planted *Platanus x acerifolia* London Plane Tree in a highly urbanised environment. No remnant vegetation was recorded. One threatened flora species, *Syzygium paniculatum* Magenta Lilly Pilly, was identified within the Development Site, within planter boxes adjacent to the café. This species is a commonly cultivated landscape species, the individuals occur outside their natural range, and these plantings form part of a temporary exhibition which will be replanted following completion of the exhibition. Potential microbat roost structures were identified within the Post Office building roof. As the DA is a concept DA, no impacts will occur to threatened flora, fauna or ecological communities. Future DAs that will require vegetation removal and construction will need to assess direct and indirect impacts of those works. However, understanding the initial scope it is concluded that the development will not have a significant impact on biodiversity values.

Therefore, it was determined that the applicant should seek a waiver from the need to prepare a BDAR. The attached tables describe the biodiversity values and impact in accordance with the NSW Department of Planning & Environment's 2018 *Biodiversity development assessment report waiver determinations for SSD and SSI applications fact sheet*.

1. Project Summary

1.1. Introduction

This report has been prepared on behalf of the Department of Enterprise, Investment and Trade (Create NSW) to support a State Significant Development (SSD) Development Application (DA) for alterations and additions to Powerhouse Ultimo at 500 Harris Street, Ultimo.

The Powerhouse Ultimo Renewal is a transformative \$480-\$500 million investment by the NSW Government to establish a world-class museum that will significantly contribute to an important and developing part of Sydney. The renewal will see Powerhouse Ultimo deliver a programming focus on design and fashion, presenting exhibitions that showcase the Powerhouse Collection, international exclusive exhibitions and programs that support the design and fashion industries.

1.2. Process

The Powerhouse Ultimo Renewal project is for the purposes of an 'information and education facility' with a capital investment value of more than \$30 million, and such is classified as State Significant Development (SSD) pursuant to Section 13(1) of Schedule 1 of *State Environmental Planning Policy (Planning Systems) 2021*.

The delivery of the new Creative Industries Precinct for Powerhouse Ultimo will occur in stages, comprising the following:

- **Stage 1** – Concept DA establishing the planning, design, and assessment framework for the Powerhouse Ultimo Renewal Project including the indicative land uses, maximum building envelopes, general parameters for the future layout of the site, and strategies to guide the subsequent detailed design phases of the project including Urban Design Guidelines and Design Excellence Strategy.
- **Architectural Design Competition** – A competitive design process to critically analyse and provide design alternatives for the Powerhouse Ultimo Renewal project in accordance with the planning and development framework established for the site under the Concept DA. A winning design will be selected by a jury of experts and will inform the subsequent detailed design and assessment phase (Stage 2) of the project.
- **Stage 2** – A Detailed DA confirming the ultimate architectural design and operation of Powerhouse Ultimo and assessing any associated planning and environmental impacts. This Detailed DA will seek consent for the detailed design, construction and operation of the proposed development and follows the same planning assessment and determination process as the Concept DA (Stage 1).

1.3. Site Description

Powerhouse Ultimo is situated upon the lands of the Gadigal people of the Eora Nation. It is located within the City of Sydney Local Government Area and its primary address is 500 Harris Street, Ultimo.

The site contains two heritage-listed buildings, being the 'Ultimo Power House' (c.1899-1905) and the 'Former Ultimo Post Office including interior' (c.1901), both of which are listed on the State Heritage Register under the *Heritage Act 1997*.

Other buildings within the site include the former tram shed (Harwood Building) and the 1988 museum building fronting Harris Street (Wran Building). A café building has been constructed immediately to the south of the Power House at the northern end of the Ultimo Goods Line. Located at the corner of Harris Street and Macarthur Street is a forecourt that acts as the main public entrance to the site, but provides limited activation and is disconnected from higher-quality urban spaces including the Ultimo Goods Line.

The primary focus of the Powerhouse Ultimo Renewal project is the museum to the north of Macarthur Street and bounded by Harris Street, Pier Street and the light rail corridor. However, some enabling and minor decoupling works will occur within the broader Powerhouse Ultimo precinct.

No substantive works or changes in use are proposed to the Harwood Building located between Macarthur Street and Mary Ann Street.

Indicative site boundaries are shown in **Figure 1**.

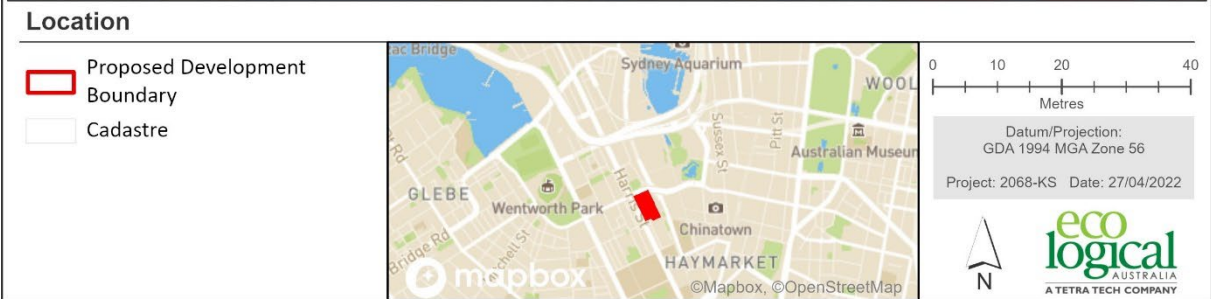
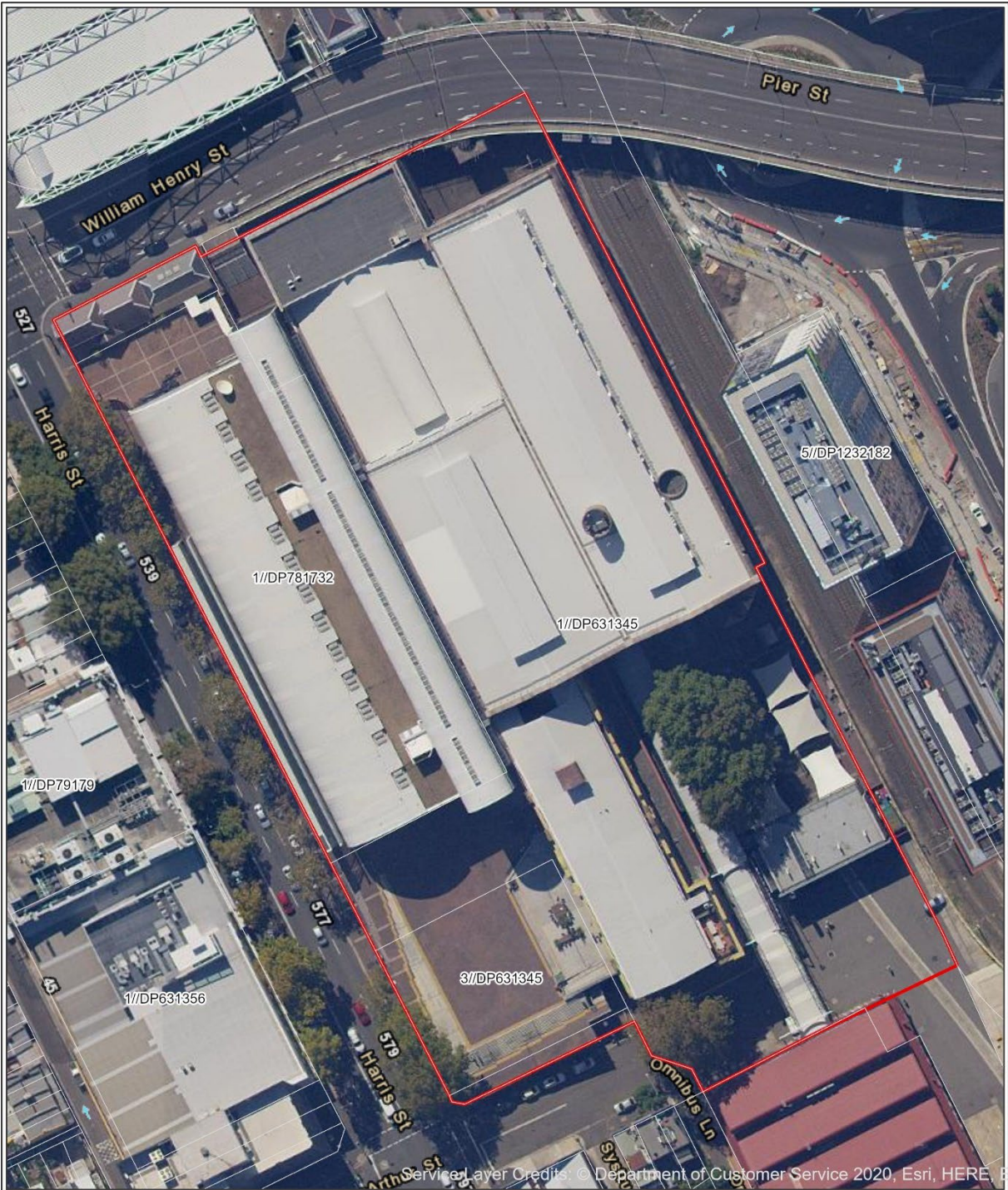


Figure 1 Powerhouse Ultimo Renewal area (Development Site – shown as ‘proposed development boundary’)

1.4. Overview of the Proposed Development

This Concept DA sets the guidelines for the renewal of Powerhouse Ultimo and the creation of the Powerhouse Creative Industries Precinct, with the detailed design, construction, and operation of the project to be sought at a separate and future stage (Stage 2).

Concept approval is sought for the following:

- A maximum building envelope for any new buildings and alterations and additions to existing buildings retained on the site.
- Use of the new spaces and built form as an ‘information and education facility’ including exhibition, education, and back of house spaces, and a range of related and ancillary uses to contribute to the operation of Powerhouse Ultimo.
- Endorsement of Urban Design Guidelines and a Design Excellence Strategy to guide the detailed design of the future building, internal spaces, and public domain areas that will be the subject of a competitive design process and a separate and future DA (Stage 2).
- An updated Conservation Management Plan to ensure that future development occurs in a manner that is compatible with, and facilitates the conservation of, the heritage values of the site.
- General functional parameters for the future design, construction, and operation of buildings and uses on the site including the principles and strategies for the management of transport and access, flooding, sustainability, heritage and the like.

1.5. Secretary’s Environmental Assessment Requirements

The Department of Planning and Environment (DPE) has issued Secretary’s Environmental Assessment Requirements (SEARs) to the applicant for the preparation of an Environmental Impact Statement (EIS) for the proposed development. This report has been prepared having regard to the SEARs as follows:

Environmental Assessment Requirement	Where addressed in report
<p>11. Biodiversity</p> <p>Assess any biodiversity impacts associated with the development in accordance with the Biodiversity Conservation Act 2016 and the Biodiversity Assessment Method 2020, including the preparation of a Biodiversity Development Assessment Report (BDAR), unless a waiver is granted, or the site is on biodiversity certified land.</p>	Chapters 2-4 of this report

2. Biodiversity Assessment

2.1. General

Eco Logical Australia Pty Ltd (ELA) was engaged by Department of Enterprise, Investment and Trade (Create NSW) to prepare a Biodiversity Development Assessment Report (BDAR) waiver for the proposed Powerhouse Ultimo renewal at 500 Harris Street, Ultimo (Lot 1 DP 776815) (‘the development site’). This BDAR waiver report addresses the Stage 1 (application number SSD-32927319) for Concept DA (refer to Section 1 for more details).

2.2. Ecological Surveys

2.2.1. Methodology

Aleksei Atkin, ELA senior ecologist conducted a field survey on 8 April 2022 of the development site over one hour with a focus on the following:

- Validation of existing vegetation mapping, determining type, condition and extent within the development site.
- Identification of threatened fauna habitat, including important habitat features, such as hollow bearing trees or waterways.
- Diurnal inspection of human-made structures for microchiropteran bats (microbats) or signs of microbats with torches.
- Opportunistic fauna sightings.

2.3. Results

2.3.1. Site values

The development site contains existing buildings and a number of planted exotic *Platanus x acerifolia* (London Plane Tree) along the Harris Street boundary on the western side of the development site, and within an internal courtyard on the south-eastern side of the development site. One native trees species, *Tristanopsis laurina* (Water Gum) was identified adjacent to the development site on the southern boundary, and up to five (5) *Syzygium paniculatum* (Magenta Lilly Pilly) were identified within mobile planter boxes in the courtyard of a café, within the south-western portion of the development site. Magenta Lilly Pilly is listed as Endangered under the NSW *Biodiversity Conservation Act 2016* (BC Act) and Vulnerable under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) and are threatened within their natural range, but are a commonly cultivated and planted landscape plant. It is understood that the Magenta Lilly Pilly form part of a temporary exhibition Eucalyptusdom, is not a permanent landscape feature of the development site and will be replanted following completion of the temporary exhibition. No local ecological communities or remnant vegetation was recorded within the development site. The vegetation has been historically cleared of local indigenous species.

Potential roosting habitat for microchiropteran bat species was identified within one location on the development site; within the roof structure of the post office on the north-eastern corner of the development site. This is shown in **Figure 6** below. This structure would potentially provide access to cavity spaces within which microchiropteran bats may roost, however the likelihood of occurrence is considered low, given the high levels of disturbance present with the highly urbanised landscape and the presence of higher-quality roosting habitat structures within the locality (such as pipes, culverts, piers and the sandstone Balls Head Coal Loader). Other potential roost structures such as roof cavities, pipes and ventilation structures were inspected for potential habitat value, however were considered unlikely to support microbat roosting due to sealed entrances, meshed grills or vertical galvanised steel pipes with limited ability for microbats to grip.

2.3.2. Biodiversity Conservation Act 2016 requirements

This BDAR waiver request assesses the biodiversity requirements under the NSW *Biodiversity Conservation Regulation 2017* and BC Act. The proposed development and biodiversity impacts are described in Table 1 below. The proposed development is unlikely to have a significant impact on biodiversity values and therefore it would be reasonable to seek a waiver from the need to submit a BDAR with the SSD application.

3. Biodiversity Development Assessment Report waiver request information

The information requirements for a BDAR waiver request, as outlined in the NSW Department of Planning and Environment's Guidelines, are provided in Table 1 and Table 2.

Table 1: Details of development application

Requirement	Description
Admin	Proponent: Department of Enterprise, Investment and Trade (Create NSW) Project ID: Request for SEARs Completed by Aleksei Atkin – Senior Ecologist (ELA), BAM accredited assessor (BAAS17093) – B Nat. Sci. (Nature Conservation), M Wildlife Management Reviewed by: Alex Gorey – Senior Ecologist (ELA), BAM accredited assessor (BAAS22003)
Site Details	Site address: 500 Harris Street, Ultimo Lot and DP: Lot 1 DP 631345, Lot 1 DP 781732, Lot 1 DP 770031, Lot 3 DP 770031, Lot 3 DP 631345, Lot 3 DP 216854 (Not included in redevelopment area) Local government area (LGA): City of Sydney Existing development site: The development site contains the 'Ultimo Power House' building, the Wran building, the 'Former Ultimo Post Office', in addition to open space courtyards on the north-west, south-west and south-eastern corners of the site (Note: Lot 3 DP 216854 is not included in redevelopment area). Location Map: Figure 2 Site Map: Prospective layout shown in Figure 1.
Proposed Development	A detailed description of the proposed works and previous approvals is provided in the project description above (Section 1). This BDAR waiver request addresses the requirements for SSD 32927319 which includes the preparation of a Stage 1 Concept DA.
Impacts on biodiversity values	Refer to the completed Table 2 below for potential impacts on Biodiversity Values (Figure 5 - Figure 7).

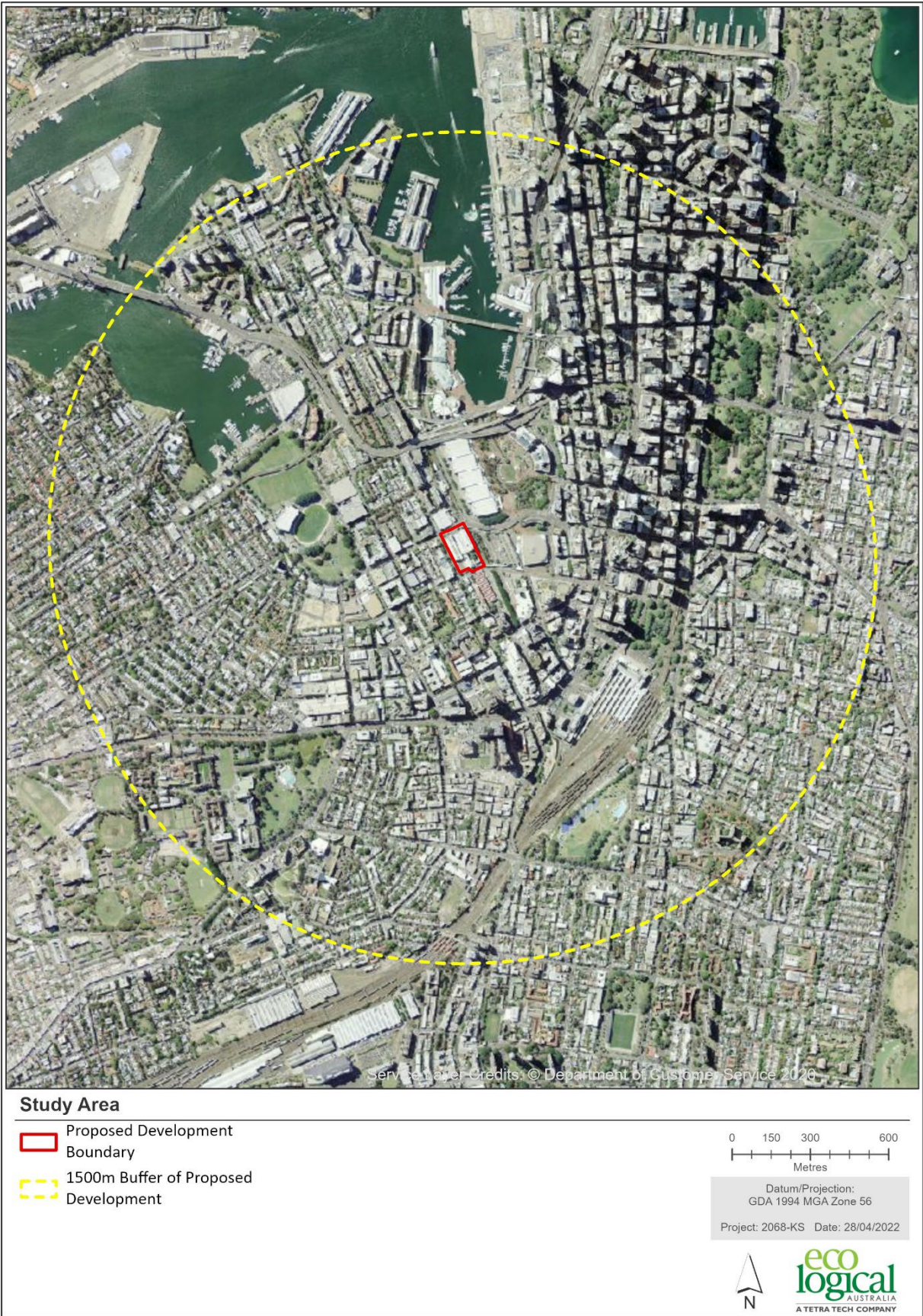


Figure 2: Location plan

Table 2: Impacts of the proposed development on biodiversity values

Biodiversity value	Meaning	Relevant (✓ or NA)	Explain and document potential impacts including additional impacts prescribed under the BC Regulation Attach additional supporting documentation where appropriate
Vegetation abundance - 1.4(b) BC Regulation	Occurrence and abundance of vegetation at a particular site	NA	<p>Vegetation within the development site is of very low biodiversity value. The development site is composed of existing buildings and stands of planted London Plane Tree (Figure 8). Planter Boxes containing Magenta Lilly Pilly exist within the south-western portion of the development site. It is understood that the Magenta Lilly Pilly form part of a temporary exhibition Eucalyptusdom, is not a permanent landscape feature of the development site and will be replanted following completion of the temporary exhibition.</p> <p>Vegetation within the development site is comprised of landscaped gardens and does not contain indigenous species to the area. The planted vegetation includes exotic and cultivated native plantings. The vegetation within the development site lacks connectivity between patches of intact native vegetation and does not represent remnant vegetation in any form. There is an absence of natural resilience.</p> <p>Vegetation within the development site is not consistent with any remnant native vegetation communities and did not conform to any listed PCTs.</p>
Vegetation integrity 1.5(2)(a) BC Act	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	NA	<p>The development site contains built structures, paved areas playground. The development site has been historically cleared of remnant vegetation (Figure 9).</p> <p>Due to previous land management practices, vegetation and soils within the site has been highly modified, disturbed and lacks natural resilience.</p> <p>The vegetation present within the site is not consistent with any listed PCT.</p> <p>As the vegetation within the development site is highly modified and altered from its natural state, therefore, the redevelopment would not compromise the vegetation integrity.</p>

Biodiversity value	Meaning	Relevant (✓ or NA)	Explain and document potential impacts including additional impacts prescribed under the BC Regulation Attach additional supporting documentation where appropriate
Habitat suitability 1.5(2)(b) BC Act	Degree to which the habitat needs of threatened species are present at a particular site	✓	<p>The planted vegetation within the development site does not contain hollows for threatened species. The planted native vegetation may provide seasonal foraging resources for one threatened highly mobile species, <i>Pteropus poliocephalus</i> (Grey-headed Flying-fox) listed as vulnerable under the EPBC and BC Acts. This species is known to utilise habitats present within the development site on occasion. However, given the highly modified landscape and small number of trees present, the development site does not contain sufficient foraging resources to support the Grey-headed Flying-fox or other threatened species.</p> <p>Potential habitat for microbat roosting exists within the roof of the Post Office building, however microbat roosting within this structure is considered highly unlikely due to the extensively disturbed urban landscape, proximity to active roadways, and the availability of higher-quality roost habitat throughout the broader locality.</p> <p>The proposal constitutes a concept DA at this stage and would not generate any impacts to potential habitat. Heritage buildings would remain intact in future DAs, and any DAs which may constitute impacts to microbat habitat would involve targeted survey and/or roost inspection to confirm presence or absence, and assess impacts.</p>

Biodiversity value	Meaning	Relevant (✓ or NA)	Explain and document potential impacts including additional impacts prescribed under the BC Regulation Attach additional supporting documentation where appropriate
Threatened species abundance 1.4(a) BC Regulation	Occurrence and abundance of threatened species or threatened ecological communities, or their habitat, at a particular site	✓	<p>No threatened ecological communities are present within the development site. The development site contains scattered landscaped plantings which are <u>not</u> consistent with any listed Plant community Type (PCT) (Figure 5). The development site has been historically cleared of native vegetation and is situated within a highly urbanised and fragmented environment.</p> <p>There are no BioNet (Atlas of NSW Wildlife) records of threatened flora species recorded within the site (Figure 6) (Appendix A). No habitat was available for threatened flora species due to a lack of vegetation within the site resulting from a history of disturbance.</p> <p>One threatened flora species, Magenta Lilly Pilly, was identified within planter boxes within the development site. The species is a commonly cultivated native plant species, and the individuals occur outside the species natural range. It is understood that the Magenta Lilly Pilly form part of a temporary exhibition Eucalyptusdom, is not a permanent landscape feature of the development site and will be replanted following completion of the temporary exhibition. The DA would not constitute any removal of these species, and any future DAs would assess the significance of their removal to the species.</p> <p>No threatened fauna species or important habitat features were observed within the site during the inspection.</p> <p>Marginal foraging habitat in the form of flowering/fruited trees is available for the <i>Pteropus poliocephalus</i> (Grey-Headed Flying-fox) within the site.</p> <p>The proposed development will remove a small number of flowering plants such as London Plane Tree which may provide supplementary foraging resources for the species. However, given the extent of development in the surrounding locality and small number of trees to be removed, this loss of vegetation will not adversely affect the Grey-headed Flying-fox such that its population will be placed at risk of extinction.</p> <p>Marginal potential roosting habitat for cave and structure dependant microbats exists within the post office building roof. As the DA does not constitute any physical works, these habitats will not be impacted by the DA. As the post office is a heritage building, works to this are likely to be minimal in the future, and any future DA that may impact this structure would include a targeted microbat survey and/or roost search to determine presence or absence of species, and the potential for impact.</p>

Biodiversity value	Meaning	Relevant (✓ or NA)	Explain and document potential impacts including additional impacts prescribed under the BC Regulation Attach additional supporting documentation where appropriate
Habitat connectivity 1.4(c) BC Regulation	Degree to which a particular site connects different areas of habitat of threatened species to facilitate the movement of those species across their range	N/A	<p>Vegetation within the development site is highly fragmented and does not contribute to habitat connectivity across the local landscape. The development site is surrounded by major roads, and urban development and does not connect to intact native vegetation.</p> <p>The development site does not provide any significant level of connectivity to facilitate movement of threatened species across their range.</p>
Threatened species movement 1.4(d) BC Regulation	Degree to which a particular site contributes to the movement of threatened species to maintain their lifecycle	✓	<p>The development site contains limited vegetation which is highly fragmented by buildings and areas of hardstand surfaces. Movement for less mobile threatened fauna, such as non-flying species, across the locality is highly unlikely due to high-rise buildings, major roads and a lack of connective vegetation. Opportunities for movement across the landscape for more mobile threatened fauna species including birds and bats are available, however the development site is not considered to be significant for the movement of any threatened species to maintain their lifecycle.</p>
Flight path integrity 1.4(e) BC Regulation	Degree to which the flight paths of protected animals over a particular site are free from interference	✓	<p>The landscape within and surrounding the development site consists of high-rise buildings in the heart of the central business district of Sydney.</p> <p>The flight paths of protected animals over the development site are currently restricted due to existing buildings and unlikely to be further impacted by the proposed development. The proposed development will not significantly affect flight paths of protected animals.</p>
Water sustainability 1.4(f) BC Regulation	Degree to which water quality, water bodies and hydrological processes sustain threatened species and threatened ecological communities at a particular site.	NA	<p>No natural water courses are present within the development site; however, the development site is located adjacent to Sydney harbour which is a large intertidal open waterbody.</p> <p>The foreshores, directly north-east of the development site, are substantially modified and are void of native vegetation. The foreshores contain concrete pylons and paved areas situated above the hightide line. The foreshores do not support threatened ecological communities and lack habitat features for threatened species. Due to the highly modified nature of the development site, the site does not contribute to hydrological processes that sustain threatened species or ecological communities within or adjacent to the development site.</p>

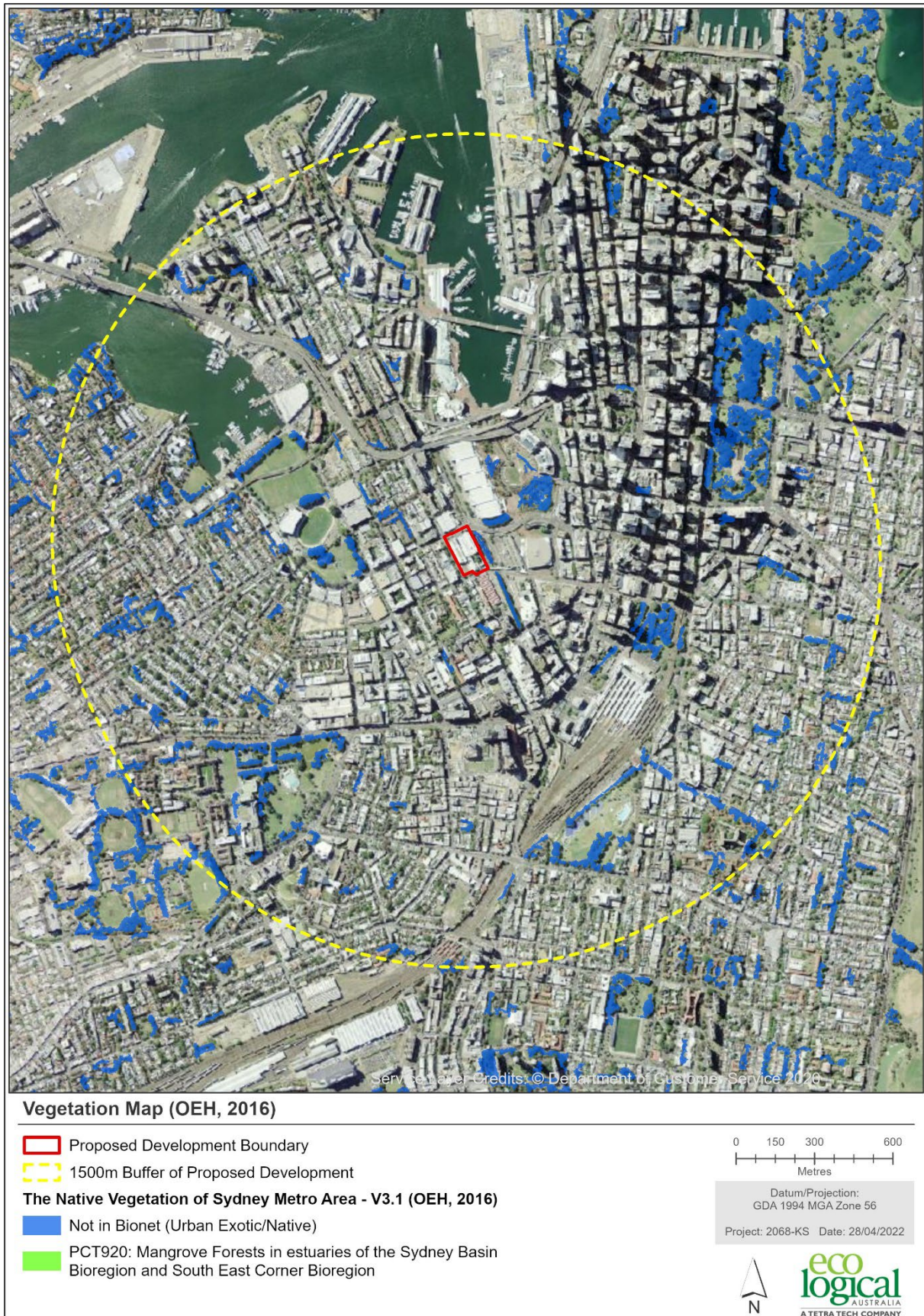


Figure 3: Previous mapped vegetation (Office of Environment and Heritage 2016)

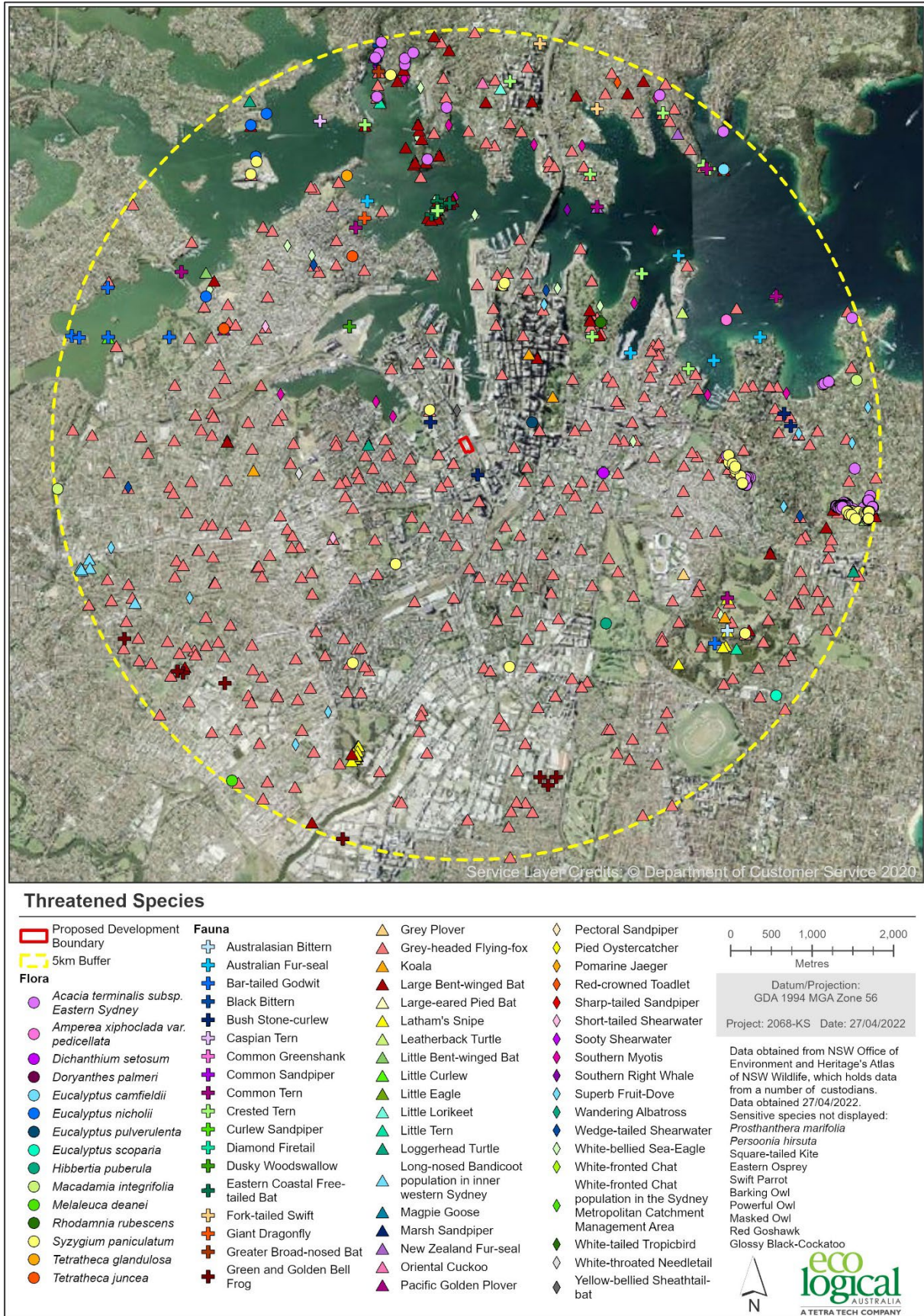


Figure 4: Threatened species records within 5 km radius of the site



Figure 5: Powerhouse building with planted London Plane Trees



Figure 6: Potential microbat roost habitat entry on Post Office roof

4. Conclusion

The proposed development is located 500 Harris Street, Ultimo. No threatened ecological communities are present within the development site. The development site contains scattered landscaped plantings which are not consistent with any listed Plant community Type. The development site has been historically cleared of native vegetation and is situated within a highly urbanised and fragmented environment.

The proposed development is a concept DA only, thus will not generate any impacts to vegetation, threatened fauna or threatened flora. Future DA stages may remove London Plane Trees. The impacts of this removal would be assessed in future DAs. Additionally, potential microbat roosting habitat exists within the roof structure of the Post Office building. Should the building be directly or indirectly impacted by future DAs, targeted microbat survey and/or roost searches would be undertaken to determine presence or absence, and impacts of the proposal would be assessed.

The proposed development site is not part of a recognised movement corridor between breeding grounds, foraging grounds, or other habitats important for the lifecycle of species such as staging points for migration.

No barriers to movement will be introduced and no further fragmentation of habitats will occur.

Flight path integrity will not be impacted. The proposed development would be developed at existing ground level or with a level commensurate with surrounding and current development and would not result in any obstruction to overflight patterns of threatened or other protected species.

Water quality, water bodies and hydrological processes do not sustain threatened species at the development site.

As the SSDA does not propose the removal of any native vegetation, will not impact flight path integrity or water quality, it is considered the proposed development is unlikely to have a significant impact on threatened species or their habitats.

Appendix A Likelihood of occurrence

An assessment of likelihood of occurrence was made for threatened and migratory species identified from the database search. Five terms for the likelihood of occurrence of species are used in this report. This assessment was based on database or other records, presence or absence of suitable habitat, features of the proposal site, results of the site inspection and professional judgement. Some Migratory or Marine species identified from the Commonwealth database search have been excluded from the assessment, due to lack of habitat. The terms for likelihood of occurrence are defined below:

- “known” = the species was or has been observed on the site
- “likely” = a medium to high probability that a species uses the site
- “potential” = suitable habitat for a species occurs on the site, but there is insufficient information to categorise the species as likely to occur, or unlikely to occur
- “unlikely” = a very low to low probability that a species uses the site
- “no” = habitat on site and in the vicinity is unsuitable for the species.

No tests of significance were conducted for threatened species or ecological communities that were recorded within the development site or had a higher likelihood of occurring and were not recorded during the site visit. It is noted that some threatened fauna species that are highly mobile, wide ranging and vagrant may use portions of the development site intermittently for foraging. For these fauna species, the habitat available would not be impacted by the DA. As such, a test of significance in reference to State or Commonwealth legislation was not considered necessary.

The records column refers to the number of records occurring within 5 km of the development site, as provided by the Atlas of NSW Wildlife (BioNet) and EPBC Act Protected Matters Search Tool database search.

Information provided in the habitat associations’ column has primarily been extracted (and modified) from the Commonwealth Species Profile and Threats Database and the NSW Threatened Species Profiles.

Table 3: Likelihood of occurrence assessment for threatened flora species

Scientific name	Common Name	BC Act Status	EPBC Act Status	Distribution and Habitat	Number of Records within 5 km	Likelihood of Occurrence	Impact Assessment Required
FLORA							
<i>Acacia bynoeana</i>	Bynoe's Wattle	E1	V	Found in central eastern NSW, from the Hunter District (Morisset) south to the Southern Highlands and west to the Blue Mountains. Heath or dry sclerophyll forest on sandy soils.	0	No - suitable habitat not recorded within the development site, no local records.	No
<i>Acacia pubescens</i>	Downy Wattle	V	V	Restricted to the Sydney region around the Bankstown-Fairfield-Rookwood and Pitt Town area, with outliers occurring at Barden Ridge, Oakdale and Mountain Lagoon. Open woodland and forest, including Cooks River/Castlereagh Ironbark Forest, Shale/Gravel Transition Forest and Cumberland Plain Woodland. Occurs on alluviums, shales and at the intergrade between shales and sandstones.	0	No - suitable habitat not recorded within the development site, no local records.	No
<i>Acacia terminalis</i> subsp. <i>terminalis</i>	Sunshine Wattle	E1	E	Limited mainly to near-coastal areas from the northern shores of Sydney Harbour south to Botany Bay. Coastal scrub and dry sclerophyll woodland on sandy soils.	159	No - suitable habitat not recorded within the development site, no local records.	No
<i>Allocasuarina glareicola</i>		E	E	Castlereagh woodland on lateritic soil. Found in open woodland with <i>Eucalyptus parramattensis</i> , <i>Eucalyptus fibrosa</i> , <i>Angophora bakeri</i> , <i>Eucalyptus sclerophylla</i> and <i>Melaleuca decora</i> .	0	No - suitable habitat not recorded within the development site, no local records.	No
<i>Asterolasia elegans</i>		E	E	Hawkesbury sandstone. Found in sheltered forests on mid- to lower slopes and valleys.	0	No - suitable habitat not recorded within the development site, no local records.	No

Scientific name	Common Name	BC Act Status	EPBC Act Status	Distribution and Habitat	Number of Records within 5 km	Likelihood of Occurrence	Impact Assessment Required
<i>Caladenia tessellata</i>	Thick Lip Spider Orchid	E1	V	Currently known from two disjunct areas; one population near Braidwood on the Southern Tablelands and three populations in the Wyong area on the Central Coast. Grassy sclerophyll woodland on clay loam or sandy soils, or low woodland with stony soil.	0	No - suitable habitat not recorded within the development site, no local records.	No
<i>Cryptostylis hunteriana</i>	Leafless Tongue Orchid	V	V	In NSW, recorded mainly on coastal and near coastal ranges north from Victoria to near Forster, with two isolated occurrences inland north-west of Grafton. Coastal heathlands, margins of coastal swamps and sedgelands, coastal forest, dry woodland, and lowland forest.	0	No - suitable habitat not recorded within the development site, no local records.	No
<i>Darwinia biflora</i>		V	V	Woodland, open forest or scrub-heath on the edges of weathered shale-capped ridges, where these intergrade with Hawkesbury Sandstone.	0	No - suitable habitat not recorded within the development site, no local records.	No
<i>Dichanthium setosum</i>	Bluegrass	V	V	Associated with heavy basaltic black soils and red-brown loams with clay subsoil.	1	No - suitable habitat not recorded within the development site, no local records.	No
<i>Doryanthes palmeri</i>	Giant Lily	Spear V		In NSW, occurs on the coastal ranges that are part of the Mt Warning Caldera. Its southern distributional limit is Mount Billen. Exposed rocky outcrops, cliff-tops and on steep cliff-faces in montane heath next to subtropical rainforest, warm temperate rainforest or wet eucalypt forest.	1	No - suitable habitat not recorded within the development site, no local records.	No
<i>Eucalyptus camfieldii</i>	Camfield's Stringybark	V	V	Narrow band from the Raymond Terrace area south to Waterfall. Coastal heath on shallow sandy soils overlying Hawkesbury sandstone, mostly on exposed sandy ridges.	1	No - suitable habitat not recorded within the development site, no local records.	No

Scientific name	Common Name	BC Act Status	EPBC Act Status	Distribution and Habitat	Number of Records within 5 km	Likelihood of Occurrence	Impact Assessment Required
<i>Genoplesium baueri</i>	Bauer's Midge Orchid	E1	E	Has been recorded from locations between Nowra and Pittwater and may occur as far north as Port Stephens. Dry sclerophyll forest and moss gardens over sandstone. Heath and shrubby woodland to open forest on sandy or light clay soils usually over thin shales.	0	No - suitable habitat not recorded within the development site, no local records.	No
<i>Haloragodendron lucasii</i>			E	Dry sclerophyll forest and low open woodland on sheltered slopes near creeks, in moist sandy loam soils.	0	No - suitable habitat not recorded within the development site, no local records.	No
<i>Lasiopetalum joyceae</i>		V	V	Heath on lateritic to shaley ridgetops over sandstone.	0	No - suitable habitat not recorded within the development site, no local records.	No
<i>Melaleuca biconvexa</i>	Biconvex Paperbark	V	V	Only found in NSW, populations found in the Jervis Bay area in the south and the Gosford-Wyong area in the north. Damp places, often near streams or low-lying areas on alluvial soils.	0	No - suitable habitat not recorded within the development site, no local records.	No
<i>Melaleuca deanei</i>	Deane's Paperbark	V	V	Heath on sandstone	0	No - suitable habitat not recorded within the development site, no local records.	No
<i>Persicaria elatior</i>	Tall Knotweed	V	V	Beside streams and lakes, swamp forest or disturbed areas.	0	No - suitable habitat not recorded within the development site, no local records.	No
<i>Persoonia hirsuta</i>	Hairy Geebung	E1	E	Scattered distribution around Sydney, from Singleton in the north, along the east coast to Bargo in the south and the Blue Mountains to the west. Sandy soils in dry	1	No - suitable habitat not recorded within the	No

Scientific name	Common Name		BC Act Status	EPBC Act Status	Distribution and Habitat	Number of Records within 5 km	Likelihood of Occurrence			Impact Assessment Required
					sclerophyll open forest, woodland and heath on sandstone.		development site, no local records.			
<i>Pimelea curviflora</i> var. <i>curviflora</i>	-		V	V	Confined to the coastal area of the Sydney and Illawarra regions between northern Sydney and Maroota in the north-west and Croom Reserve near Albion Park in the south. Woodland, mostly on shaley/lateritic soils over sandstone and shale/sandstone transition soils on ridgetops and upper slopes.	0	No recorded development records.	- suitable habitat within site, no	not the local	No
<i>Pimelea spicata</i>	Spiked flower	Rice-	E1	E	Two disjunct areas; the Cumberland Plain (Marayong and Prospect Reservoir south to Narellan and Douglas Park) and the Illawarra (Landsdowne to Shellharbour to northern Kiama). Well-structured clay soils. <i>Eucalyptus moluccana</i> (Grey Box) communities and in areas of ironbark on the Cumberland Plain. Coast Banksia open woodland or coastal grassland in the Illawarra.	0	No recorded development records.	- suitable habitat within site, no	not the local	No
<i>Prostanthera densa</i>	Villous bush	Mint-	V		Sclerophyll forest and shrubland on coastal headlands and near-coastal ranges, chiefly on sandstone in Jervis Bay and Royal National Park.	0	No recorded development records.	- suitable habitat within site, no	not the local	No
<i>Prostanthera marifolia</i>	Seaforth Mintbush		CE	CE	In or in close proximity to the endangered Duffys Forest ecological community, on deeply weathered clay-loam soils associated with ironstone and scattered shale lenses.	2	No recorded development records.	- suitable habitat within site, no	not the local	No
<i>Rhizanthella slateri</i>	Eastern Australian Underground Orchid		E	E	Sclerophyll forest in shallow to deep loams.	0	No recorded development records.	- suitable habitat within site, no	not the local	No

Scientific name	Common Name	BC Act Status	EPBC Act Status	Distribution and Habitat	Number of Records within 5 km	Likelihood of Occurrence	Impact Assessment Required
<i>Rhodamnia rubescens</i>	Scrub Turpentine	CE	CE	Subtropical Rainforests, Northern Warm Temperate Rainforests, Littoral Rainforest, North Coast Wet Sclerophyll Forests, Northern Hinterland WSF, Northern Escarpment WSF, Southern Lowland WSF, and probably the northern patches of South Coast WSF and Southern Escarpment WSF, and perhaps easterly patches of Northern Tableland WSF.	1	No - suitable habitat not recorded within the development site, no local records.	No
<i>Rhodomyrtus psidioides</i>	Native Guava	CE	CE	Subtropical Rainforests, Warm Temperate Rainforests, Littoral Rainforest, and Wet Sclerophyll Forests.	0	No - suitable habitat not recorded within the development site, no local records.	No
<i>Syzygium paniculatum</i>	Magenta Lilly Pilly	E1	V	Only in NSW, in a narrow, linear coastal strip from Upper Lansdowne to Conjola State Forest. Subtropical and littoral rainforest on gravels, sands, silts and clays.	51	Yes – up to five individuals identified within Development Site	No – none removed in Stage 1 DA, temporary plantings as part of exhibition, to be replanted following completion of the exhibition.
<i>Tetratheca juncea</i>	Black-eyed Susan	V	V	Occurs on predominantly low nutrient soils with a dense grassy understorey of grasses although it has been recorded in heathland and moist forest. It is associated with dry open forest or woodland habitats dominated by <i>Corymbia gummifera</i> , <i>Eucalyptus capitellata</i> , <i>E. haemastoma</i> and <i>Angophora costata</i> . <i>Themeda australis</i> is generally the dominant ground cover. <i>T. juncea</i> also	1	No - suitable habitat not recorded within the development site, no local records.	No

Scientific name	Common Name	BC Act Status	EPBC Act Status	Distribution and Habitat	Number of Records within 5 km	Likelihood of Occurrence	Impact Assessment Required
				displays a preference for southern aspect slopes, although is slopes with different aspects (DPIE 2020b). Flowers July to December.			
<i>Thesium australe</i>	Austral Toadflax	V	V	In eastern NSW it is found in very small populations scattered along the coast, and from the Northern to Southern Tablelands. Grassland on coastal headlands or grassland and grassy woodland away from the coast.	0	No - suitable habitat not recorded within the development site, no local records.	No
BC Act key: E1 = endangered, E2= endangered population, E4 = Extinct, E4A = critically endangered, V = vulnerable.							
EPBC Act Key: M = migratory, Mar = marine CE = critically endangered, E = endangered, V = vulnerable, X = extinct.							

Table 4: Likelihood of occurrence assessment for threatened fauna species

Scientific name	Common Name	BC Act Status	EPBC Act Status	Distribution and Habitat	Number of Records within 5 km	Likelihood of Occurrence	Impact Assessment Required
FAUNA							
<i>Actitis hypoleucos</i>	Common Sandpiper	-	M	Summer migrant. In NSW, widespread along coastline and also occurs in many areas inland. Coastal wetlands and some inland wetlands, especially muddy margins or rocky shores. Also, estuaries and deltas, lakes, pools, billabongs, reservoirs, dams and claypans, mangroves.	1	Unlikely - lack of suitable habitat for this species within the development site.	No

Scientific name	Common Name	BC Act Status	EPBC Act Status	Distribution and Habitat	Number of Records within 5 km	Likelihood of Occurrence	Impact Assessment Required
<i>Anthochaera phrygia</i>	Regent Honeyeater	CE	CE	Eucalypt woodland and open forest, wooded farmland and urban areas with mature eucalypts, and riparian forests of <i>Casuarina cunninghamiana</i> (River Oak).	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Apus pacificus</i>	Fork-tailed Swift	-	M	Recorded in all regions of NSW. Riparian woodland., swamps, low scrub, heathland, saltmarsh, grassland, Spinifex sandplains, open farmland and inland and coastal sand-dunes.	2	Unlikely - lack of suitable habitat for this species within the development site.	No
<i>Arctocephalus forsteri</i>	New Zealand Fur-seal	-	Marine	Marine vagrant. Non-breeding visitor.	2	Unlikely - lack of suitable habitat for this species.	No
<i>Arctocephalus pusillus doriferus</i>	Australian Fur-seal	V	Marine	Reported to have bred at Seal Rocks, near Port Stephens and Montague Island in southern NSW.	3	Unlikely - lack of suitable habitat for this species.	No
<i>Ardenna prisea</i>	Sooty Shearwater	V	-	Forages in the North Pacific Ocean and Southern Ocean. Breeds on islands south of Port Stephens, NSW.	1	Unlikely - lack of suitable habitat for this species.	No
<i>Ardenna pacifica</i>	Wedge-tailed Shearwater	V	-	Breeds in burrows on islands off the coast of NSW.	1	Unlikely - lack of suitable habitat for this species.	No
<i>Ardenna tenuirostris</i>	Short-tailed Shearwater	V	-	Breeds on islands along eastern and southern coastlines of Australia.	7	Unlikely - lack of suitable habitat for this species.	No
<i>Botaurus poiciloptilus</i>	Australasian Bittern	E	E	Found over most of NSW except for the far north-west. Permanent freshwater wetlands with tall, dense vegetation, particularly <i>Typha</i> spp. (bullrushes) and <i>Eleocharis</i> spp. (spikerushes).	2	No - lack of suitable habitat for this species within the development site, no local records.	No

Scientific name	Common Name	BC Act Status	EPBC Act Status	Distribution and Habitat	Number of Records within 5 km	Likelihood of Occurrence	Impact Assessment Required
<i>Burhinus grallarius</i>	Bush Stone-curlew	E1		In NSW, found sporadically in coastal areas, and west of the divide throughout the sheep-wheat belt. In NSW, it occurs in lowland grassy woodland and open forest.	5	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	-	Marine	A summer migrant from Arctic Siberia. Found in wetlands throughout Australia and in the Pacific region.	2	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Calidris canutus</i>	Red Knot		E, M	Summer migrant to Australia. In NSW, widespread in suitable habitat along the coast. Occasionally recorded inland in all regions. Intertidal mudflats, sandflats sheltered sandy beaches, estuaries, bays, inlets, lagoons, harbours, sandy ocean beaches, rock platforms, coral reefs, terrestrial saline wetlands near the coast, sewage ponds and saltworks. Rarely inland lakes or swamps.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Calidris ferruginea</i>	Curlew Sandpiper	E1	CE, M	Occurs along the entire coast of NSW, and sometimes in freshwater wetlands in the Murray-Darling Basin. Littoral and estuarine habitats, including intertidal mudflats, non-tidal swamps, lakes and lagoons on the coast and sometimes inland.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Calidris melanotos</i>	Pectoral Sandpiper	-	M	Summer migrant to Australia. Widespread but scattered in NSW. East of the Great Divide, recorded from Casino and Ballina, south to Ulladulla. West of the Great Divide, widespread in the Riverina and Lower Western regions. Shallow fresh to saline wetlands, including coastal lagoons, estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains and artificial wetlands.	1	No - lack of suitable habitat for this species within the development site, no local records.	No

Scientific name	Common Name	BC Act Status	EPBC Act Status	Distribution and Habitat	Number of Records within 5 km	Likelihood of Occurrence	Impact Assessment Required
<i>Calidris tenuirostris</i>	Great Knot	-	CE	Sheltered coastal habitat containing large intertidal mudflats or sandflats including inlets, bays, harbours, estuaries and lagoons. Often recorded on sandy beaches with mudflats nearby, sand spits and inlets and expose reef or rock platforms.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo	V	E	In NSW, distributed from the south-east coast to the Hunter region, and inland to the Central Tablelands and south-west slopes. Isolated records known from as far north as Coffs Harbour and as far west as Mudgee. Tall mountain forests and woodlands in summer; in winter, may occur at lower altitudes in open eucalypt forests and woodlands, and urban areas.	0	No - lack of suitable habitat for this species within the development site.	No
<i>Calyptorhynchus lathamii</i>	Glossy Black-Cockatoo	V	-	In NSW, widespread along coast and inland to the southern tablelands and central western plains, with a small population in the Riverina. Open forest and woodlands of the coast and the Great Dividing Range where stands of sheoak occur.	4	No - lack of suitable habitat for this species within the development site.	No
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	V	V	Recorded from Rockhampton in Qld south to Ulladulla in NSW. Largest concentrations of populations occur in the sandstone escarpments of the Sydney basin and the NSW north-west slopes. Wet and dry sclerophyll forests, Cyprus Pine dominated forest, woodland, sub-alpine woodland, edges of rainforests and sandstone outcrop country.	2	Potential – roost habitat may exist in post office building roof	No – no habitat impacted in Stage 1 DA
<i>Charadrius leschenaultii</i>	Greater Sand Plover		V	Favours coastal areas including beaches, mudflats and mangroves where they forage. They may be seen roosting during high tide on sandy beaches or rocky shores.	0	Unlikely - lack of suitable habitat for this species within the development site.	No
<i>Charadrius mongolus</i>	Lesser Sand Plover		E	Favours coastal areas including beaches, mudflats and mangroves where they forage. They may be seen roosting during high tide on sandy beaches or rocky shores.	0	Unlikely - lack of suitable habitat for this	No

Scientific name	Common Name	BC Act Status	EPBC Act Status	Distribution and Habitat	Number of Records within 5 km	Likelihood of Occurrence	Impact Assessment Required
						species within the development site.	
<i>Cuculus optatus</i>	Oriental Cuckoo	-	Migratory	A winter non-breeding visitor to Australia.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Dasyornis brachypterus</i>	Eastern Bristlebird	E	E	A small ground dwelling bird which favours dense ground or understory vegetation.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Dasyurus maculatus</i> (SE mainland population)	Spotted-tailed Quoll	V	E	Found on the east coast of NSW, Tasmania, eastern Victoria and north-eastern Qld. Rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Diomedea antipodensis</i>	Antipodean Albatross		V	The Antipodean Albatross is marine, pelagic and aerial. It is endemic to New Zealand, however forages on cephalopods, fish and crustaceans in open water in the south-west Pacific Ocean, Southern Ocean and the Tasman Sea, notably off the coast of NSW.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Diomedea antipodensis gibsoni</i>	Gibson's Albatross		V	The Gibson's Albatross is marine, pelagic and aerial. It is endemic to New Zealand, however forages on cephalopods, fish and crustaceans in open water in the south-west Pacific Ocean, Southern Ocean and the Tasman Sea, notably off the coast of NSW.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Diomedea epomophora</i>	Southern Royal Albatross		V	The Southern Royal Albatross is marine and pelagic. During the non-breeding season, it has a wide and possibly circumpolar distribution, ranging north to about 35°S. It is moderately common throughout the year in offshore waters	0	No - lack of suitable habitat for this species within the development site, no local records.	No

Scientific name	Common Name	BC Act Status	EPBC Act Status	Distribution and Habitat	Number of Records within 5 km	Likelihood of Occurrence	Impact Assessment Required
				of southern Australia, mostly off south-eastern NSW, Victoria and Tasmania. It has been observed where the water surface temperature is 6 to 20°C.			
<i>Diomedea exulans</i>	Wandering Albatross		V	The Wandering Albatross is marine, pelagic and aerial. It occurs where water surface temperatures range from -2° to 24°C. In the Australasian region, it occurs inshore, offshore and in pelagic waters.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Diomedea sanfordi</i>	Northern Royal Albatross		E	This species breeds on Chatham Island and Taiaroa Head on the South Island of New Zealand. It can be found in open waters off SE Australia.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Falco hypoleucos</i>	Grey Falcon	V	V	Occurs in arid environments including acacia shrublands and near timbered lowland plains and watercourses.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Fregetta grallaria</i>	White-bellied Storm Petrel	V	V	In Australia, it breeds on offshore islands in the Lord Howe Island group.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Gallinago hardwickii</i>	Latham's Snipe	-	M	Migrant to east coast of Australia, extending inland west of the Great Dividing Range in NSW. Freshwater, saline or brackish wetlands up to 2000 m above sea-level; usually freshwater swamps, flooded grasslands or heathlands.	19	Unlikely - lack of suitable habitat for this species within the development site.	No
<i>Glossopsitta pusilla</i>	Little Lorikeet	V	-	In NSW, found from the coast westward as far as Dubbo and Albury. Dry, open eucalypt forests and woodlands, including remnant woodland patches and roadside vegetation.	3	Unlikely - lack of suitable habitat for this species within the development site.	No

Scientific name	Common Name	BC Act Status	EPBC Act Status	Distribution and Habitat	Number of Records within 5 km	Likelihood of Occurrence	Impact Assessment Required
<i>Grantiella picta</i>	Painted Honeyeater	V	V	Widely distributed in NSW, predominantly on the inland side of the Great Dividing Range but avoiding arid areas. Boree, Brigalow and Box-Gum Woodlands and Box-Ironbark Forests.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Haematopus longirostris</i>	Pied Oystercatcher	E	-	Forages along intertidal flats and beaches. Nests on coastal or estuarine beaches.	3	No - lack of suitable habitat for this species within the development site.	No
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	V	Marine	Distributed along the coastline of mainland Australia and Tasmania, extending inland along some of the larger waterways, especially in eastern Australia. Freshwater swamps, rivers, lakes, reservoirs, billabongs, saltmarsh and sewage ponds and coastal waters. Terrestrial habitats include coastal dunes, tidal flats, grassland, heathland, woodland, forest and urban areas.	28	Unlikely - lack of suitable habitat for this species within the development site.	No
<i>Heleioporus australiacus</i>	Giant Burrowing Frog	V	V	South eastern NSW and Victoria, in two distinct populations: a northern population in the sandstone geology of the Sydney Basin as far south as Ulladulla, and a southern population occurring from north of Narooma through to Walhalla, Victoria. Heath, woodland and open dry sclerophyll forest on a variety of soil types except those that are clay based.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Hieraaetus morphnoides</i>	Little Eagle	V	-	Throughout the Australian mainland, with the exception of the most densely forested parts of the Dividing Range escarpment. Open eucalypt forest, woodland or open woodland, including sheoak or Acacia woodlands and riparian woodlands of interior NSW.	1	No - lack of suitable habitat for this species within the development site.	No
<i>Hirundapus caudacutus</i>	White-throated Needletail	-	M	All coastal regions of NSW, inland to the western slopes and inland plains of the Great Divide. Occur most often over open	2	Unlikely - lack of suitable habitat for this	No

Scientific name	Common Name	BC Act Status	EPBC Act Status	Distribution and Habitat	Number of Records within 5 km	Likelihood of Occurrence	Impact Assessment Required
				forest and rainforest, as well as heathland, and remnant vegetation in farmland.		species within the development site.	
<i>Hoplocephalus bungaroides</i>	Broad-headed Snake	E1	V	Largely confined to Triassic and Permian sandstones within the coast and ranges in an area within approximately 250 km of Sydney. Dry and wet sclerophyll forests, riverine forests, coastal heath swamps, rocky outcrops, heaths, grassy woodlands.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Hydroprogne caspia</i>	Caspian Tern		M	Widespread in coastal and inland NSW. Coastal offshore waters, beaches, mudflats, estuaries, rivers, lakes.	1	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Isoodon obesulus</i>	Southern Brown Bandicoot (eastern)	E2	E	Found in south-eastern NSW, east of the Great Dividing Range south from the Hawkesbury River. Heath or open forest with a heathy understorey on sandy or friable soils.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Lathamus discolor</i>	Swift Parrot	E1	CE	Migrates from Tasmania to mainland in Autumn-Winter. In NSW, the species mostly occurs on the coast and south west slopes. Box-ironbark forests and woodlands.	5	Unlikely - lack of favoured feed trees which represent suitable foraging habitat for this species in the development site.	No
<i>Limosa lapponica baueri</i>	Nunivak Bar-tailed Godwit		V	Summer migrant to Australia. Widespread along the coast of NSW, including the offshore islands. Also numerous scattered inland records. Intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons, bays, seagrass beds, saltmarsh, sewage farms and saltworks, saltlakes and brackish wetlands near coasts, sandy ocean beaches, rock platforms,	53	Unlikely - lack of suitable habitat for this species within the development site.	No

Scientific name	Common Name	BC Act Status	EPBC Act Status	Distribution and Habitat	Number of Records within 5 km	Likelihood of Occurrence	Impact Assessment Required
				and coral reef-flats. Rarely inland wetlands, paddocks and airstrips.			
<i>Limosa limosa</i>	Black-tailed Godwit	V	-	A non-breeding migrant from Mongolia/ Eastern Siberia. It prefers sheltered bays, estuaries and lagoons with intertidal mudflats or sandflats.	1	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Litoria aurea</i>	Green and Golden Bell Frog	E1	V	Since 1990, recorded from ~50 scattered sites within its former range in NSW, from the north coast near Brunswick Heads, south along the coast to Victoria. Records exist west to Bathurst, Tumut and the ACT region. Marshes, dams and stream-sides, particularly those containing <i>Typha</i> spp. (bullrushes) or <i>Eleocharis</i> spp. (spikerushes). Some populations occur in highly disturbed areas.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Lophoictinia isura</i>	Square-tailed Kite	V	-	Found in coasta and subcoastal areas in Australia. Scattered in NSW. Prefers timbered habitats especially along watercourses.	1	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Macronectes giganteus</i>	Southern Giant-Petrel		E	The Southern Giant-Petrel is marine bird that occurs in Antarctic to subtropical waters. It possibly concentrates north of 50° S in winter, as it is rare in waters of the southern Indian Ocean, but common off South America, South Africa, Australia and New Zealand. It occurs in both pelagic and inshore waters.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Macronectes giganteus</i>	Northern Giant-Petrel		V	The Northern Giant-Petrel is marine and oceanic. Visits areas off the Australian mainland mainly during the winter months (May-October). Immature and some adult birds are commonly seen during this period in offshore and inshore waters from around Frenamtle (WA) to around Sydney (NSW).	0	No - lack of suitable habitat for this species within the development site, no local records.	No

Scientific name	Common Name	BC Act Status	EPBC Act Status	Distribution and Habitat	Number of Records within 5 km	Likelihood of Occurrence	Impact Assessment Required
<i>Merops ornatus</i>	Rainbow Bee-eater		Marine	Distributed across much of mainland Australia, including NSW. Open forests and woodlands, shrublands, farmland, areas of human habitation, inland and coastal sand dune systems, heathland, sedgeland, vine forest and vine thicket.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Micronomus norfolkensis</i>	Eastern Coastal Free-tailed Bat	V	-	Found along the east coast from south Qld to southern NSW. Dry sclerophyll forest, woodland, swamp forests and mangrove forests east of the Great Dividing Range.	2	Potential – roost habitat may exist in post office building roof	No – no habitat impacted in Stage 1 DA
<i>Miniopterus australis</i>	Little Bentwing-bat	V		East coast and ranges south to Wollongong in NSW. Moist eucalypt forest, rainforest, vine thicket, wet and dry sclerophyll forest, Melaleuca swamps, dense coastal forests and banksia scrub.	2	Potential – roost habitat may exist in post office building roof	No – no habitat impacted in Stage 1 DA
<i>Miniopterus orianae oceanensis</i>	Large Bent-winged Bat	V	-	In NSW it occurs on both sides of the Great Dividing Range, from the coast inland to Moree, Dubbo and Wagga Wagga. Rainforest, wet and dry sclerophyll forest, monsoon forest, open woodland, paperbark forests and open grassland.	73	Potential – roost habitat may exist in post office building roof.	No – no habitat impacted in Stage 1 DA
<i>Mixophyes balbus</i>	Stuttering Frog	E1	V	Along the east coast of Australia from southern Qld to north-eastern Victoria. Rainforest and wet, tall open forest in the foothills and escarpment on the eastern side of the Great Dividing Range.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Monarcha melanopsis</i>	Black-faced Monarch	-	M	In NSW, occurs around the eastern slopes and tablelands of the Great Divide, inland to Coutts Crossing, Armidale, Widden Valley, Wollemi National Park and Wombeyan Caves. It is rarely recorded farther inland. Rainforest, open eucalypt forests, dry sclerophyll forests and woodlands, gullies in mountain areas or coastal foothills, Brigalow scrub, coastal scrub, mangroves, parks and gardens.	0	No - lack of suitable habitat for this species within the development site, no local records.	No

Scientific name	Common Name	BC Act Status	EPBC Act Status	Distribution and Habitat	Number of Records within 5 km	Likelihood of Occurrence	Impact Assessment Required
<i>Monarcha trivirgatus</i>	Spectacled Monarch	-	M, Mar	Coastal eastern Australia south to Port Stephens in NSW. Mountain / lowland rainforest, wooded gullies, riparian vegetation including mangroves.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Motacilla flava</i>	Yellow Wagtail	-	M	Regular summer migrant to mostly coastal Australia. In NSW recorded Sydney to Newcastle, the Hawkesbury and inland in the Bogan LGA. Swamp margins, sewage ponds, saltmarshes, playing fields, airfields, ploughed land, lawns.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Myiagra cyanoleuca</i>	Satin Flycatcher	-	M	In NSW, widespread on and east of the Great Divide and sparsely scattered on the western slopes, with very occasional records on the western plains. Eucalypt-dominated forests, especially near wetlands watercourses, and heavily vegetated gullies.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Myotis macropus</i>	Southern Myotis	V	-	In NSW, found in the coastal band. It is rarely found more than 100 km inland, except along major rivers. Foraging habitat is waterbodies (including streams, or lakes or reservoirs) and fringing areas of vegetation up to 20 m.	32	Potential – roost habitat may exist in post office building roof	No – no habitat impacted in Stage 1 DA
<i>Neophema chrysogaster</i>	Orange-bellied Parrot	CE	CE	This species breeds in south-west Tasmania in summer and winters in south-east mainland Australia. In NSW it inhabits coastal habitats including saltmarsh, coastal dunes.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Ninox connivens</i>	Barking Owl	V	-	Wide but sparse distribution in NSW, avoiding the most central arid regions. Core populations exist on the western slopes and plains and in some northeast coastal and escarpment forests. Woodland and open forest, including fragmented remnants and partly cleared farmland, wetland and riverine forest.	2	No - lack of suitable habitat for this species within the development site, no local records.	No

Scientific name	Common Name	BC Act Status	EPBC Act Status	Distribution and Habitat	Number of Records within 5 km	Likelihood of Occurrence	Impact Assessment Required
<i>Ninox strenua</i>	Powerful Owl	V	-	In NSW, it is widely distributed throughout the eastern forests from the coast inland to tablelands, with scattered records on the western slopes and plains. Woodland, open sclerophyll forest, tall open wet forest and rainforest.	492	Unlikely - lack of suitable habitat for this species within the development site.	No
<i>Numenius madagascariensis</i>	Eastern Curlew	-	CE, M	Summer migrant to Australia. Primarily coastal distribution in NSW, with some scattered inland records. Estuaries, bays, harbours, inlets and coastal lagoons, intertidal mudflats or sandflats, ocean beaches, coral reefs, rock platforms, saltmarsh, mangroves, freshwater/brackish lakes, saltworks and sewage farms.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Numenius minutus</i>	Little Curlew	V		Occurs in wetlands and flooded inland plains including farmyards, playing fields and airstrips. It breeds in Siberia.	1	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Numenius phaeopus</i>	Whimbrel		M	Summer migrant to Australia. Found along almost the entire coast of NSW; scattered inland records. Estuaries, mangroves, tidal flats, coral cays, exposed reefs, flooded paddocks, sewage ponds, grasslands, sports fields, lawns.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Pachyptila turtur subantarctica</i>	Fairy Prion		V	Breeds on Macquarie Island and a number of other subantarctic islands outside of Australia. Some individuals may migrate towards New Zealand and southern Australia in winter.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Pandion cristatus</i>	Eastern Osprey	V	-	Favours coastal areas especially near rivers, lagoons and lakes. Feeds on fish over clear open water.	1	No - lack of suitable habitat for this species within the development site.	No

Scientific name	Common Name	BC Act Status	EPBC Act Status	Distribution and Habitat	Number of Records within 5 km	Likelihood of Occurrence	Impact Assessment Required
<i>Perameles nasuta</i>	Long-nosed Bandicoot population in inner western Sydney	EP	-	Located in inner city suburbs of Marrickville and Canada Bay in Sydney. Shelters in urban areas under houses and yards.	3	No - lack of suitable habitat for this species within the development site.	No
<i>Petalura gigantea</i>	Giant Dragonfly	E	-	Found along east coast of NSW. Lives in permanent swamps and bogs with open vegetation.	1	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Petauroides norfolcensis</i>	Squirrel Glider	V	-	Found in old growth forests and requires abundant tree hollows.	1	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Petauroides volans</i>	Greater Glider	-	V	In Eastern Australia, it is found from the Windsor Tableland in north Queensland through to central Victoria (Wombat State Forest). Eucalypt forests and woodlands. It is typically found in highest abundance in taller, montane, moist eucalypt forests with relatively old trees and abundant hollows.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Petrogale penicillata</i>	Brush-tailed Rock-wallaby	E1	V	In NSW they occur from the Qld border in the north to the Shoalhaven in the south, with the population in the Warrumbungle Ranges being the western limit. Rocky escarpments, outcrops and cliffs with a preference for complex structures with fissures, caves and ledges.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Phascolarctos cinereus</i>	Koala	V	V	In NSW it mainly occurs on the central and north coasts with some populations in the west of the Great Dividing Range. There are sparse and possibly disjunct populations in the Bega District, and at several sites on the southern tablelands. Eucalypt woodlands and forests.	5	No - lack of suitable habitat for this species within the development site, no local records.	No

Scientific name	Common Name	BC Act Status	EPBC Act Status	Distribution and Habitat	Number of Records within 5 km	Likelihood of Occurrence	Impact Assessment Required
<i>Pluvialis squatarola</i>	Grey Plover	-	V	Non-breeding visitor. Breeds around Arctic regions. Forages along marine shores, inlets and tidal flats.	1	Unlikely - lack of suitable habitat for this species within the development site.	No
<i>Pseudomys gracilicaudatus</i>	Eastern Chestnut Mouse	V	-	Found in low numbers in heathlands. Feeds at night.	1	No - lack of suitable habitat for this species within the development site.	No
<i>Pseudomys novaehollandiae</i>	New Holland Mouse	-	V	Fragmented distribution across eastern NSW. Open heathlands, woodlands and forests with a heathland understorey, vegetated sand dunes.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Pseudophryne australis</i>	Red-crowned Toadlet	V		Confined to the Sydney Basin, from Pokolbin in the north, the Nowra area to the south, and west to Mt Victoria in the Blue Mountains. Open forests, mostly on Hawkesbury and Narrabeen Sandstones. Inhabits periodically wet drainage lines below sandstone ridges that often have shale lenses or cappings.	1243	No - lack of suitable habitat for this species within the development site.	No
<i>Pterodroma leucoptera leucoptera</i>	Gould's Petrel		E	Marine vagrant	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Pterodroma neglecta neglecta</i>	Kermadec Petrel		V	Marine vagrant.	0	No - lack of suitable habitat for this species within the development site, no local records.	No

Scientific name	Common Name	BC Act Status	EPBC Act Status	Distribution and Habitat	Number of Records within 5 km	Likelihood of Occurrence	Impact Assessment Required
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	V	Along the eastern coast of Australia, from Bundaberg in Qld to Melbourne in Victoria. Subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops.	1243	Potential – May occasionally forage on flowering or fruiting trees within the development site	No – no habitat impacted in Stage 1 DA
<i>Ptilinopus superbus</i>	Superb Fruit-Dove	V		Principally from north-eastern Qld to north-eastern NSW. Further south, it is confined to pockets of suitable habitat, and occurs as far south as Moruya. Rainforest and closed forests. May also forage in eucalypt or acacia woodland where there are fruit-bearing trees.	8	Unlikely - lack of suitable habitat for this species within the development site.	No
<i>Pycnoptilus floccosus</i>	Pilotbird		V	Marine vagrant	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Rhipidura rufifrons</i>	Rufous Fantail	-	M	Coastal and near coastal districts of northern and eastern Australia, including on and east of the Great Divide in NSW. Wet sclerophyll forests, subtropical and temperate rainforests. Sometimes drier sclerophyll forests and woodlands.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Rostratula australis</i>	Australian Painted Snipe	E1	E	In NSW most records are from the Murray-Darling Basin. Other recent records include wetlands on the Hawkesbury River and the Clarence and lower Hunter Valleys. Swamps, dams and nearby marshy areas.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail-bat	V	-	There are scattered records of this species across the New England Tablelands and North West Slopes. Rare visitor in late summer and autumn to south-western NSW. Almost all habitats, including wet and dry sclerophyll forest, open	3	Unlikely - lack of suitable habitat for this species within the development site.	No

Scientific name	Common Name	BC Act Status	EPBC Act Status	Distribution and Habitat	Number of Records within 5 km	Likelihood of Occurrence	Impact Assessment Required
				woodland, open country, mallee, rainforests, heathland and waterbodies.			
<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bat	V	-	Both sides of the great divide, from the Atherton Tableland in Qld to north-eastern Victoria, mainly along river systems and gullies. In NSW it is widespread on the New England Tablelands. Woodland, moist and dry eucalypt forest and rainforest.	1	Unlikely - lack of hollow bearing trees, which represent suitable habitat for this species, within the development site. Human-made structures within the development site do not represent suitable habitat for this species.	No
<i>Sternula albifrons</i>	Littler Tern	E	-	Breeds in spring and summer along east coast from Tasmania to northern Queensland. Prefers sheltering environments near inlets and rivers.	3	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Sterna hirundo</i>	Common Tern	E	-	Breeds in spring and summer along east coast from Tasmania to northern Queensland. Prefers sheltering environments near inlets and rivers.	8	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Sternula nereis nereis</i>	Australian Fairy Tern		V	Marine vagrant which rarely visits east coast of Australia.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Thalasseus bergii</i>	Crested Tern	-	M	Breeds on offshore islands in NSW.	35	No - lack of suitable habitat for this species within the development site.	

Scientific name	Common Name	BC Act Status	EPBC Act Status	Distribution and Habitat	Number of Records within 5 km	Likelihood of Occurrence	Impact Assessment Required
<i>Thalassarche bulleri</i>	Buller's Albatross		V	This species breeds in New Zealand but regularly visits Australian marine waters.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Thalassarche bulleri platei</i>	Northern Buller's Albatross		V	This species is a non-breeding visitor to Australian waters. This species is mostly limited to the Pacific Ocean and Tasman Sea and not the east coast of Australia mainland.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Thalassarche carteri</i>	Indian Yellow-nosed Albatross		V	Marine vagrant	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Thalassarche cauta</i>	Shy Albatross		V	Most common distribution occurs below 25° S in southeastern and Tasmanian shelf waters. During non-breeding seasons the Shy Albatross extends across the continental shelf in subantarctic and subtropical waters including NZ. It spends most of its life out to sea coming to shore to breed in September at Stradbroke Island in Qld and south to Tasmania.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Thalassarche impavida</i>	Campbell Albatross		V	This species is a non-breeding migrant to Australian waters. Forages in temperate waters.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Thalassarche melanophrys</i>	Black-browed Albatross		V	Commonly occurring in southern Australian waters in winter. Breeds on offshore Islands off southern Australia including Heard Is, Macquarie Is and McDonald Is, to name a few. It is a marine specialist foraging for fish, crustaceans and squid in Antarctic, subantarctic and temperate waters.	0	No - lack of suitable habitat for this species within the development site, no local records.	No

Scientific name	Common Name	BC Act Status	EPBC Act Status	Distribution and Habitat	Number of Records within 5 km	Likelihood of Occurrence	Impact Assessment Required
<i>Thalassarche salvini</i>	Salvin's Albatross		V	The Salvin's Albatross is a non-breeding visitor to Australian waters.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Thalassarche steadi</i>	White-capped Albatross		V	This species breeds predominately in New Zealand. It may forage in marine waters off eastern mainland Australia.	0	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Tringa nebularia</i>	Common Greenshank	-	M	Summer migrant to Australia. Recorded in most coastal regions of NSW; also, widespread west of the Great Dividing Range, especially between the Lachlan and Murray Rivers and the Darling River drainage basin, including the Macquarie Marshes, and north-west regions. Terrestrial wetlands (swamps, lakes, dams, rivers, creeks, billabongs, waterholes and inundated floodplains, claypans, saltflats, sewage farms and saltworks dams, inundated rice crops and bores) and sheltered coastal habitats (mudflats, saltmarsh, mangroves, embayments, harbours, river estuaries, deltas, lagoons, tidal pools, rock-flats and rock platforms).	1	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Tringa stagnatilis</i>	Marsh Sandpiper	-	M	Breeds in eastern Europe and Russia. Migrates to south-eastern Australia in winter. Forages in shallow water or on wet mud.	1	No - lack of suitable habitat for this species within the development site, no local records.	No
<i>Tyto tenebricosa</i>	Sooty Owl	V	-	Occupies the easternmost one-eighth of NSW, occurring on the coast, coastal escarpment and eastern tablelands. Dry rainforest, subtropical and warm temperate rainforest, as well as moist eucalypt forests.	1	Unlikely - lack of suitable habitat for this species within the development site.	No

BC Act key: E1 = endangered, E2= endangered population, E4 = Extinct, E4A = critically endangered, V = vulnerable.

Scientific name	Common Name	BC Act Status	EPBC Act Status	Distribution and Habitat	Number of Records within 5 km	Likelihood of Occurrence	of Impact Assessment Required
EPBC Act Key: M = migratory, Mar = marine CE = critically endangered, E = endangered, V = vulnerable, X = extinct.							

