



Streamlined Biodiversity Development Assessment Report

221-291 Crown Street, 216-238 Keira Street and 86-90 Burelli Street, Wollongong

Report prepared by Narla Environmental Pty Ltd

For Wollongong Developments No.8 Pty Ltd

July 2025



NARLA

environmental

Report:	Streamlined Biodiversity Development Assessment Report: 221-291 Crown Street, 216-238 Keira Street and 86-90 Burelli Street, Wollongong
Prepared for:	Wollongong Developments No.8 Pty Ltd
Prepared by:	Narla Environmental Pty Ltd
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The report has been prepared in accordance with the Biodiversity Development Assessment Report Template (DPE 2022a)

Summary

Narla Environmental Pty Ltd (Narla) was engaged by Wollongong Developments No.8 Pty Ltd ('the Proponent') to prepare a Streamlined Biodiversity Development Assessment Report (SBDAR) to accompany a State Significant Development Application (SSDA) for the proposed development located at 221-291 Crown Street, 216-238 Keira Street and 86-90 Burelli Street, Wollongong, hereafter referred to as the Subject Property. The proposed development comprises of the following lots:

Lot 1/ DP1087986	Lot 1/ DP1116034
Lot 1/ DP112417	Lot 1/ DP1135333
Lot 1/ DP117019	Lot 1/ DP1198873
Lot 1/ DP17979	Lot 2/ DP17979
Lot 3/DP17979	Lot 4/ DP17979
Lot 5/ DP17979	Lot 2/ DP181570
Lot 1/ DP183348	Lot 1/ DP220513
Lot 1/ DP226374	Lot 2/ DP226374
Lot 1/ DP319452	Lot 2/ DP319452
Lot 3/ DP319452	Lot 2/ DP326530
Lot B/ DP395330	Lot 8/ DP546125
Lot 9/ DP551157	Lot 100/ DP774957
Lot 1/ DP82673	Lot7/ DP878243
Lot 1/ DP88455	Lot 1/ DP927806

The SBDAR will assess the biodiversity impacts of the proposed development in accordance with the requirements of the Biodiversity Conservation Act 2016 and Biodiversity Conservation Regulation 2017. The assessment has been completed as a streamlined assessment in accordance with Appendix L of the BAM (DPIE 2020a).

The proposed development will involve the demolition of the majority of the buildings withing the Subject Property with the exception of the facades of the Marcus Clark building and the Grand Hotel and the establishment of numerous high-rise buildings comprising of commercial, residential and retail facilities. The proposed development will also involve the establishment of underground carpark facilities, as well as access roads, landscaping works and associated vegetation removal to facilitate works. All components of the proposed development are collectively referred to as the 'Subject Land' and covers a total area of approximately 1.31ha.

Owing to the nature of the development, avoidance of impacts to the limited vegetation present could not be avoided due to its central location within the Subject Property. This vegetation was highly restricted and disturbed however consisting only of select native planted Eucalypts within a landscaped carpark and exotic vegetation.

The proposed development is expected to impact one (1) Plant Community Types (PCT):

- PCT 3191: South Coast Ranges Moist Gully Forest.

No ecosystem credits were required to be offset for the impacts to PCT 3191, due to its low VI Score as a result of its altered state. This vegetation did not conform to any BC Act or EPBC Act listed threatened ecological communities.

No SAIL species credit species were confirmed or assumed present within the Subject Land. Therefore, no species credits are required to be offset as a result of the proposed development.

To minimise potential impacts of the proposal on local biodiversity values, a series of mitigation and management measures have been identified, which are to be implemented as part of any Construction Environmental

Management Plan (CEMP) produced for the site. This includes assigning a Project Ecologist to undertake an extensive pre-clearing survey and to supervise the clearing of all vegetation in relation to the proposed development.

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Glossary

Acronym/ Term	Definition
Accredited Biodiversity Assessor	Individuals accredited by the NSW Department of Climate Change, Energy, the Environment and Water (NDCCEEW) to apply the Biodiversity Assessment Method.
APZ	Asset Protection Zone
BAM	The NSW Biodiversity Assessment Method
BAMC	The NSW Biodiversity Assessment Method Calculator
BC Act	New South Wales Biodiversity Conservation Act 2016
BDAR	Biodiversity Development Assessment Report
Biodiversity credit report	The report produced by the Credit Calculator that sets out the number and class of biodiversity credits required to offset the remaining adverse impacts on biodiversity values at a development site, or on land to be biodiversity certified.
Biodiversity Offsets	Management actions that are undertaken to achieve a gain in biodiversity values on areas of land in order to compensate for losses to biodiversity from the impacts of development.
Biodiversity values	The composition, structure and function of ecosystems, including threatened species, populations and ecological communities, and their habitats.
BOS	NSW Biodiversity Offset Scheme
DPE	NSW Department of Planning and Environment (now NDCCEEW)
DPIE	NSW Department of Planning, Industry and Environment (now NDCCEEW)
Ecosystem credit	The class of biodiversity credit that relates to a vegetation type and the threatened species that are reliably predicted by that vegetation type (as a habitat surrogate).
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
ha	Hectares
HTE	High Threat Exotic
km	Kilometres
LGA	Local Government Area
Locality	A 1500m buffer area surrounding the Subject Land
m	metres
Native Vegetation	Means any of the following types of plants native to New South Wales: (a) trees (including any sapling or shrub), (b) understorey plants, (c) groundcover (being any type of herbaceous vegetation), (d) plants occurring in a wetland.
NDCCEEW	NSW Department of Climate Change, Energy, the Environment and Water
NSW	The State of New South Wales
OEH	Office of Environment and Heritage (now NDCCEEW)
PCT	NSW Plant Community Type
Proposal	The development, activity or action proposed.
SAIL	Serious and Irreversible Impacts
SAIL entity	Species and ecological communities that are likely to be the subject of serious and irreversible impacts (SAILs)
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy

Acronym/ Term	Definition
Species credit	The class of biodiversity credit that relate to threatened species that cannot be reliably predicted to use an area of land based on habitat surrogates. Species that require species credits are listed in the Threatened Biodiversity Data Collection.
SSDA	State Significant Development Application
Subject Land	The footprint of the proposed development
Subject Property	221-291 Crown Street, 216-238 Keira Street and 86-90 Burelli Street, Wollongong
Threatened species, populations and ecological communities	Species, populations and ecological communities specified in Schedules 1 and 2 of the BC Act 2016.
TPZ	Tree Protection Zone: A specified area above and below ground and at a given distance from the trunk set aside for the protection of a tree's roots and crown to provide for the viability and stability of a tree to be retained where it is potentially subject to damage by development
VIS Plot	Vegetation Integrity Survey Plot

Declarations

I. Certification under clause 6.15 *Biodiversity Conservation Act 2016*

I certify that this report has been prepared based on the requirements of, and information provided under, the Biodiversity Assessment Method and clause 6.15 of the Biodiversity Conservation Act 2016 (BC Act).



Christopher Moore BBioCon
General Manager / Principal Ecologist
Accredited Biodiversity Assessor (BAAS21009)
Narla Environmental Pty Ltd
Date: 31/07/2025

II. Details and experience of author/s and contributors

Name	BAM Assessor Accreditation no. (if relevant)	Position/Role	Tasks performed	Relevant qualifications
Chris Moore	BAAS21009	General Manager and Principal Ecologist	Report Preparation, Document Review, BAM-C Data entry and analysis, BAM plot surveys	<i>BBioCon</i>
Kayla Spithoven	NA	Ecologist	Targeted flora and fauna surveys	<i>BSc/BLang</i>
Allirah Wallace	NA	Ecologist	BAM Plot Surveys, Targeted flora and fauna surveys	<i>BAS (adv)</i>

III. Conflict of Interest

I declare that I have considered the circumstances and there is no actual, perceived or potential conflict of interest.



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General Manager / Principal Ecologist
Accredited Biodiversity Assessor (BAAS21009)
Narla Environmental Pty Ltd
Date: 31/07/2025

1. Introduction

1.1 Project Introduction

This Streamlined Biodiversity Development Assessment Report (SBDAR) prepared by Narla Environmental (Narla) on behalf of Wollongong Developments No.8 Pty Ltd ('the Applicant') supports a State Significant Development Application (SSDA) for an Infill Affordable Housing Development, SSD-76440958, for the site at 221-291 Crown Street, 216-238 Keira Street and 86-90 Burelli Street, Wollongong ('The Subject Property').

Specifically, consent is sought for the following development in this SSDA:

- Demolition of existing structures on the site, retention of heritage facades, tree removal and site excavation for new basement.
- Construction of a new mixed-use development consisting of:
 - Four residential towers, ranging from 16 to 38 storeys and comprising 546 apartments including:
 - Approx. 414 market apartments.
 - Approx. 132 affordable apartments.
 - Residential lobbies and podium.
 - Communal open space.
 - A 10-storey commercial office building, an 8-storey hotel comprising 166 rooms, and numerous retail tenancies (including a supermarket) consisting of:
 - 10,009 sqm of commercial GFA.
 - 8,793 sqm of hotel GFA.
 - 3,781 sqm of retail GFA.
 - 1,510 sqm of retail supermarket GFA.
 - Car, motorcycle and bicycle parking for residents, workers and visitors across two basement levels, mezzanine, lower ground and levels 1 and 2 including:
 - 774 car parking spaces, including:
 - 547 residential spaces (including accessible spaces).
 - 49 residential visitor spaces.
 - 63 commercial/retail/residential visitor spaces.
 - 25 commercial/retail (staff) spaces.
 - 10 hotel (staff only) spaces.
 - 80 retail (supermarket) spaces.
 - Five (5) loading bays.
 - 320 bicycle parking spaces.
 - 47 motorcycle parking spaces.
- New public open space including a new public plaza.
- Associated landscaping and public domain works.

All areas associated with the proposed development will hereafter be referred to as the 'Subject Land' (**Figure 1**), which covers the entirety of the Subject Property.

This SBDAR is required to support the SSDA as required by the SEARS (SSD-76440958). This report will assess the biodiversity impacts of the proposed development in accordance with the requirements of the Biodiversity Conservation Act 2016, Biodiversity Conservation Regulation 2017 and Biodiversity Assessment Method (BAM; DPIE 2020a). Narla have produced this report in order to assess any potential impacts associated with the SSDA

and recommend appropriate measures to minimise and mitigate any potential ecological impacts in line with the requirements of the Consent Authority. The assessment has been completed in accordance with Appendix L of the BAM (DPIE 2020a).

1.2 Site Location and Description

The site is situated at 221-291 Crown Street, 216-238 Keira Street and 86-90 Burelli Street, Wollongong, within the Wollongong Local Government Area (LGA; **Figure 2**).

The site forms part of the Wollongong City Centre Precinct, as identified in the Wollongong Local Environmental Plan 2009 (WLEP). It is well located, being approximately 280m from Wollongong Train Station which provides services within Wollongong and to the Sydney CBD. It is adjacent to Wollongong Central shopping centre, a major regional retail hub. The site has ample access to public open space being less than 50m from MacCabe Park. The site comprises a significant landholding of approximately 1.31ha with frontages to Crown Street, Keira Street, Burelli Street and Atchison Street. The site is owned by Wollongong Developments No.8 Pty Ltd and is also located within the boundaries of the Illawarra Local Aboriginal Land Council (Illawarra LALC).

An aerial of the site is shown in **Figure 1**. The site area and legal description is recorded in **Table 1**.

Table 1. Site Description.

Legal Description	Address
Lot 1 in DP 112417	216-222 Keira Street
Lot 100 in DP 774957	226-230 Keira Street
Lot 9 in DP 551157	232-234 Keira Street
Lot 8 in DP 546125	236-238 Keira Street
Lot 1 in DP 88455	86 Burelli Street
Lot 4 in DP 17979	
Lot 5 in DP 17979	
Lot B in DP 395330	90 Burelli Street
Lot 1 in DP 220513	221-229 Crown Street
Lot 3 in DP 17979	231 Crown Street
Lot 2 in DP 17979	233-235 Crown Street
Lot 1 in DP 17979	
Lot 7 in DP 878243	237-241 Crown Street
Lot 1 in DP 1135333	243-251 Crown Street
Lot 1 in DP 226374	253-259 Crown Street
Lot 1 in DP 183348	
Lot 2 in DP 226374	
Lot 3 in DP 319452	261 Crown Street
Lot 2 in DP 319452	269-271 Crown Street
Lot 1 in DP 319452	
Lot 2 in DP 181570	273-279 Crown Street
Lot 1 in DP 1116034	
Lot 1 in DP 82673	281-291 Crown Street
Lot 1 in DP 117019	
Lot 1 in DP 927806	281-291 Burelli Street
Lot 1 in DP 1198873	
Lot 1 in DP 1087986	

1.3 Background

An existing consent approved on 12 December 2022 (DA-2021/957) applies to the site. The consent was granted for the demolition of existing structures, retention of heritage facades, tree removal, excavation for basement car parking and construction of a mixed-use development at the street block bound by Crown, Keira, Burelli and Atchison Streets, comprising three (3) residential towers (shop top housing), one (1) commercial building, retail shops, entertainment facilities (cinema, exhibition/performance space) and a wellness centre (pool, gym, and health services).

1.4 Secretary’s Environmental Assessment Requirements

This report has been prepared to respond to the SEARS dated 8 October 2024 for SSD-76440958. Specifically, this report has been prepared to respond to those SEARS summarised in **Table 2**.

Table 2. SEARS requirements as they relate to biodiversity.

Requirement	Response
<p>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> <p>If the development is on biodiversity certified land, provide information to identify the site (using associated mapping) and demonstrate the proposed development is consistent with the relevant biodiversity measure conferred by the biodiversity certification.</p>	Streamlined BDAR Prepared.

1.5 Assessment Method Applied

This BDAR will be prepared utilising the following ‘Streamlined Assessment Modules’ in accordance with Appendix L of the BAM (DPIE 2020a):

- Streamlined assessment module – planted native vegetation’ (**Section 2**); in conjunction with
- ‘Streamlined assessment module – small area’: as the proposal does not exceed the vegetation impact area clearing threshold for small area developments as outlined in the BAM (DPIE 2020a; **Table 3**).

Table 3. Area limits for application of small area development threshold. Dark border indicates clearing threshold relevant to this report.

Minimum lot size associated with the property	Maximum area limit for application of the small area development module
Less than 1ha	≤1ha
Less than 40ha but not less than 1ha	≤2ha
Less than 1000ha but not less than 40ha	≤3ha
1000ha or more	≤5ha



Figure 1. The components of the Subject Land.



Figure 2. The location of the Subject Land within the locality.

1.6 Sources of Information Used

A thorough literature review was undertaken to gain an insight into the ecology and applicable legislation within the locality and the Wollongong City Council LGA, including:

- Relevant State and Commonwealth Databases & Datasets:
 - DPE Biodiversity Values Map v18 (DCCEEW 2025a)
 - NSW BioNet. The website of the Atlas of NSW Wildlife (DCCEEW 2025b)
 - NSW BioNet. Threatened Biodiversity Data Collection (DCCEEW 2025c)
 - NSW BioNet. Vegetation Classification System (DCCEEW 2025d)
 - NSW Government Spatial Services: Six Maps Clip & Ship (NSW Government Spatial Services 2024)
- Vegetation, Geology and Soil Mapping:
 - State Vegetation Type Map (DPE 2022b); and
 - Soil Landscapes of the Wollongong-Port Hacking 1:100,000 Sheet (Hazelton and Tille 1990).
- NSW State Guidelines:
 - Biodiversity Development Assessment Method (DPIE 2020a);
 - Guidance to assist a decision-maker to determine a serious and irreversible impact (DPIE 2019);
 - Biodiversity Assessment Method Calculator Version 1.5.0.00 (DCCEEW 2025f);
 - Biodiversity Offsets and Agreement Management System (BOAMS);
 - Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method (DPIE 2020b);
 - NSW Survey Guide for Threatened Frogs: A guide for the survey of threatened frogs and their habitats for the Biodiversity Assessment Method (DPIE 2020c); and
 - Threatened Species Survey and Assessment: Guidelines for developments and activities. Working Draft (DEC 2004).
- Council Documents:
 - Wollongong Local Environmental Plan (WLEP) 2009;
 - Wollongong Development Control Plan (WDCP) 2009.

Preparation of this SBDAR also involved the review of the following accompanying project documents:

- Ground Level Plan (DKO 2025a; **Appendix A**); and
- Arboricultural Impact Assessment (Seasoned Tree Consulting 2025)

These sources were used to gain an understanding of the natural environment and ecology of the Subject Land and its surrounds. Searches using NSW Wildlife Atlas (BioNet) were conducted to identify current threatened flora and fauna records within and surrounding the Subject Land. These data were used to assist in establishing the presence or likelihood of any biodiversity values as occurring on, or adjacent to, the Subject Land, and helped inform our Ecologist on what to look for during the site assessment.

1.7 Aim and Approach

This report has been prepared in accordance with the BAM (DPIE 2020a) and aims to:

- Describe the biodiversity values present within the Subject Land, including the extent of native vegetation, vegetation integrity and the presence of Threatened Ecological Communities (TECs);
- Determine the habitat suitability within the Subject Land for candidate threatened species;
- Prepare an impact assessment in regard to potential impacts of the proposed development on biodiversity values, including potential prescribed impacts and SAIIs within the Subject Land;
- Discuss and recommend efforts to avoid and minimise impacts on biodiversity values; and
- Calculate the biodiversity credits (i.e., ecosystem credits and species credits) that measure potential impacts of the development on biodiversity values. This calculation will inform the decision maker as to the number and class of offset credits required to be purchased and retired as a result of the proposed development.

2. Planted Native Vegetation

The decision-making key below provides a framework for the assessment of planted native vegetation using the BAM (DPIE 2020a). The 'Streamlined assessment module – Planted native vegetation' has been used to assess the part of the proposed development that contains planted native vegetation. The remaining vegetation within the Subject Land has been assessed using the 'Streamlined assessment module – Small area'.

2.1 Decision-making Key

1. Does the planted native vegetation occur within an area that contains a mosaic of planted and remnant native vegetation and which can be reasonably assigned to a PCT known to occur in the same IBRA subregion as the proposal?
 - i. Yes The planted native vegetation must be allocated to the best-fit PCT and the BAM must be applied.
 - ii. No Go to 2.

No. The areas of planted native vegetation occur within highly altered sections of the Subject Land, typical of urban garden beds therefore it cannot be reasonably be assigned to a PCT. The planted native vegetation within the Subject Land includes *Melaleuca bracteata* and *Callistemon viminalis*. Neither of these species, naturally occur within the Wollongong area (PlantNET 2025). These species are commonly planted within the area and occur alongside other landscaped vegetation within the Subject Land, including *Ulmus parvifolius*, *Syagrus romanzaoffiana*, *Platanus x acerifolia* and *Phoenix canariensis*.

2. Is the planted native vegetation:
 - a) planted for the purpose of environmental rehabilitation or restoration under an existing conservation obligation listed in BAM Section 11.9(2.), and
 - b) the primary objective was to replace or regenerate a plant community type or a threatened plant species population or its habitat?
 - i. Yes The planted native vegetation must be assessed in accordance with Chapters 4 and 5 of the BAM.
 - ii. No Go to 3.

No. The planted native vegetation includes non-locally occurring indigenous species that have been planted for the purposes of landscaping and aesthetics within a carpark and street front garden bed.

3. Is the planted/translocated native vegetation individuals of a threatened species or other native species planted/translocated for the purpose of providing threatened species habitat under one of the following:
 - a) a species recovery project
 - b) Saving our Species project
 - c) other types of government funded restoration project
 - d) condition of consent for a development approval that required those species to be planted or translocated for the purpose of providing threatened species habitat

- e) legal obligation as part of a condition or ruling of court. This includes regulatory directed or ordered remedial plantings (e.g. Remediation Order for clearing without consent issued under the BC Act or the Native Vegetation Act)
- f) ecological rehabilitation to re-establish a PCT or TEC that was, or is carried out under a mine operations plan, or
- g) approved vegetation management plan (e.g. as required as part of a Controlled Activity Approval for works on waterfront land under the NSW Water Management Act 2000)?
- i. Yes The planted native vegetation must be assessed in accordance with Chapters 4 and 5 of the BAM.
- ii. No Go to 4.

No. The planted native vegetation has been planted for the purposes of landscaping and aesthetics using species that are commonly planted as street trees and other urban uses.

- 4. Was the planted native vegetation (including individuals of a threatened flora species) undertaken voluntarily for revegetation, environmental rehabilitation or restoration without a legal obligation to secure or provide for management of the native vegetation?
 - i. Yes Go to D.2 Assessment of planted native vegetation for threatened species habitat (the use of Chapters 4 and 5 of the BAM are not required to be applied).
 - ii. No Go to 5.

No. The planted native vegetation has been planted for the purposes of landscaping and aesthetics using species that are commonly planted as street trees and other urban uses. This was not undertaken voluntarily for revegetation, environmental rehabilitation or restoration without a legal obligation to secure or provide for management of the native vegetation.

- 5. Is the native vegetation (including individuals of a threatened flora species) planted for functional, aesthetic, horticultural or plantation forestry purposes? This includes examples such as: windbreaks in agricultural landscapes, roadside plantings (including street trees, median strips, roadside batters), landscaping in parks, gardens and sport fields/complexes, macadamia plantations or teatree farms?
 - i. Yes Go to D.2 Assessment of planted native vegetation for threatened species habitat (the use of Chapters 4 and 5 of the BAM are not required to be applied).
 - ii. No Go to 6.

Yes. The native vegetation has been planted for landscaping planting purposes. The vegetation is planted within a landscaped setting within a carpark and street front garden bed.

2.2 Assessment of planted native vegetation for threatened species habitat

The Subject Land did not contain any evidence (e.g. scats, stick nests) of threatened species credit species (flora and fauna). Furthermore, no threatened species were incidentally observed during the site assessments. In addition, there have been no historical records of threatened species within the Subject Land (NDCCEEW 2025b). There is however potential that planted native vegetation may provide intermittent foraging habitat for threatened species such as *Glossopsitta pusilla* (Little Lorikeet) and *Pteropus poliocephalus* (Grey-headed Flying-fox). **Section 7** of this BDAR details measures to mitigate and manage impacts on any threatened species that may occur within the Subject Land.

3. Landscape

3.1 IBRA bioregion and subregion

The Subject Land occurs within the 'Illawarra' Interim Biogeographic Regionalisation for Australia 7 (IBRA7) Subregion, which is part of the 'Sydney Basin' IBRA7 Bioregion (**Figure 3**).

3.2 NSW (Mitchell) Landscapes

Mitchell Landscapes (2002) groups ecosystems into meso-ecosystems representing larger natural entities based on topography and geology. The naming of ecosystems and meso-ecosystems was standardised so that each name provided location information and a meaningful descriptive landscape term.

The Subject Land is mapped within 'Dapto – Wollongong Coastal Slopes' Mitchell Landscape (**Figure 4**). This landscape is characterised hilly forestland lying between the steep rubble slopes of the escarpment and valley floors or coastal barriers. A narrow landscape lying between the coast and the escarpment. Formed on Permian sandstone and shale with areas of interbedded basalt. Slopes range from 3 to 27° with thin stony soils on crests and upper slopes. Deeper well-structured red and red brown loam and clay loam with some areas of mellow texture-contrast soils of high fertility high and good water holding capacity on mid and lower slopes. Yellow solodic soils with bleached A₂ horizons common on the lowest slopes and stream terraces. Open forest dominated by Forest Red Gum (*Eucalyptus tereticornis*), Yellow Stringybark (*Eucalyptus muelleriana*), Gully Gum (*Eucalyptus smithii*), stringybark with rainforest elements along streamlines. Extensively cleared, former areas of coastal brush may be indicated by remnant Cabbage-tree Palms (*Livistona australis*) and Port Jackson Figs (*Ficus rubiginosa*).

3.3 Topography, Geology and Soils

The Subject Land is located on a gentle south east facing slope, with elevation ranging from 25m above sea level (asl) in the north west down to approximately 14m asl in the south east (Google Earth 2025). The Subject Land is mapped as occurring on the Gwynneville Soil Landscape, as per the Soil Landscapes of the Wollongong – Port Hacking 1:100,000 Sheet (Hazelton and Tille 1990), which is characterised foot slopes of the Illawarra Escarpment and isolated rises of the Wollongong Plain. The geological units typical of this soil landscape are Illawarra Coal Measures—resistant interbedded quartz lithic sandstone, grey siltstone and claystone, carbonaceous claystone, clay and laminite (Hazelton and Tille 1990).

3.3.1 Areas of Geological Significance and Soil Hazards

The Subject Land did not contain any areas of geological significance, such as karsts, caves, cliffs or crevices and none were identified using aerial imagery within the broader locality (1500m buffer). The Subject Land is mapped as having a low probability of Acid Sulfate Soils.

3.4 Hydrology

No mapped or unmapped watercourses were located within the Subject Land. A number of mapped watercourses occur within the 1500m buffer surrounding the Subject Land, ranging from 1st to 3rd order streams (**Figure 5**).

3.5 State Environmental Planning Policy (Resilience and Hazards) 2021: Chapter 2: Coastal Management

No areas of native vegetation mapped as 'Coastal Wetlands' or 'Littoral Rainforest' as per the State Environmental Planning Policy (Resilience and Hazards) 2021: Chapter 2: Coastal Management are located within the Subject Land. Areas mapped as 'Coastal Wetlands' do however occur within the broader locality (1500m buffer; **Figure 6**) and will not be impacted by the proposed development.

3.6 Native Vegetation Cover and Connectivity

Native vegetation cover and connectivity have been assessed in accordance with Sections 3.2 and 3.1.3 of the BAM (DPIE 2020a). The native vegetation cover will be used to assess the habitat suitability of the Subject Land for threatened species. Areas of connectivity will determine the extent of habitat that may facilitate the movement of threatened species across their range. A 1500m buffer around the boundary of the Subject Land was calculated to determine the extent of native vegetation and habitat connectivity. Native vegetation covered approximately 44ha of the terrestrial area within the 1500m buffer circle (total area = 783ha). Therefore, native vegetation cover was assigned to the 0-10% class (6%; **Figure 7**).

Owing to the built up, city landscape of the locality, no areas of connectivity were identified between the select, isolated, native canopy trees present within the Subject Land and the broader locality

3.7 Areas of Outstanding Biodiversity Value

No Areas of Outstanding Biodiversity Value occur on the Subject Land or surrounding area.

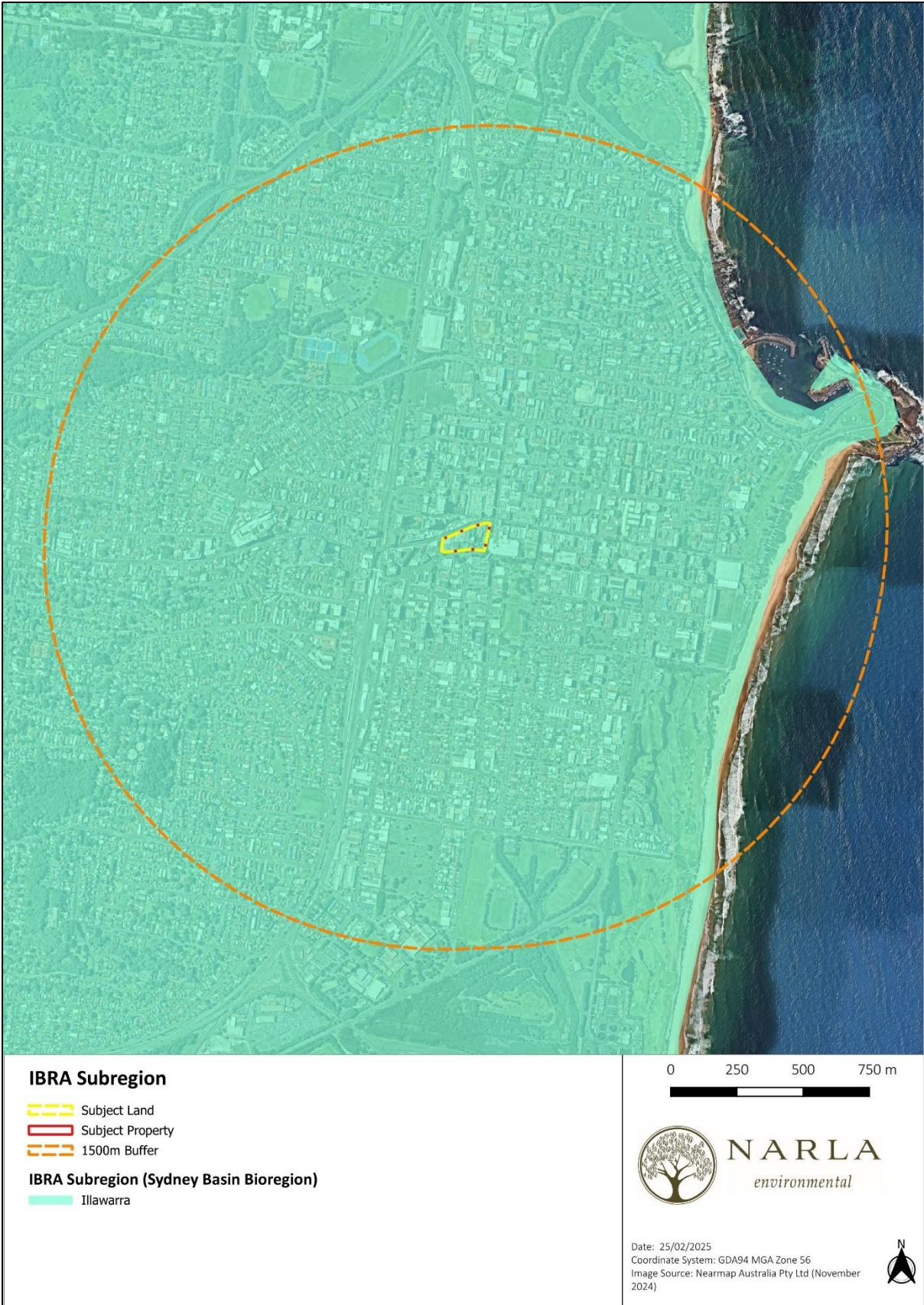


Figure 3. IBRA Bioregion and Subregion of the Subject Property and Subject Land, and within a 1500m buffer.

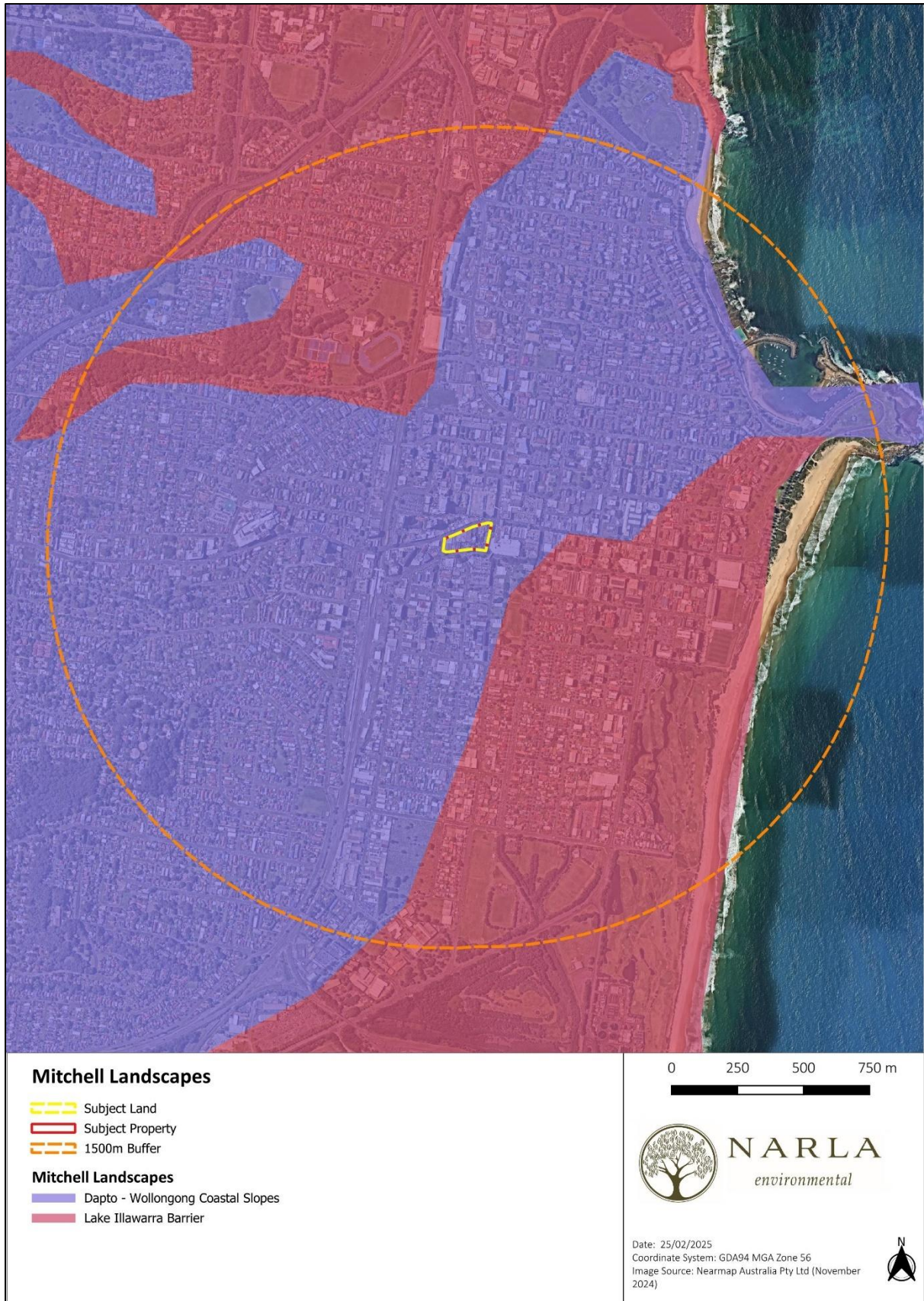


Figure 4. Mitchell Landscapes of the Subject Property and Subject Land, and within a 1500m buffer.



Figure 5. Rivers and streams (with associated riparian buffers) occurring within the 1500m buffer.

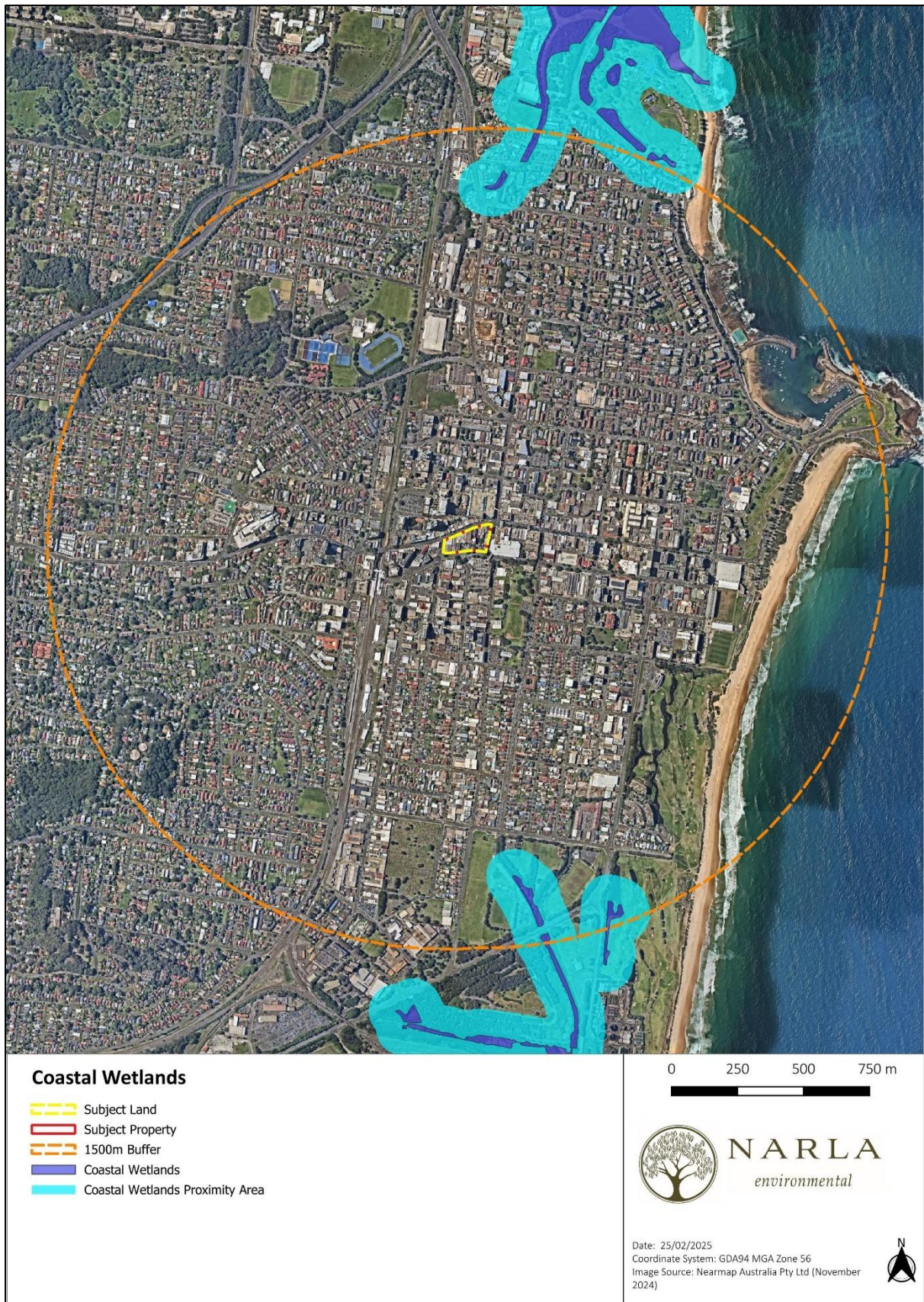


Figure 6. Areas mapped within proximity of the Subject Land as containing Coastal Wetlands as per Chapter 2 of the State Environmental Planning Policy (Resilience and Hazards) 2021.



Figure 7. The extent of native vegetation occurring within the 1500m buffer. No habitat connectivity was evident between the Subject Land and broader locality.

4. Native Vegetation

4.1 Plant Community Types (PCT) Identified within the Subject Land

4.1.1 Historically Mapped Vegetation

No vegetation communities have been historically mapped within the Subject Land however, the NSW State Vegetation Type Map (DPE 2022b) indicates the presence of two (2) native vegetation communities in close proximity (**Figure 8**):

- PCT 3078: Illawarra Lowland Wet Vine Forest; and
- PCT 3153: Illawarra Escarpment Bangaly x Blue Gum Wet Forest.

4.1.2 Plant Community Type Selection Process

Field surveys conducted by Narla confirmed that one (1) native vegetation communities occurred within the Subject Land. Plant Community Type selection for this vegetation community was undertaken using information and databases provided in the BioNet Vegetation Classification System (NDCCEEW 2025d)

The following selection criteria were used in the PCT Filter Tool to develop the PCT shortlist:

- IBRA Bioregion: Sydney Basin
- IBRA Subregion: Illawarra
- Dominant Species: *Eucalyptus punctata*, *Eucalyptus sideroxylon*, *Pandorea pandorana*, *Cyperus gracilis*, *Dichondra repens* and *Glochidion ferdinandi*.

This process delivered a selection of ten (10) PCTs that occur within the Illawarra IBRA Subregion (and Sydney Basin Bioregion) and contained five (5) out of the six (6) species identified. The geographical distribution characterised by each shortlisted PCT was then compared against the geographical characteristics and geology of the Subject Land, leaving just one (1) candidate PCT (**Table 4**). The steps taken to justify the presence/absence of the candidate PCTs within the Subject Land are detailed in **Table 5**.



Figure 8. Historically mapped vegetation communities within and surrounding the Subject Land.

Table 4. Output from the PCT Filter Tool (NDCCEEW 2025d) and subsequent shortlisting of dominant PCTs. Green shading indicates the selected best fit dominant PCT.

Plant Community Type (PCT)	Subject Land within known distribution/landscape position and on correct geology.	No. of Floristic Matches (/6)
PCT 3041: Sydney Sandstone Coachwood-Grey Myrtle Rainforest	No. This PCT is known to occur along creeks and in gullies at elevations between 50m – 400m asl. The Subject Land does not occur in a creek or gully and is located beneath this elevation range.	5
PCT 3191: South Coast Ranges Moist Gully Forest	Yes. This PCT occurs at elevations of 4-500 metres asl, receiving 900-1800 mm mean annual rainfall. It is sampled from a variety of moderately fertile substrates including Berry Siltstone, Cambewarra Latite, Illawarra Coal Measures, Wandrawandian siltstone, Milton and Mount Dromedary monzonites and cherts, as well as fine-grained sandstones. The Subject Land is located within this distribution range and is located on soils mapped as containing Illawarra Coal Measures.	6
PCT 3258: Sydney Basin Creekflat Blue Gum-Apple Forest	No. This PCT is widespread throughout dry mid-elevations of Wollemi and Yengo national parks in the northern Sydney Basin, however is restricted to small and medium sized narrow creek flats and colluvial infill gullies. The Subject Land is not located within the northern Sydney Basin and is not located on narrow creek flats or colluvial gullies.	6
PCT 3267: Shoalhaven Foothills Turpentine Forest	No. This PCT extends north from the Ulladulla district to the Shoalhaven gorge at Tallowa dam on coarse grained Permian sediments. The Subject Land is not located within this distribution.	5
PCT 3268: Shoalhaven Foothills Turpentine-Ironbark Moist Forest	No. This PCT is distributed from Currowan and Brooman north to gorge slopes below Meryla and Wingello, at elevations of 50-600 metres asl in areas receiving 900-1300 mm mean annual rainfall. The Subject Land is not located within this distribution and is located below this elevation range.	5
PCT 3544: Coastal Sands Apple-Blackbutt Forest	No. This PCT occurs mainly on low elevation coastal dune systems, which are commonly below 40 metres asl but in some cases up to 150 metres asl. Whilst the Subject Land is located within this elevation range, the Subject Land does not occur on coastal dune systems.	5
PCT 3654: Shoalhaven Lowland Bloodwood Shrub Forest	No. This PCT is mainly situated on Nowra sandstone lowlands and foothills in the Shoalhaven region between Kangaroo Valley, Nowra and Bawley Point. The Subject Land is not located within this distribution.	5
PCT 4020: Coastal Creekflat Layered Grass-Sedge Swamp Forest	No. This PCT is widespread across coastal lowlands, however is restricted to alluvial flats at elevations below 30 metres asl that are likely to be subject to periodic inundation from floodwaters. The Subject Land is not located on alluvial flats.	5
PCT 4021: Coastal Creekline Dry Shrubby Swamp Forest	No. This PCT occupies drier elevated parts of coastal alluvial flats in creek headwaters, narrow drainage channels and margins of swamps where soils are less frequently inundated. The Subject Land is not located on coastal alluvial flats.	5
PCT 4049: South Coast Floodplain Grassy Swamp Forest	No. A tall grassy open forest of low-lying slightly saline sites on coastal floodplain margins and headland soaks of the southern Sydney Basin and northern South East Corner bioregions. This PCT is distributed between Narooma and Wollongong at elevations of 2-25 metres asl in areas receiving 1000-1350 mm mean annual rainfall, commonly on organic-rich sandy clay alluvium. The Subject Land is not located on a coastal floodplain margin or headland soak.	5

Table 5. PCT Selection Criteria. Green indicates the selected PCT.

Candidate PCT	Description (NDCCEEW 2025d)	Justification
<p>PCT 3191: South Coast Ranges Moist Gully Forest</p>	<p>A very tall moist sclerophyll open forest of gullies and sheltered slopes on coastal and hinterland foothills of the northern South East Corner and southern Sydney Basin bioregions. Plots are distributed from Cuttagee north to the northern Illawarra, and west to mid Deua River and Bungonia Creek catchments. This PCT occurs at elevations of 4-500 metres asl, receiving 900-1800 mm mean annual rainfall. It is sampled from a variety of moderately fertile substrates including Berry Siltstone, Cambewarra Latite, Illawarra Coal Measures, Wandrawandian siltstone, Milton and Mount Dromedary monzonites and cherts, as well as fine-grained sandstones. The tree canopy is generally mid-dense, with no single species dominating, however the most frequent species include <i>Eucalyptus muelleriana</i>, <i>Syncarpia glomulifera</i>, <i>Eucalyptus paniculata</i>, <i>Angophora floribunda</i> and the hybrid <i>Eucalyptus botryoides</i> - <i>saligna</i>. A sparse small tree layer commonly includes scattered <i>Acacia maidenii</i>, with a sparse to mid-dense stratum of smaller shrubs that commonly includes <i>Breynia oblongifolia</i>, <i>Synoum glandulosum</i> subsp. <i>glandulosum</i>, <i>Clerodendrum tomentosum</i> and <i>Notelaea venosa</i>, occasionally with <i>Pittosporum revolutum</i> and <i>Rubus parvifolius</i>. The mid-dense ground layer is rich in vines, ferns, grasses, graminoids and soft forbs. The vines <i>Geitonoplesium cymosum</i>, <i>Tylophora barbata</i> and <i>Eustrephus latifolius</i> are almost always present, very frequently with <i>Doodia aspera</i>, <i>Pellaea falcata</i>, <i>Pandorea pandorana</i> subsp. <i>pandorana</i>, <i>Plectranthus parviflorus</i> and <i>Smilax australis</i>. Common species include <i>Desmodium varians</i>, <i>Dichondra repens</i>, <i>Lomandra longifolia</i>, <i>Oplismenus imbecillis</i>, <i>Stellaria flaccida</i>, <i>Cissus hypoglauca</i>, <i>Microlaena stipoides</i>, <i>Sigesbeckia orientalis</i> subsp. <i>orientalis</i>, <i>Hibbertia dentata</i>, <i>Pteridium esculentum</i>, <i>Entolasia marginata</i>, <i>Glycine clandestina</i>, <i>Pseuderanthemum variabile</i> and <i>Stephania japonica</i> var. <i>discolor</i>. In the north of its range on sheltered wet slopes protected from fire this community may be replaced by PCT 3153, while in the south it may grade into PCT 3045 in deep wet gullies.</p>	<p>It is acknowledged that this Vegetation Zone within this Subject Land is highly altered, containing locally occurring native canopy species that have most likely been planted as part of previous landscaping efforts within the Subject Property. However, owing to the species being locally occurring they are required to be assigned to a PCT. Narla have therefore assigned this PCT to this Vegetation Zone within the Subject Land as it most accurately describes the geology, landscape features and canopy species coverage associated with the vegetation within this zone of the Subject Land and was therefore considered to be the “Best Fit”.</p>

4.1.3 Final PCT and Vegetation Zone Selection

Field surveys conducted by Narla confirmed areas of landscaped vegetation as well as one (1) native PCT within the Subject Land:

- PCT 3191: South Coast Ranges Moist Gully Forest.

These PCTs within the Subject Land have therefore been assigned to the following vegetation zones:

- Zone 1: PCT 3191 – Low Condition (landscaped vegetation).

The other vegetation within the Subject Land that did not conform to a locally occurring PCT will hereafter be referred to as:

- Landscaped Vegetation

These vegetation communities are detailed in **Table 6** and **Table 7** and displayed in **Figure 9**.

Table 6. PCT 3191 identified within the Subject Land.

Vegetation Zone 1: PCT 3191 – South Coast Ranges Moist Gully Forest (Low Condition)



Vegetation Zone 1: PCT 3191 – South Coast Ranges Moist Gully Forest (Low Condition)	
Vegetation class	South Coast Wet Sclerophyll Forests
Field survey effort	One (1) 10x60m VIS plot (inclusive of 10x30m floristic plot) was established. The shape and size of this plot had to be altered (Figure 9), due to the high level of ecotones located within the Subject Land. It is deemed that the plot conducted still accurately captured the condition of the vegetation present within the Subject Land.
Total Area within the Subject Land	0.04ha
Description of vegetation within the Subject Land	This vegetation within the Subject Land was highly altered and contained locally native canopy species within landscaped garden beds located between carparks and areas of hardstands. The native species present included <i>Eucalyptus punctata</i> , <i>Eucalyptus sideroxylon</i> , <i>Pandorea pandorana</i> , <i>Cyperus gracilis</i> , <i>Dichondra repens</i> and <i>Glochidion ferdinandi</i> . The understory in this zone consisted of common exotic landscaped vegetation such as <i>Phoenix canariensis</i> .
Structure of vegetation	<p>Canopy cover was low within the plot, with native trees accounting for 11.1% cover. Shrubs were absent. Native groundcovers were also largely absent with just 0.1% grass, 0.1% forb, 0% fern and 0.2% other. A moderate coverage of leaf litter (57%) was apparent with 1m of fallen logs. High Threat Exotics were low at 2.7% cover.</p> <p>The VIS plots contained a low diversity of tree stem sizes, with tree stems recorded in just one (1) DBH class with regenerating stems and no hollow bearing trees. No large tree (>80DBH) were identified within the plot.</p>
TEC Status (BC Act 2016)	This PCT is not associated with any threatened ecological communities listed under the BC Act 2016.
TEC Status (EPBC Act 1999)	This PCT is not associated with any threatened ecological communities listed under the EPBC Act 2016.
Scientific Reference from VIS (NDCCEEW 2025d)	Connolly, D., Binns, D., Turner, K., Hager, T., Lyons, M., Magarey, E. (in prep.) A revised classification of Plant Community Types for eastern New South Wales. NSW DPIE, Parramatta
Estimate of percent cleared value of PCT in the major catchment area	4.60%

Table 7. Landscaped Vegetation within the Subject Land.


Landscaped Vegetation	
	
Total Area within the Subject Land	0.09ha
Field survey effort	No VIS plots were conducted within this zone owing to its exotic and non-local nature.
Description of vegetation	This vegetation within this portion of the Subject Land comprised of landscaped vegetation containing commonly planted exotic vegetation such as <i>Ulmus parvifolius</i> , <i>Syzagrus romanzaoffiana</i> , <i>Platanus x hispanica</i> , <i>Abelia chinensis</i> , <i>Liriope muscari</i> as well as Non-locally occurring native species such as <i>Callistemon viminalis</i> and <i>Melaleuca bracteata</i> .
Justification of vegetation assignment	The vegetation within this zone comprised of non-locally occurring planted native vegetation and exotic species as part of carpark landscaping within the Subject Property. As this vegetation cannot be reasonably assigned a locally occurring PCT, it has been called "Landscaped Vegetation".
TEC Status (BC Act 2016 and EPBC Act 1999)	No associated TECs



Figure 9. Narla field validated vegetation mapping and location of the VIS plot within the Subject Land.

4.2 Assessing Patch Size

A patch is defined by the BAM (DPIE 2020a) as an area of native vegetation that occurs on the Subject Land and includes native vegetation that has a gap of less than 100m from the next area of native vegetation (or $\leq 30\text{m}$ for non-woody ecosystems). A patch may extend onto adjoining land.

For each vegetation zone, the assessor must determine the patch size in hectares and assign it to one of the following classes:

- $<5\text{ha}$
- $5\text{--}<25\text{ha}$
- $25\text{--}<100\text{ha}$
- $\geq 100\text{ha}$.

The patch size class is used to assess habitat suitability on the Subject Land for threatened species. The assessor may assign more than one patch size class to the vegetation zone if both of the following apply:

- A vegetation zone comprises two or more discontinuous areas of native vegetation, and
- The areas of discontinuous native vegetation have more than one patch size class.

As areas outside of the Subject Property were not assessed as part of the scope of this assessment, the vegetation zones identified within the Subject Land have been allocated to the following ecosystem categories to allow for aerial mapping of patch size within the broader area (**Table 8; Figure 10**)

- Woody Ecosystems (Vegetation Zone 1: PCT 3191).

According to the BAM (DPIE 2020a), exotic vegetation does not require assessment under Chapter 4 of the BAM, and as such, patch size for the vegetation mapped as Landscaped Vegetation does not need to be determined.

Table 8. Patch size classes that each PCT and associated vegetation zone fall into.

Plant Community Type	Vegetation Zone	Patch Size Class
PCT 3191	Zone 1	$<5\text{ha}$



Figure 10. Patch size for the vegetation zones identified within the Subject Land.

4.3 Vegetation Integrity Survey (VIS) Plots

One (1) 10x60m VIS plot (inclusive of 10x30m floristic plot) was established within the Subject Land. The shape and size of this plot had to be altered (**Figure 9**), due to the high level of ecotones located within the Subject Land. It is deemed that the plot conducted still accurately captured the condition of the vegetation present within the Subject Land.

Plot data gathered for each attribute used to assess the function of the Subject Land vegetation is detailed in **Appendix B**. Vegetation Integrity (VI) Scores represented by existing vegetation within each vegetation zone is detailed in **Table 9**.

4.3.1 Determining future vegetation integrity scores

Most projects will result in complete clearing of vegetation and threatened species habitat within the Subject Land. In this scenario, the assessor must assess the proposed future value of each of the VI attributes as zero in the BAMC. However, in circumstances where partial clearing of vegetation is proposed and remaining vegetation will be maintained, the assessor may determine that the future value of the relevant VI attributes is greater than zero (DPIE 2020a).

The Subject Land will experience complete clearing to facilitate the proposed development. Therefore, all future conditions scores must be considered as zero. Consequently, the vegetation within the Subject Land has been assigned to the following management zones (**Figure 11**):

- Vegetation Zone 1: PCT 3191 – Low Condition:
 - Management Zone 1: PCT 3191- Complete removal - this area will require the removal of all vegetation to allow for the proposed development.

The attributes influencing future vegetation scores within this management zone are detailed in **Table 10**. Owing to the exotic nature of the vegetation within the Landscaped Vegetation, it has not been assigned to a management zone and does not require further assessment.

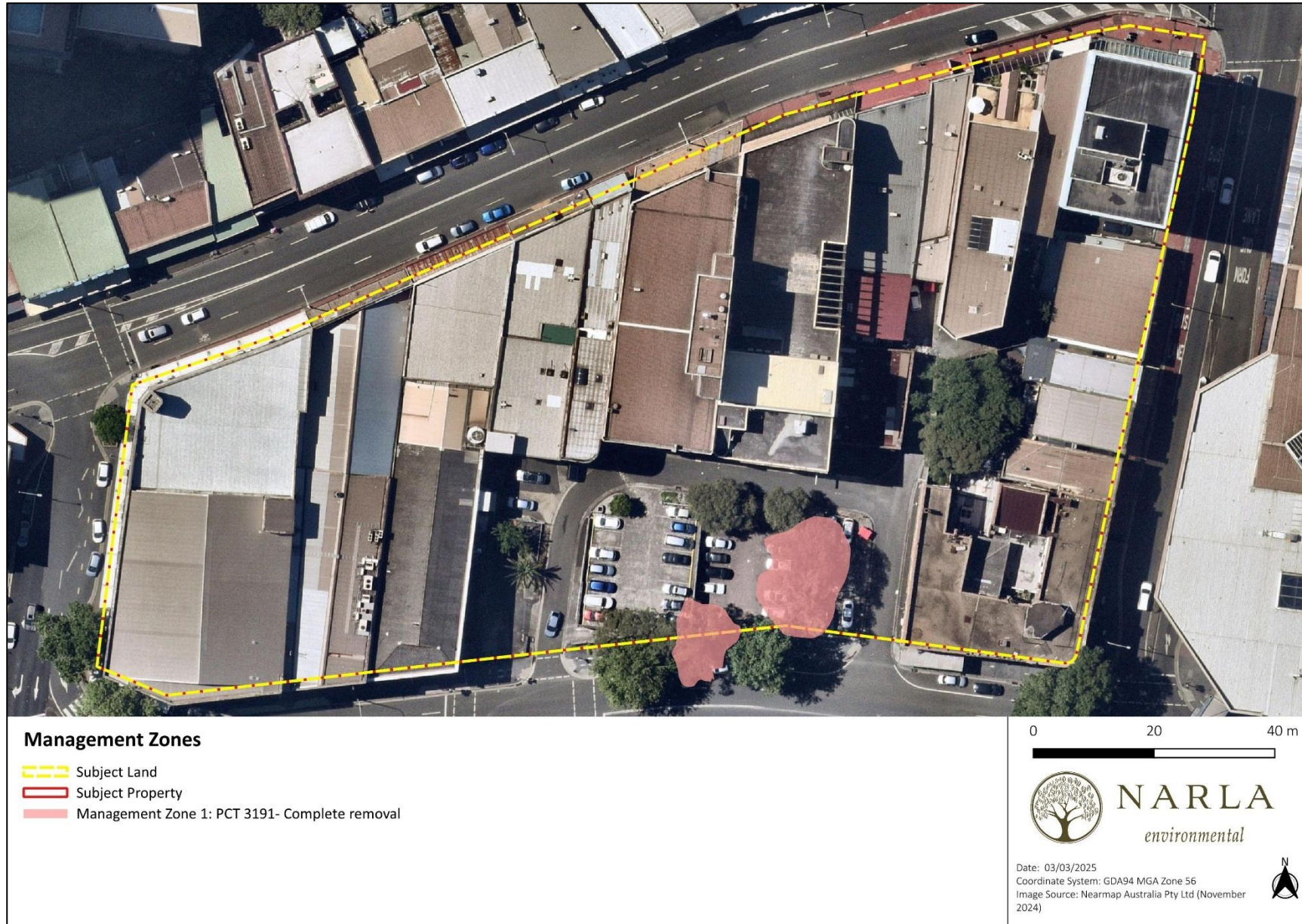


Figure 11. Management Zone within the Subject Land.

Table 9. Vegetation integrity scores for each identified zone.

Vegetation Zone	Management Zone	Area (ha)	Survey Effort	Composition Condition Score	Structure Condition Score	Function Condition Score	VI Score	Future VI Score	Change in VI Score	Total VI Loss	Hollow bearing trees
Zone 1: PCT 3191 – Low Condition	Zone 1 – Complete removal	0.04	1 x VIS Plot (10m x 60m)	6	1.9	31.3	7.1	0	-7.1	7.1	Absent

Table 10. Management Zones within the Subject Land, and relevant vegetation attributes (composition, structure and function) affecting future VI scores.

Vegetation Zone	Management Zone	Changes in current vegetation attributes	Vegetation attributes not changed	Future vegetation scores and justification
Zone 1 – PCT 3191: Low Condition	Zone 1 – Complete removal	All vegetation will be removed	NA	<ul style="list-style-type: none"> All vegetation within this zone has been assessed as lost as a result of the proposed development as well as potential future indirect impacts. Future composition, structure and function score is 0.

5. Threatened Species

5.1 Candidate Ecosystem Credit Species

Ecosystem credit species associated with the Subject Land are listed below in **Table 11**. Two (2) species predicted by the BAM calculator (NDCCEEW 2025f) as potential ecosystem credits were excluded from the assessment due to habitat constraints.

Table 11. Candidate ecosystem credits predicted to occur within the Subject Land.

Scientific Name	BC Act Status	Sensitivity to Gain Class	Excluded from Assessment	Reason for Exclusion from Assessment
<i>Artamus cyanopterus cyanopterus</i> Dusky Woodswallow	Vulnerable	Moderate	No	-
<i>Calyptorhynchus lathamii</i> South-eastern Glossy Black-Cockatoo (Foraging)	Vulnerable	High	Yes	No Allocasuarina and Casuarina species.
<i>Dasyurus maculatus</i> Spotted-tailed Quoll	Vulnerable	High	No	-
<i>Ephippiorhynchus asiaticus</i> Black-necked Stork	Endangered	Moderate	Yes	No swamps or waterbodies present or within 300m of these swamps or waterbodies.
<i>Glossopsitta pusilla</i> Little Lorikeet	Vulnerable	High	No	-
<i>Haliaeetus leucogaster</i> White-bellied Sea-Eagle (Foraging)	Vulnerable	High	No	-
<i>Hirundapus caudacutus</i> White-throated Needle-tail	Vulnerable	High	No	-
<i>Lathamus discolor</i> Swift Parrot (Foraging)	Endangered	Moderate	No	-
<i>Miniopterus orianae oceanensis</i> Large Bent-winged bat (Foraging)	Vulnerable	High	No	-
<i>Petroica boodang</i> Scarlet Robin	Vulnerable	Moderate	No	-
<i>Petroica phoenicea</i> Flame Robin	Vulnerable	Moderate	No	-
<i>Pteropus poliocephalus</i> Grey-headed Flying-fox (Foraging)	Vulnerable	High	No	-

5.2 Candidate Species Credit Species Summary

This section provides a summary of the candidate species credit fauna and flora species for the Subject Land derived from BAMC (NDCCEEW 2025f). A summary of the targeted survey effort applied to each species is provided along with the results of the survey effort, specifically whether or not the species credit needs to be offset through retiring of Biodiversity Offset Credits (**Table 12** and **Table 13**).

Table 12. Candidate Fauna Credit Species predicted to occur within the Subject Land.

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?	Biodiversity Risk Weighting	Biodiversity Offset Credits Required?
<i>Lathamus discolor</i> Swift Parrot (Breeding)	No, the Subject Land is not included on the map of important areas for Swift Parrot.	NA	NA	Very High - 3	No
<i>Miniopterus orianae oceanensis</i> Large Bent-winged Bat (Breeding)	No. This species is known to breed in caves, tunnels, mines and culverts. As such habitat constraints are not present within the Subject Land, this species was excluded from the assessment.	NA	NA	Very High - 3	No

Table 13. Candidate Flora Credit Species predicted to occur within the Subject Land.

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?	Biodiversity Risk Weighting	Biodiversity Offset Credits Required?
<i>Pterostylis pulchella</i>	No. This species is listed as having the habitat constraint 'within 1km of sandstone escarpment' in the BAMC. As such habitat was not present within 1km of the Subject Land this species was excluded from the assessment.	NA	NA	Very High – 3	No
<i>Rhizanthella slateri</i> Eastern Australian Underground Orchid	No. As per Section 5.2.3(2aii) of the BAM (DPIE 2020a), it was determined that the habitat constraints and microhabitats within the Subject Land are so degraded that the species is unlikely to use the area. Owing to the Subject Land largely consisting of a concrete hardstand and buildings with a thin strip of landscaped gardens it was	NA	NA	Very High – 3	No

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?	Biodiversity Risk Weighting	Biodiversity Offset Credits Required?
	considered that the area was substantially degraded that this species was unlikely to be present.				
<i>Rhodamnia rubescens</i> Scrub Turpentine	No. As per Section 5.2.3(2a) of the BAM (DPIE 2020a), it was determined that the habitat constraints and microhabitats within the Subject Land are so degraded that the species is unlikely to use the area. Owing to the Subject Land largely consisting of a concrete hardstand and buildings with a thin strip of landscaped gardens it was considered that the area was substantially degraded that this species was unlikely to be present.	NA	NA	Very High – 3	No
<i>Syzygium paniculatum</i> Magenta Lilly Pilly	No. Whilst this species is not listed as at risk of SAll, this species was incidentally located within the Subject Property during the site assessment and therefore requires consideration in accordance with the BAM. This species is commonly landscaped and is believed to have been planted within the Subject Land, as the property does not contain the Rainforest vegetation in which this species is known to occur naturally. As the individual located within the Subject Land has not occurred naturally, is not part of a self-sustaining population and clearly part of a garden planting outside its natural distribution and habitat (DPIE 2020b) it does not require credit generation and has therefore been excluded from the assessment.	NA	NA	High 2	No

5.3 Surveys for SAIL Species Credit and their Habitats

Surveys were undertaken for SAIL species credit species and their habitats considered to have potential to occur within the Subject Land (**Figure 12**). These surveys were implemented in accordance with Section 5.3 of the BAM and all relevant OEH, DPE and DCCEEW threatened species survey guidelines.

Targeted surveys were undertaken by the following experienced ecologists on the following dates:

- Chris Moore and Allirah Wallace: 11/02/2025; and
- Allirah Wallace and Kayla Spithoven: 20/02/2025.

Weather conditions taken from the nearest weather station (Bellambi AWS no. 068228) in the lead up and during the field survey are outlined in **Table 14**. Select rainfall combined with moderate temperatures in the week prior to the site assessments is likely to have produced favourable conditions for the emergence of threatened flora species.

Table 14. Weather conditions taken from the nearest weather stations (Station number 068228) in the lead up and during the field survey (BOM 2025). Survey date is in bold.

Timing/activities	Undertaken By (Approximate Hours Spent)	Date	Day	Temperature		Rainfall (mm)
				Min	Max	
Lead up to the survey	-	04.02.2025	Tuesday	20.6	27.3	0
		05.02.2025	Wednesday	21.5	29.5	0
		06.02.2025	Thursday	22.4	27.4	0
		07.02.2025	Friday	21.0	26.5	0
		08.02.2025	Saturday	22.8	27.6	0
		09.02.2025	Sunday	22.0	26.4	0
		10.02.2025	Monday	19.6	25.4	6.8
Vegetation and Habitat Assessment Survey	Chris Moore and Allirah (14 hours)	11.02.2025	Tuesday	21.1	24.1	0
Lead up to the survey	-	13.02.2025	Thursday	21.9	25.8	5.4
		14.02.2025	Friday	22.2	25.3	0.2
		15.02.2025	Saturday	18.7	24.6	13.4
		16.02.2025	Sunday	13.4	21.1	0
		17.02.2025	Monday	14.6	21.6	0
		18.02.2025	Tuesday	14.9	24.7	0
		19.02.2025	Wednesday	19.1	24.4	0
Roof Habitat Assessment and Survey	Allirah Wallace and Kayla Spithoven (12 hours)	20.02.2025	Thursday	17.7	21.8	0.2

5.3.1 Fauna Species Credit Survey

A total of two (2) SAI threatened fauna species were identified within the BAMC (NDCCEEW 2025f) as having the potential to occur within the Subject Land. Following the site assessments, it was then determined that both of the predicted species were unlikely to be present within the Subject Land due to the follow:

- The assessor determines that microhabitats required by a species are absent from the Subject Land (or specific vegetation zone) [(Section 5.2.3(2ai) of the BAM (DPIE 2020a)].

5.3.1.1 Threatened Microchiropteran Bat Survey

Owing to the presence of man-made structures within the Subject Land that will require demolition to facilitate the proposed works, a targeted survey for threatened microchiropteran bat (microbats) species with potential to utilise such habitat was conducted. The following threatened microbat species, which are known to inhabit buildings, occur within the locality of the Subject Land (NDCCEEW 2025b):

- *Miniopterus orianae oceanensis* (Large Bent-winged Bat);
- *Miniopterus australis* (Little Bent-winged Bat)
- *Saccolaimus flaviventris* (Yellow-bellied Sheath Tail Bat);
- *Falsistrellus tasmaniensis* (Eastern False Pipistrelle);
- *Scoteanax rueppellii* (Greater Broad-nosed Bat);
- *Micronomus norfolkensis* (Eastern Coastal Free-tailed Bat); and

The survey was conducted during daylight hours, on the 20th of February by experienced Narla Ecologists Allirah Wallace and Kayla Spithoven. During the site assessment the Ecologists conducted a walk over of both the inside and outside of the following structures which are proposed to be demolished as part of this SSSA, which were considered to have suitable roof habitat for roosting:

- Spotlight Building (Roof Space);
- Go-Lo Building (Roof Space); and
- External areas of all building.

The ecologists focussed searches on potential entry and exit points as well as cracks, crevices and holes that could be utilised for roosting. Each area of potential habitat were examined using an endoscope as well as a EchoMeter Touch 2 Pro to record any potential individuals for analysis.

No threatened or no non-threatened microbats, were observed within or surrounding the structures during the site assessment. Furthermore, the nature of the structures (with minimal roof spaces and cavities) provides minimal roosting spaces for microbat species making their presence unlikely.

5.3.2 Flora Species Credit Survey

A total of three (3) SAI threatened flora species were identified within the BAMC (NDCCEEW 2025f) as having the potential to occur within the Subject Land. Following the site assessment, none of these species was identified as having the potential to occur within the Subject Land due to the following (BAM Section 5.2.2 DPIE 2020a):

- The assessor determines that none of the habitat constraints for the species are present in a vegetation zone. No further assessment is required for that species in that vegetation zone. The assessor must record their reasoning for this determination in the BDAR; or
- The assessor determines that none of the habitat constraints for the species are present on the entire Subject Land. No further assessment is required for that species. The assessor must record their reasoning for this determination in the BDAR.

One (1) *Syzygium paniculatum* individual was incidentally located within the Subject Property (**Figure 12**) during the site assessment and therefore required consideration in accordance with the BAM. It was determined however that as this species is commonly landscaped, it is believed to have been planted within the Subject Land, as the property does not contain the Rainforest vegetation in which this species is known to occur naturally. As the individual located within the Subject Land has not occurred naturally, is not part of a self-sustaining population and clearly part of a garden planting outside its natural distribution and habitat (DPIE 2020b) it does not require credit generation and has therefore been excluded from the assessment

5.4 Species Polygons

5.4.1 Confirmed Present

No SAIL species were confirmed to be present within the Subject Land.

5.4.2 Assumed Present

No SAIL species were assumed to be present within the Subject Land.



Figure 12. Targeted survey effort for species credit species and their habitats within the Subject Land.

6. Prescribed Impacts

Certain projects may have impacts on biodiversity values in addition to, or instead of, impacts from clearing vegetation and/or loss of habitat. For many of these impacts, the biodiversity values may be difficult to quantify, replace or offset, making avoiding and minimising impacts critical. Prescribed biodiversity impacts require an assessment of the impacts of the development on the habitat of threatened species or ecological communities. This is discussed in **Table 15**.

Table 15. Prescribed and uncertain impacts associated with the proposed development.

Will there be impacts on any of the following?	Yes/No	If Yes, Address all of the assessment questions from section 6 of the BAM
<p>Habitat of threatened entities including:</p> <ul style="list-style-type: none"> ▪ karst, caves, crevices, cliffs, rocks and other geological features of significance, or ▪ human-made structures, or ▪ non-native vegetation 	<p>Yes</p>	<p>There are no karsts, caves, crevices, cliffs and other features of geological significance on or near the Subject Land.</p> <p>The Subject Land several buildings that will be demolished as part of the development. The following threatened microbat species may utilise some of these human-made structures for roosting and breeding:</p> <ul style="list-style-type: none"> ▪ <i>Falsistrellus tasmaniensis</i> (Eastern False Pipistrelle); ▪ <i>Micronomus norfolkensis</i> (Eastern Coastal Free-tailed Bat); ▪ <i>Saccolaimus flaviventris</i> (Yellow-bellied Sheath-tail-bat); and ▪ <i>Scoteanax rueppellii</i> (Greater Broad-nosed Bat). <p>Two (2) other species may use such structures for roosting purposes, but not breeding purposes:</p> <ul style="list-style-type: none"> ▪ <i>Miniopterus australis</i> (Little Bent-winged Bat); and ▪ <i>Miniopterus orianae oceanensis</i> (Large bent-winged Bat). <p>A survey was undertaken for threatened microbats (Section 5.3.1.1) and no microbats, or evidence of microbats, were observed. However, as a precaution this prescribed impact is assessed further in Section 8.2</p>

Will there be impacts on any of the following?	Yes/No	If Yes, Address all of the assessment questions from section 6 of the BAM
		Non-native vegetation within the Subject Land is not expected to provide habitat for threatened species, considering it mostly constituted of manicured gardens.
On areas connecting threatened species habitat, such as movement corridors	No	It is unlikely the proposed development will interrupt connectivity for any threatened species as no areas of connectivity is currently present between the Subject Land and broader locality.
That affect water quality, water bodies and hydrological processes that sustain threatened entities (including from subsidence or upsidence from underground mining)	No	It is not expected that the removal of vegetation within the Subject Land will impact upon any hydrological processes that sustain threatened entities.
On threatened and protected animals from turbine strikes from a wind farm	No	No wind farms are associated with the proposed development.
On threatened species or fauna that are part of a TEC from vehicle strikes.	No	A slight increase in vehicular activity is expected as a result of the proposed development. However, due to the previous use of the Subject Land, the highly urbanised nature of the area and the low speeds that would be required for access, this is considered unlikely to impact any potentially occurring threatened species.

7. Avoid, Minimisation and Mitigation of Impacts

7.1 Impact Mitigation and Minimisation Measures

This section details the measures to be implemented before, during and post construction to avoid and minimise the impacts of the project (Table 16).

Table 16. Table of measures to be implemented before, during and after construction to avoid and minimise the impacts of the project.

Action	Outcome	Timing	Responsibility
Project Location and Design (avoidance and minimisation)	Owing to the nature of the development, avoidance of impacts to the limited vegetation present could not be avoided due to its central location within the Subject Property. This vegetation was highly restricted and disturbed however consisting only of select native planted Eucalypts within a landscaped carpark and exotic vegetation. The proposed landscape plan associated with the development will see an increase in greenspace established across the site, seeing an increase in the amount of biodiversity present, in this otherwise heavily urban landscape.	Pre-construction phase	Proponent
Preparation of a Construction Environmental Management Plan (CEMP)	A CEMP may be required for the construction phase of the project, and will be prepared prior to issue of the Construction Certificate. The CEMP would include, as a minimum, industry-standard measures for the management of soil, surface water, weeds and pollutants, as well as site-specific measures, including the procedures outlined below. The proposed mitigation measures would include environmental safeguards for protection of neighbouring properties and nearby waterways in accordance with relevant policy documentation and Government guidelines. In order to address the potential impacts of the proposal on biodiversity, the mitigation and management measures outlined within this table would be implemented as part of the CEMP for the site.	Pre-construction phase	Proponent Construction Contractor
Tree Protections	Australian Standard 4970 (2009) Protection of Trees on Development Sites (AS-4970) outlines that a Tree Protection Zone (TPZ) is the principal means of protecting trees on construction sites. It is an area isolated from construction disturbance so that the tree remains viable. Ideally, works should be avoided within the TPZ.	Pre-construction phase	Proponent Arborist

Action	Outcome	Timing	Responsibility
	<p>A Minor Encroachment is less than 10% of the TPZ and is outside the SRZ. A Minor Encroachment is considered acceptable by AS-4970 when it is compensated for elsewhere and contiguous within the TPZ.</p> <p>A Major Encroachment is greater than 10% of the TPZ or inside the SRZ. Major Encroachments generally require root investigations undertaken by non-destructive methods or the use of tree sensitive construction methods.</p> <p>Tree protection measures (exclusion fencing) are to be placed around all trees proposed to be retained within the vicinity of the proposed works under the guidance of a qualified arborist, to avoid any accidental damage to retained vegetation.</p>		
Assigning a Project Ecologist for vegetation clearing	<p>Prior to construction, the applicant should commission the services of a qualified and experienced Ecologist Consultant with a minimum tertiary degree in Science, Conservation, Biology, Ecology, Natural Resource Management, Environmental Science or Environmental Management. The Ecologist must be licensed with a current Department of Primary Industries Animal Research Authority permit and New South Wales Scientific License issued under the BC Act. The Ecologist will be commissioned to:</p> <ul style="list-style-type: none"> ▪ Undertake an extensive pre-clearing survey, searching roof cavities for microbats, delineating habitat-bearing trees and shrubs to be retained/removed; and ▪ Supervise the clearance of trees and shrubs (native and exotic) in order to capture, treat and/or relocate any displaced fauna. 	Prior to and during vegetation clearance works	Proponent Project Ecologist
Erosion and Sedimentation	<p>Appropriate erosion and sediment control must be erected and maintained at all times during construction in order to avoid the potential of incurring indirect impacts on biodiversity values. As a minimum, such measures should comply with the relevant industry guidelines such as 'the Blue Book' (Landcom 2004).</p>	Construction phase	Proponent Construction Contractor
Erection of temporary fencing and bunting	<p>Temporary fencing should be erected around retained native vegetation that may incur indirect impacts on biodiversity values due to the construction works.</p>	Construction phase	Proponent Construction Contractor

Action	Outcome	Timing	Responsibility
Storage and Stockpiling (Soil and Materials)	Allocate all storage, stockpile and laydown sites away from any native vegetation that is planned to be retained. Avoid importing any soil from outside the site as this can introduce weeds and pathogens to the site in order to avoid the potential of incurring indirect impacts on biodiversity values.	Construction phase	Construction Contractors
Future Landscaping	Future landscaping plans for the site should incorporate native species representative of the South Coast Ranges Moist Gully Ecological Community.	Post-construction phase	Proponent Landscape Architect
Stormwater	Potential impacts relating to stormwater and runoff will be managed during construction and operation phases. The CEMP will guide stormwater management during the construction phase of development.	Post-construction phase	Proponent Construction Contractors/ Architect

8. Assessment of Impacts

8.1 Direct Impacts

8.1.1 Full Clearing

The complete clearing of the following vegetation communities have been assessed as part of the proposed development:

- 0.04ha of Vegetation Zone 1: PCT 3191 (Low Condition); and
- 0.09ha of Landscaped Vegetation.

8.1.2 Partial Clearing

No partial clearing is proposed as part of this development.

8.2 Prescribed Impacts

As there is potential for the Subject Land to contain habitat for several threatened microbat species in the form of human-made structures, an assessment of this prescribed impact must be undertaken in accordance with Section 8.3 of the BAM (DPIE 2020a). Although a survey was undertaken for threatened microbats (**Section 5.3.1.1**) and no microbats were observed, this prescribed impact is still assessed in **Table 17**.

Table 17. Prescribed and uncertain impacts associated with the proposed development.

Prescribed Impact	Nature, extent and duration	Threatened Species and their habitat likely to be impacted	Consequences of the impacts on threatened entities
<p>Habitat of threatened entities (human-made structures)</p>	<p>There is the low potential that threatened microbat species use the roof spaces of some of the buildings within the Subject Land for roosting. A survey was completed of some of the buildings considered to have suitable roof space for roosting, and no microbats were observed, this does not exclude these species using such spaces in the future.</p> <p>If such species utilise this potential habitat in the future, the demolition of this building is expected to temporarily displace individuals and therefore only have a low impact of short duration. These species are highly mobile and there is ample roosting/breeding habitat nearby.</p> <p>To manage these impacts, a pre-clearing survey for microbats of the building is recommended prior to demolition. If any individuals are found to be present, they are to be captured and relocated (following demolition works) into surrounding bushland after sunset.</p>	<ul style="list-style-type: none"> ▪ <i>Falsistrellus tasmaniensis</i> (Eastern False Pipistrelle) ▪ <i>Micronomus norfolkensis</i> (Eastern Coastal Free-tailed Bat) ▪ <i>Saccolaimus flaviventris</i> (Yellow-bellied Sheath-tail-bat) ▪ <i>Scoteanax rueppellii</i> (Greater Broad-nosed Bat). ▪ <i>Miniopterus australis</i> (Little Bent-winged Bat) ▪ <i>Miniopterus orianae oceanensis</i> (Large bent-winged Bat) 	<p>While the demolition of potential roost/breeding sites may have a temporary displacement-impact to local populations of threatened microbats, these species are highly mobile and as such, any impacts would be considered minor and temporary.</p> <p>Habitat connectivity will continue to exist in the locality through streets trees and planted vegetation, which would provide alternative and potentially higher-quality roosting/breeding sites for these species.</p>

8.3 Indirect Impacts

Indirect impacts occur when the proposal or activities relating to the construction or operation of the proposal affect native vegetation, threatened ecological communities and threatened species habitat beyond the Subject Land. Impacts may also result from changes to land-use patterns, such as an increase in vehicular access and human activity on native vegetation, threatened ecological communities and threatened species habitat. The indirect impacts of this proposed development are outlined in **Table 18**.

Table 18. Indirect impacts associated with the proposed development.

Indirect Impact	Nature, extent and duration	TEC's/PCTs and/or Threatened Species and their habitat likely to be impacted	Consequences of the impacts for the bioregional persistence of the threatened species, threatened ecological communities and their habitats.
(a) inadvertent impacts on adjacent habitat or vegetation	Vegetation and habitat directly adjacent to the Subject Land has the potential to experience ongoing indirect impacts as a result of the proposed development; although given the historical use of the Subject Land this is expected to be minimal. The disturbance caused during construction may increase weed infestations within adjacent vegetation, which in turn may decrease its habitat value., however, as the vegetation adjacent to the Subject Land is already highly altered due to the urbanised landscape, this potential impact is not considered to be significant.	No PCTs are present adjacent to the Subject Land only exotic street trees. There is the low potential that threatened species occur in areas adjacent the Subject Land for temporary foraging that may be impacted by a decrease in habitat condition.	While changes to vegetation condition may have a minimal and temporarily localised impact to threatened species and their habitats, this is not expected to impact on their bioregional persistence. .
(b) reduced viability of adjacent habitat due to edge effects	The proposed development and ongoing utilisation may lead to an increase in weed infiltration into adjacent habitat due to enhanced edge effects. However, surrounding vegetation is already experiencing edge effects as a result of surrounding land use therefore any	No PCTs are present adjacent to the Subject Land only exotic street trees. There is the low potential that threatened species occur in areas adjacent the Subject Land for temporary foraging that may be impacted	While edge effects may have a minimal and temporarily localised impact to threatened species and their habitats, this is not expected to impact on their bioregional persistence.

Indirect Impact	Nature, extent and duration	TEC's/PCTs and/or Threatened Species and their habitat likely to be impacted	Consequences of the impacts for the bioregional persistence of the threatened species, threatened ecological communities and their habitats.
	impacts are expected to be restricted to a couple of metres into adjacent vegetation.	by edge effects leading to a reduced viability in habitat.	
(c) reduced viability of adjacent habitat due to noise, dust or light spill	<p>An increase in noise is to be expected during construction and ongoing human-use. As the Subject Land is located in a highly urbanised area, this is unlikely to impact on any species roosting adjacent to the site during the day as such noises are common within the locality. It is not expected that construction would occur throughout the night, and as such would not impact on nocturnal species that may utilise adjacent habitat, or diurnal species that roost in adjacent habitat.</p> <p>The construction may increase dust in adjacent habitat. Dust can impact on a plant's ability to photosynthesise and may increase plant mortality in the adjacent vegetation. It is however not expected that this would have such an impact to decrease the viability of adjacent habitat.</p> <p>It is expected that the utilisation of the area following construction may result in a decrease in the viability of the adjacent habitat due to increases in noise and light associated with the</p>	<p>No PCTs are present adjacent to the Subject Land only exotic street trees. There is the low potential that threatened species occur in areas adjacent the Subject Land for temporary foraging that may be an increase in noise and dust spill into adjacent habitats.</p>	<p>While the development may have a minimal and temporarily localised impact to threatened species and their habitats, this is not expected to impact on their bioregional persistence.</p>

Indirect Impact	Nature, extent and duration	TEC's/PCTs and/or Threatened Species and their habitat likely to be impacted	Consequences of the impacts for the bioregional persistence of the threatened species, threatened ecological communities and their habitats.
	dwelling. However, this is again considered to be minimal owing to the highly urbanised nature of the locality.		
(d) transport of weeds and pathogens from the site to adjacent vegetation	As previously discussed, the proposed construction may lead to an increase in weed infiltration into adjacent habitat due to enhanced edge effects. However, as the vegetation adjacent to the Subject Land is already highly altered due to the urbanised landscape, this potential impact is not considered to be significant.	No PCTs are present adjacent to the Subject Land only exotic street trees. There is the low potential that threatened species occur in areas adjacent the Subject Land for temporary foraging that may be impacted by weed and pathogen transportation leading to a reduced viability in habitat.	While weeds and pathogens may have a minimal and temporarily localised impact to threatened species and their habitats, this is not expected to impact on their bioregional persistence.
(e) increased risk of starvation, exposure and loss of shade or shelter	It is highly unlikely that any threatened fauna would be exposed to increased risks from starvation, exposure, and loss of shade and shelter as a result of the proposed development. No habitat is to be removed beyond the Subject Land and owing to the highly urbanised nature of the Subject Property and locality it is considered unlikely any threatened species would be placed at risk of starvation or exposure should it decrease in quality as a result of the proposed development.	N/A	N/A
(f) loss of breeding habitats	An increase in noise is to be expected during and post-construction. As such, there is potential for	N/A	N/A

Indirect Impact	Nature, extent and duration	TEC's/PCTs and/or Threatened Species and their habitat likely to be impacted	Consequences of the impacts for the bioregional persistence of the threatened species, threatened ecological communities and their habitats.
	disturbance to breeding habitats directly adjacent to the Subject Land. However, owing to the highly urbanised nature of the locality surrounding the Subject Land, it is not expected for this to significantly impact on species inhabiting such areas.		
(g) trampling of threatened flora species	No naturally occurring threatened flora species were identified within or surrounding the Subject Land. Furthermore, no vegetation beyond that of exotic street trees is present adjacent to the Subject Land. Therefore, it is not expected that trampling of threatened species will be associated with this project.	N/A	N/A
(h) inhibition of nitrogen fixation and increased soil salinity	It is unlikely that the inhibition of nitrogen fixation will affect vegetation adjacent to the Subject Land. Clearing will be limited to the Subject Land and as such is not expected to affect vegetation directly adjacent to the Subject Land.	N/A	N/A
(i) fertiliser drift	This issue is not likely to affect the vegetation within or surrounding the Subject Land.	N/A	N/A

Indirect Impact	Nature, extent and duration	TEC's/PCTs and/or Threatened Species and their habitat likely to be impacted	Consequences of the impacts for the bioregional persistence of the threatened species, threatened ecological communities and their habitats.
(j) rubbish dumping	There is the possibility that rubbish dumping (including littering) increases during and post construction. The dumping/littering of food resources may provide a food source for fauna. However, this may also encourage invasive species into such habitats. This impact can be mitigated by the appropriate disposal of rubbish.	There is the low potential that threatened fauna species use habitat adjacent to the Subject Land. Such species may be impacted by the dumping of rubbish, particularly food resources. This may result in both positive (food source) and negative impacts (increase in predators) to such species.	This impact is expected to be localised and will not have an overall impact on the bioregional persistence of threatened species.
(k) wood collection	No wood was observed adjacent to the Subject Land.	N/A	N/A
(l) bush rock removal and disturbance	No bush rock was observed adjacent to the Subject Land.	N/A	N/A
(m) increase in predatory species populations	Predatory species, such as cats, already likely inhabit areas within and surrounding the Subject Land. There is the possibility that other indirect impacts, such as an increase in rubbish dumping, may encourage predatory species into the area.	There is the low potential that threatened fauna species use habitat adjacent to the Subject Land. Such species may be impacted by an increase in predatory species populations.	This impact is expected to be localised and will not have an overall impact on the bioregional persistence of threatened species.
(n) increase in pest animal populations	There is potential that pest animal populations already inhabit areas within and surrounding the Subject Land. There is the possibility that other indirect impacts, such as an increase in rubbish dumping, may encourage an increase in pest animal populations.	There is the low potential that threatened fauna species use habitat adjacent to the Subject Land. Such species may be impacted by an increase in pest animal populations.	This impact is expected to be localised and will not have an overall impact on the bioregional persistence of threatened species.

Indirect Impact	Nature, extent and duration	TEC's/PCTs and/or Threatened Species and their habitat likely to be impacted	Consequences of the impacts for the bioregional persistence of the threatened species, threatened ecological communities and their habitats.
(o) increased risk of fire	The Subject Land is not mapped as occurring within bushfire prone land. It is not expected that the proposed works will significantly alter the bushfire risk of the area surrounding the Subject Land	N/A	N/A
(p) disturbance to specialist breeding and foraging habitat, e.g., beach nesting for shorebirds.	No specialist foraging or breeding habitat is present adjacent to the Subject Land.	N/A	N/A

9. Thresholds for Assessing and Offsetting

9.1 Impacts on Native Vegetation

The following native vegetation within the Subject Land is proposed to be impacted as a result of the proposed development:

- 0.04ha of Vegetation Zone 1: PCT 3191 (Low Condition).

No offset credits will be required for impacts vegetation within Vegetation Zone 1: PCT 3191 (Low Condition) owing to its low VI score (**Figure 13**). Furthermore, no offset credits are required for the area identified as Landscaped Vegetation, owing to its exotic and non-natural nature.

9.2 Impacts on Threatened Species

No naturally or locally occurring threatened species have been confirmed or assumed present within the Subject Land. Therefore, no species credits species will require the purchase and retirement of Biodiversity Offset Credits:

9.3 Serious and Irreversible Impacts (SAII's)

No (0) threatened ecological communities, populations or species within the Subject Land have been identified or assumed present as an entity at risk of an SAII in the Threatened Biodiversity Data Collection (NDCCEEW 2025c).



Figure 13. Impacts on native vegetation and offset requirements.

10. Biodiversity Offset Credit Requirements

10.1 Offset Requirement for Ecosystem Credits

No (0) ecosystem credits are required to offset the biodiversity impacts of the proposed development (Table 19).

Table 19. Ecosystem credits required to offset the proposed development.

PCT	Vegetation Zone	BC Act Status	EPBC Act Status	Total Area (ha)	Ecosystem Credits Required
PCT 3191 – South Coast Ranges Moist Gully Forest	Zone 1: Low Condition	NA	NA	0.04	0
Total Ecosystem Credits					0

10.2 Offset Requirement for Species Credits

No species credit species will require offsetting through the retiring of biodiversity offset species credits under the BOS as a result of the proposed development.

11. Other Relevant Legislation and Planning Policies

11.1 State Environmental Planning Policy (Biodiversity and Conservation) 2021 – Chapter 4 Koala Habitat Protection 2021

This Policy aims to encourage the conservation and management of areas of natural vegetation that provide habitat for koalas to support a permanent free-living population over their present range and reverse the current trend of koala population decline. This chapter of the SEPP applies to LGAs that are listed in Schedule 2 'Local government areas' of the SEPP and that have an area of at least 1ha. As the Wollongong City LGA is included in Schedule 2 of the SEPP and the Subject Property has an area of >1ha, the development controls of this Chapter apply to the proposed development:

- Has an area of at least 1 hectare (including adjoining land within the same ownership); and
- Does not have an approved koala plan of management applying to the land.

Before a council may grant consent to a development application for consent to carry out development on the land, the council must assess whether the development is likely to have any impact on koalas or koala habitat. If the council is satisfied that the development is likely to have low or no impact on koalas or koala habitat, the council may grant consent to the development application.

A site assessment was undertaken to determine whether the land contained core koala habitat, which is defined by the SEPP as:

- a) an area of land which has been assessed by a suitably qualified and experienced person as being highly suitable koala habitat and where koalas are recorded as being present at the time of assessment of the land as highly suitable koala habitat, or
- b) an area of land which has been assessed by a suitably qualified and experienced person as being highly suitable koala habitat and where koalas have been recorded as being present in the previous 18 years.

Although the Subject Land contained suitable habitat (where 15% or greater of the total number of trees are the regionally relevant species of those listed in Schedule 3 of the SEPP), no signs of koala's or koala occupancy (scats, scratch marks) were observed within the Subject Land during the site assessment. Owing to the highly urbanised nature of the Subject Land and the immediate surrounds it is considered highly unlikely to constitute core koala habitat, and no further assessment under this chapter of the SEPP (i.e. Koala Assessment Report) should be required.

12. References

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Australian Bureau of Meteorology (BOM) (2025) Bellambi New South Wales. Daily Weather Observations <http://www.bom.gov.au/>

Australian Standard 4970 (2009) Protection of Trees on Development Sites

Biodiversity Conservation Act (2016) <https://legislation.nsw.gov.au/#/view/act/2016/63/full>

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Department of Environmental Conservation (DEC) (2004) Threatened Species Survey and Assessment: Guidelines for developments and activities (working draft), New South Wales Department of Environment and Conservation, Hurstville, NSW.

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Department of Planning, Industry and Environment (DPIE) (2020a) Biodiversity Assessment Method

Department of Planning, Industry and Environment (DPIE) (2020b) Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method

Department of Planning, Industry and Environment (DPIE) (2020c) NSW Survey Guide for Threatened Frogs: A guide for the survey of threatened frogs and their habitats for the Biodiversity Assessment Method.

Department of Planning and Environment (DPE) (2022a) Guidance for the Biodiversity Development Assessment Report Template

Department of Planning and Environment (DPE) (2022b) State Vegetation Type Map

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13. Appendices

Appendix A. Ground Floor Plan (DKO 2025a).

Appendix B. BAM Site - Field Survey Forma (copied directly from Electronic Data Sheet).

Appendix C. BAMC Generated Biodiversity Credit Report.

Appendix A. Ground Floor Plan (DKO 2025a).



Appendix B. BAM Site - Field Survey Forma (copied directly from Electronic Data Sheet).

BAM Site – Field Survey Form					
Date:	11.02.25	Plot ID:	plot 1	Photo #:	0
Zone:	56	Plot Dimensions:	10x60m	Easting:	306317.73
Datum:	GDA 94	Middle bearing from Om:	208	Northing:	6188630.41
PCT:	PCT 3191 - Low Condition				

Growth Form	Scientific Name	Cover	Abundance
Tree (TG)	<i>Eucalyptus sideroxylon</i>	10	2
Grass & grasslike (GG)	<i>Cyperus gracilis</i>	0.1	100
High Threat Exotic (HTE)	<i>Araujia sericifera</i>	0.1	3
High Threat Exotic (HTE)	<i>Phoenix canariensis</i>	2	2
Exotic	<i>Phyllanthus tenellus</i>	0.1	5
High Threat Exotic (HTE)	<i>Ehrharta erecta</i>	0.2	30
High Threat Exotic (HTE)	<i>Bidens pilosa</i>	0.1	2
High Threat Exotic (HTE)	<i>Asparagus aethiopicus</i>	0.1	1
Other (OG)	<i>Pandorea pandorana</i>	0.2	1
Exotic	<i>Taraxacum officinale</i>	0.1	1
Exotic	<i>Sonchus oleraceus</i>	0.1	1
High Threat Exotic (HTE)	<i>Axonopus fissifolius</i>	0.1	3
Forb (FG)	<i>Dichondra repens</i>	0.1	30
High Threat Exotic (HTE)	<i>Ligustrum lucidum</i>	0.1	3
Exotic	<i>Liriope muscari</i>	0.2	4
Tree (TG)	<i>Glochidion ferdinandi</i>	0.1	1
Exotic	<i>Cyclosporum leptophyllum</i>	0.1	3
Exotic	<i>Parthenocissus tricuspidata</i>	0.2	5
Exotic	<i>Conyza bonariensis</i>	0.1	1
Tree (TG)	<i>Eucalyptus punctata</i>	1	0

DBH	# Tree Stems Count	# Hollow Bearing Trees
80+cm	0	0
50-79cm	3	
30-49cm	Absent	
20-29cm	Absent	
10-19cm	Absent	
5-9cm	Absent	
<5cm	Present	

Length of Logs (m)	1
--------------------	---

BAM Attribute (1x1m)	Litter Cover (%)
1 (5m)	95
2 (15m)	30

3 (25m)	70
4 (35m)	45
5 (45m)	45
Average	57

Growth Form	Composition Data (Count of Native Cover)	Structure Data (Sum of Cover)
Tree	3	11.1
Shrub	0	0
Grass	1	0.1
Forb	1	0.1
Fern	0	0
Other	1	0.2
High Threat Exotics	7	2.7



BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00055522/BAAS21009/25/00055523	221-291 Crown Street 216-238 Keira Street and 86-90 Burelli Street Wollongong	28/10/2024
Assessor Name	Assessor Number	BAM Data version *
Christopher Moore	BAAS21009	Current classification (live - default) (80)
Proponent Names	Report Created	BAM Case Status
	31/07/2025	Finalised
Assessment Revision	BOS entry trigger	Assessment Type
2	BOS Threshold: Area clearing threshold	Part 4 Developments (Small Area)
Date Finalised	* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.	
31/07/2025		

Potential Serious and Irreversible Impacts

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

Assessment Id	Proposal Name	Page 1 of 3
00055522/BAAS21009/25/00055523	221-291 Crown Street 216-238 Keira Street and 86-90 Burelli	

BAM Biodiversity Credit Report (Like for like)

Additional Information for Approval

PCT Outside Ibra Added
None added

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
No Changes

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

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
3191-South Coast Ranges Moist Gully Forest	Not a TEC	0.0	0	0	0

BAM Biodiversity Credit Report (Like for like)

**3191-South Coast Ranges
Moist Gully Forest**

Like-for-like credit retirement options						
Class	Trading group	Zone	HBT	Credits	IBRA region	
South Coast Wet Sclerophyll Forests This includes PCT's: 3107, 3108, 3181, 3182, 3183, 3184, 3185, 3186, 3187, 3188, 3189, 3190, 3191, 3192, 3193, 3194, 3196, 3197	South Coast Wet Sclerophyll Forests <50%	3191_Low	No	0	Illawarra, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.	

Species Credit Summary

No Species Credit Data

Credit Retirement Options

Like-for-like credit retirement options



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