



Biodiversity Development Assessment Report

Demolition of Existing Aged Care Facility
and Construction of New Aged Care Facility
222 Waldron Road & 138-140 Campbell
Hill Road, Chester Hill
NSW 2162

3 December 2025



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1.1	Biodiversity Development Assessment Report Demolition of Existing Aged Care Facility and Construction of New Aged Care Facility 222 Waldron Road & 138-140 Campbell Hill Road, Chester Hill NSW 2162	3/12/2025

Executive Summary

Land Eco Consulting (Land Eco) was commissioned by Centurion Group Pty Ltd ('the proponent') to prepare this Biodiversity Development Assessment Report (BDAR) for the proposed demolition of an existing Aged Care facility and the construction of a new Aged Care facility at 222 Waldron Road & 138-140 Campbell Hill Road, Chester Hill, NSW 2162 (Lots 11/-/DP827703 & Lots 5-7/-/DP30305) (the 'Subject Property'). The extent of the development is referred to as the 'Subject Land'.

The Subject Property is a commercial property in the Canterbury-Bankstown Council Local Government Area in western Sydney. Several existing Abel Tasman Aged Care facility buildings occur on the Subject Property and are proposed for demolition. The proposed development includes the construction of four new Aged Care facility buildings and associated ancillary structures as well as landscaping. The Subject Land is gently sloped, containing infill planted garden beds and a sparse, mature remnant native canopy, concentrated in the north-eastern corner of the Subject Property.

This State Significant Development Application (SSDA) involves the redevelopment of an established, but dated, seniors housing development, owned and operated by Abel Tasman Village (ATV), at 222 Waldron Road, and the expansion of the proposed new facility onto land to the east at 138-140 Campbell Hill Road Chester Hill, now owned by ATV.

The current proposal involves a Concept Plan for the overall redevelopment of the land and a State Significant Development Application (SSDA) for Stage 1. The current proposal also includes a Staging Plan which identifies Stage 2 which will be the subject of a future DA.

The proposed development is a State Significant Development (SSD- 49937206) pursuant to Part 4, Division 4.7 of the *Environmental Planning and Assessment Act 1979* (EP&A). The proponent has commissioned this BDAR to accompany the proposal in accordance with the Planning Secretary's Environmental Assessment Requirements (SEARs) for the proposed development and address the requirements of the NSW Biodiversity Offset Scheme (BOS). The proponent has commissioned this BDAR to accompany the proposal and address the requirements of the NSW BOS and requires submission of a streamlined 'Small Areas' and 'Native Planted Vegetation' BDAR as stipulated under the *Biodiversity Conservation Act 2016* (BC Act) and in accordance with the Biodiversity Assessment Method (BAM). The BDAR is required to be undertaken by an accredited assessor to assess the impacts of the proposal.

The proposed development has been designed to avoid and minimise impacts on biodiversity values in keeping with the purposeful use of the Subject Land. This has primarily been accomplished by positioning and designing the proposed buildings and associated structures to retain the majority of the vegetation that is of significant conservation value in the north-eastern corner of the Subject Property.

One plant community type (PCT) occurs on the Subject Land:

- PCT 3320: Cumberland Shale Plains Woodland (which forms part of the 'Shale Gravel Transition Forest in the Sydney Basin Bioregion' Endangered Ecological Community (SGTF EEC) listed under Schedule 2 of the Biodiversity Conservation Act 2016 (BC Act)

Three (3) Ecosystem Credits are required to be retired to offset the residual biodiversity impacts of the proposal.

No threatened species were recorded on the Subject Property by Land Eco.

No 'Species Credit' Species were identified on or near the Subject Land. Therefore, no Species Credits are required to be retired to offset the biodiversity impacts of the proposal.

The direct biodiversity impact from the proposed development consists of the removal 0.33 ha of urban, infill planted native indigenous vegetation, along with 0.03 ha of native planted vegetation and 0.1 ha of exotic vegetation. As only 0.25 ha of the native indigenous vegetation meets the minimum VIS (Vegetation Integrity Score) out of the 0.33 ha, only 0.25 ha of this vegetation will require offsetting. Impacts to threatened species will be limited to minor impacts to Ecosystem Credit species. It is not considered likely that the proposed development will cause a Serious and Irreversible Impact (SAIL) to any SAIL entities.

In addition to offsetting, the *Biodiversity Conservation Act 2016* and its regulations requires that an applicant takes all reasonable effort to avoid and 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 produced for the site. These include measures to:

- Ensure all contractors employed to work within the Subject Land are suitably qualified, experienced and informed of the sensitive ecological features and potentially occurring threatened species;
- Assign a Project Ecologist to conduct and oversee all ecological compliance requirements associated with conducting a proposed development in line with all relevant state and commonwealth legislation and guidelines;
- Have an ecologist present during the clearing of threatened species habitat required for the proposed development;
- Incorporate locally indigenous flora species representative of SGTF EEC in soft landscaping associated with the development;
- Implement vertebrate pest control during construction and operation of the development;
- Implement all relevant biological hygiene protocols and requirements as per NSW Government guidelines;
- Implement ongoing management of priority weeds according to statutory requirements; and
- Implement appropriate, vegetation protection fencing, stockpiling and sediment control during construction.

The proponent is required to retire biodiversity offset credits for the proposed SSD.

Table 1. Impacts that require an offset - ecosystem credits

Vegetation zone	PCT	TEC/EC	Impact area (ha)	Number of ecosystem credits required
Infill Planted	3320 – Cumberland Shale Plains Woodland	Shale Gravel Transition Forest in the Sydney Basin Bioregion Endangered Ecological Community	0.25	3

Table 2. Impacts that require an offset - species credits

Common name	Scientific name	Loss of habitat (ha) or individuals	Number of species credits required
N/A	N/A	N/A	N/A

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Glossary

Acronym/ Term	Definition
BAM	New South Wales Biodiversity Assessment Method
BOS	New South Wales Biodiversity Offset Scheme
BOSET	New South Wales Biodiversity Offset Scheme Entry Tool
BC Act	New South Wales Biodiversity Conservation Act 2016
BDAR	Biodiversity Development Assessment Report
CEEC	Critically Endangered Ecological Community
DA	Development Application pursuant to section 4 of the NSW Environmental Planning and Assessment Act 1979
DCP	Development Control Plan
Development	The use of land, and the subdivision of land, and the carrying out of a work, and the demolition of a building or work, and the erection of a building, and any other act, matter or thing referred to in section 26 that is controlled by an environmental planning instrument but does not include any development of a class or description prescribed by the regulations for the purposes of this definition (Environmental Planning and Assessment Act 1979).
DPIE	Department of Planning Industry and Environment
EEC	Endangered Ecological Community
EPBC Act	Commonwealth Environment Protection and Biodiversity Conservation Act 1999
EP&A Act	NSW Environmental Planning and Assessment Act 1979
ha	Hectares
ILU	Independent Living Unit
km	Kilometre
KTP	Key Threatening Process (as listed in the BC Act)
LEP	Local Environment Plan
LGA	Local Government Area
Locality	The area within a 10km radius of the Subject site. The same meaning when describing a local population of a species or local occurrence of an ecological community.
m	Metres
mm	Millimetres
NPWS	NSW National Parks and Wildlife Services
NSW	New South Wales
OEH	Office of Environment and Heritage (now the Department of Planning Industry and Environment)
Proposal	The development, activity or action proposed.
RCF	Residential Care Facility
ROTAP	Rare or Threatened Australian Plants
SEPP	State Environmental Planning Policy
SSD	State Significant Development
Subject Land	Development footprint of the proposed development within the Subject Property includes all vegetation clearing
Subject Property	222 Waldron Road & 138-140 Campbell Hill Road, Chester Hill, NSW 2162
Threatened species, populations and ecological communities	Species, populations and ecological communities specified in Schedules 1, 1A and 2 and <i>threatened species, population or ecological community</i> means a species, population or ecological community specified in any of those Schedules.

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).

Signature: 

BAM Assessor Accreditation no: #BAAS18059

This BDAR has been prepared to meet the requirements of BAM 2020.

Date: 5/11/24

It is important to note, that this report must be submitted to Council for DA within 14 days of submitting it through the NSW Biodiversity Offset Assessment Management System (BOAMS). Land Eco must be notified in writing by the applicant the precise day that they wish to submit DA to Council, this will enable us to submit the report through the BOAMS portal. If the applicant chooses to delay their lodgement, or does not notify us of lodgement, the client does so at their own risk. Further to this, if the development design changes between the time we finalise this report, and the time the DA is lodged, this BDAR will not be valid.

ii. Details and experience of author/s and contributors

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Stage 1: Biodiversity Assessment

1. Introduction

1.1 Proposed Development

1.1.1 Development Overview

Land Eco Consulting (Land Eco) was engaged by Centurion Group Pty Ltd ('the proponent') to prepare this Biodiversity Development Assessment Report (BDAR) for the proposed demolition of an existing Aged Care facility buildings and the construction of new Aged Care buildings at 222 Waldron Road & 138-140 Campbell Hill Road, Chester Hill, NSW 2162 (Lots 11/-/DP827703 & 5/-/DP30305) (the 'Subject Property'). This BDAR assesses the proposed demolition of the existing Abel Tasman buildings within the Subject Property. The proposed development includes the construction of four new Aged Care facility buildings and associated ancillary structures as well as landscaping. The extent of the development is referred to as 'The Subject Land'.

The requirements of the *Biodiversity Assessment Method (BAM) 2020*, *Biodiversity Conservation Act 2016* (BC Act) and *Biodiversity Conservation Regulation 2017* are assessed in this BDAR pursuant to Part 4 of the EP&A Act.

Land Eco have produced this report to assess any potential impacts associated with the SSDA application (SSD - 49937206) and recommend appropriate measures to mitigate any potential ecological impacts in line with the requirements of the NSW Planning Minister.

1.1.2 Location

The Subject Property is situated at 222 Waldron Road & 138 Campbell Hill Road, Chester Hill NSW 2162 (Lot 11/-/DP827703 & 5/-/DP30305) and occurs in the Western Sydney suburb of Chester Hill within the Canterbury-Bankstown Local Government Area. This focus of this BDAR is only the proposed development footprint, hereafter referred to as the 'Subject Land'. The Subject Land occupies the entire Subject Property, along with canopy overhang to be removed outside of the Subject Property (Naturally Trees 2024) (**Figure 2**).

1.1.3 Proposed development and the Subject Land

The proposed SSD is for the demolition of existing Aged Care facility buildings and for the construction of four new Aged Care facility buildings and associated ancillary structures as well as landscaping. This will include the clearing of native vegetation and earthworks (**Figure 3**). The existing buildings to be removed are scattered throughout the Subject Property, covering a large portion of the Subject Property (**Figure 4**).

The Subject Land is gently sloped with infill planted, weed-infested garden beds with a sparse, mature remnant native canopy concentrated in the north-eastern corner of the Subject Property.

The proposed development will require the removal of 0.33 ha of native indigenous vegetation belonging to the Plant Community Type (PCT):

- PCT 3320: Cumberland Shale Plains Woodland (which forms part of the 'Shale Gravel Transition Forest in the Sydney Basin Bioregion' Endangered Ecological Community (SGTF EEC) listed under Schedule 2 of the Biodiversity Conservation Act 2016 (BC Act))

1.1.4 Other documentation relevant to biodiversity to be submitted with the proposed development include:

- Arboricultural Impact Appraisal and Method Statement (Naturally Trees 2024)
- Landscape Plan (Boffa Robertson Group 2024a)
- Demolition Plan (Boffa Robertson Group 2023)
- Site Plan (Boffa Robertson Group 2024a)
- Staging Plan 1 & 2 (Boffa Robertson Group 2024b)

1.2 Biodiversity Offset Scheme Entry

The proposed development is a State Significant Development (SSD - 49937206) pursuant to Part 4, Division 4.7 of the Environmental Planning and Assessment Act 1979 (EP&A). The proponent has commissioned this BDAR to accompany the proposal in accordance with the Planning Secretary's Environmental Assessment Requirements (SEARs) for the proposed development and address the requirements of the NSW Biodiversity Offset Scheme (BOS).

As the development proposes to remove less than 1 hectare of native vegetation, this BDAR is therefore a 'Small Areas' Biodiversity Development Assessment Report (BDAR) in accordance with the 'Streamlined Assessment Module – Small Area' per Appendix C Table 27 of the Biodiversity Assessment Method (BAM). Therefore, this BDAR has been assessed in the BAMC as a 'Part 4 Development (Small Area)' with the BOS entry trigger listed as 'Test of Significance' in the BAMC, as there is no entry trigger option for SSD (i.e. Major Projects) which allows for the application of a Streamlined Small Area Assessment.

The development also proposes to remove 'Planted Native Vegetation' Biodiversity Development Assessment Report (BDAR) in accordance with the 'Streamlined Assessment Module – Planted Native Vegetation' per Appendix D Table 28 of the Biodiversity Assessment Method (BAM). Species credits are not required to offset the proposed impacts of this vegetation.

In summary this BDAR requires submission of a streamlined 'Small Areas' and a streamlined 'Planted Native Vegetation' as stipulated under the Biodiversity Conservation Act 2016 and in accordance with Appendix C and D respectively of the BAM. The BDAR is required to be undertaken by an accredited assessor to assess the impacts of the proposal.

1.2.1 State Significant Development

In accordance with section 7.9(a) of the BC Act, an application for development consent under Part 4 Division 4.7 of the EP&A Act for a State Significant Development (SSD) is to be accompanied by a BDAR unless the Planning Agency Head and the Environment Agency Head determines that the proposed development is not likely to have any significant impact on biodiversity values. The environmental impact statement (EIS) that accompanies any such application is to include the biodiversity assessment required by the environmental assessment requirements of the Planning Agency Head under the EP&A Act. This is that report.

1.2.2 Planning Secretary's Environmental Assessment Requirements and Response To Submission

This BDAR has been prepared in response to the Planning Secretary's Environmental Assessment Requirements (SEARs) (Table 3).

Table 3. Planning Secretary's Environmental Assessment Requirements relevant to this report

Item	SEARs Requirement	How has this been Addressed
11	- Assess any biodiversity impacts associated with the development in accordance with the <i>Biodiversity Conservation Act 2016</i> and the <i>Biodiversity Assessment Method 2020</i>, including the preparation of a Biodiversity Development Assessment Report (BDAR), unless a waiver is granted, or the site is on biodiversity certified land. - 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.	This report has assessed the biodiversity impacts associated with the development in accordance with the <i>Biodiversity Conservation Act 2016</i> and the <i>Biodiversity Assessment Method 2020</i>. No biodiversity certified land is present within the Subject Property.

1.2.3 Area Clearing Threshold

The BC Act and its regulations stipulate the native vegetation clearing 'area threshold' values that determine whether a development is required to be assessed in accordance with the 'Biodiversity Offset Scheme' (BOS). Minimum entry thresholds for native vegetation clearing depend on the minimum lot size (shown in the Lot Size Maps made under the relevant Local Environmental Plan [LEP]), or actual lot size (where there is no minimum lot size provided for the relevant land under the LEP). The term 'vegetation clearing' includes all lopping, felling, slashing, or mowing of native trees, shrubs, or groundcover for the purpose of construction, landscaping, excavation or bushfire Asset Protection Zone (APZ) works.

Developments that trigger the BOS will require a 'Biodiversity Development Assessment Report' (BDAR) (this report) that addresses the Biodiversity Assessment Method and the retiring of Biodiversity Offset Credits.

The minimum lot size for the Subject Property under the Canterbury-Bankstown Local Environmental Plan 2023 is 450m². This means the ‘native vegetation clearing threshold’ trigger for this BOS is 0.25 ha (**Table 4**).

The proposed development will require the removal of 0.33 ha of native vegetation. As such, this is a trigger for the BOS.

Table 4. Biodiversity Offset Scheme Entry Thresholds

Minimum lot size associated with the property	Threshold for clearing, above which the BAM and offsets scheme apply
Less than 1 ha	0.25 ha or more
1 ha to less than 40 ha	0.5 ha or more
40 ha to less than 1000 ha	1 ha or more
1000 ha or more	2 ha or more

1.2.4 Biodiversity Value Mapping

At the time of preparing this report, the Subject Land did not contain land mapped as ‘Biodiversity Value’ (**Figure 1**) (NSW DCCEEW 2024d).



Legend

■ Subject Land

Biodiversity Values

■ Biodiversity Values

■ Biodiversity Values added in the last 90 days



Date: 8/07/2024

Imagery: © NSW Public Imagery

Coordinate System: GDA2020 MGA Zone 56



This map was produced for this report only.
It is indicative, not survey-accurate
and should not be used for design or
construction purposes.

Figure 1. Biodiversity Values Mapping (NSW DCCEW 2024d) in relation to the Subject Land

1.3 Excluded Impacts

1.3.1 Native Vegetation Regulatory Map

The entirety of the Subject Property is mapped as 'Land excluded from the LLS Act' by the Native Vegetation Regulatory Map (NSW DPIE 2023e). Therefore *Chapter 2 Vegetation in non-rural areas of the State Environmental Planning Policy (Biodiversity and Conservation) 2021* applies to this development.

1.4 Matters of National Environmental Significance

No Matters of National Environmental Significance were found to occur within the Subject Land.

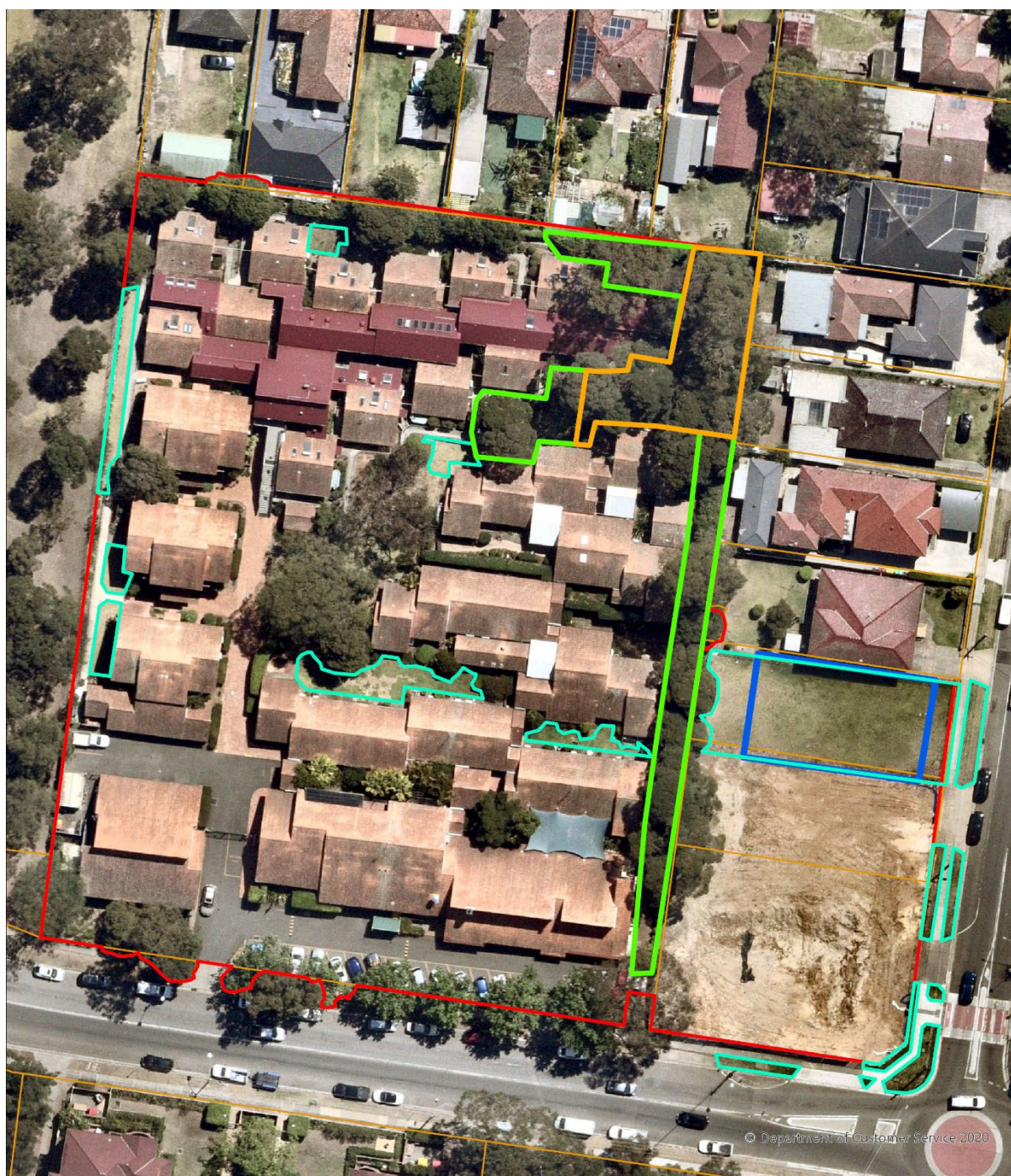
The vegetation within the Subject Land does not qualify as Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest (listed as 'Critically Endangered') under the Commonwealth Listing advice (Commonwealth TSSC 2009). The vegetation within the Subject Land does not have an understorey with greater than 30% cover made up of native species (*Melaleuca* spp. are classified as trees and not shrubs according to the listing advice), and therefore does not qualify under any condition thresholds in the listing advice (Commonwealth TSSC 2009).

Commonwealth listed threatened species that are MNES have potential to occur in the Subject Land on occasion. Impact to habitat is limited to the clearing of approximately 0.45 ha of degraded vegetation including 0.33 ha of native indigenous vegetation in an urban matrix. MNES that have the potential to occur within the Subject Land include nomadic nectivorous flying-foxes such as Grey-headed Flying-fox (*Pteropus poliocephalus*), birds such as Swift Parrot (*Lathamus discolor*) and microbats such as Large-eared Pied Bat (*Chalinolobus dwyeri*) that may forage or fly over the Subject Land in search of food on occasion. These species are highly unlikely to regularly utilise or rely heavily on the Subject Land owing to its small area and its position within an urban matrix.

As such, no further assessment under the EPBC Act is deemed necessary.

1.5 Information Sources

A detailed list of all sources utilised in the preparation of this BDAR is presented in the 'References' (**Section 13**) of this report.



Legend

■ Subject Land

□ Lot

BAM Plot 1

■ Structural Plot

■ Floristic Plot

BAM Plot 2

■ Floristic Plot

■ Structural Plot



Date: 12/07/2024
Imagery: © NSW Public Imagery

Coordinate System: GDA2020, MGA Zone 56
This map was produced for this report only.
It is indicative, not survey-accurate
and should not be used for design or
construction purposes.

Figure 2. The location of the Subject Land and BAM Plot 1 and BAM Plot 2



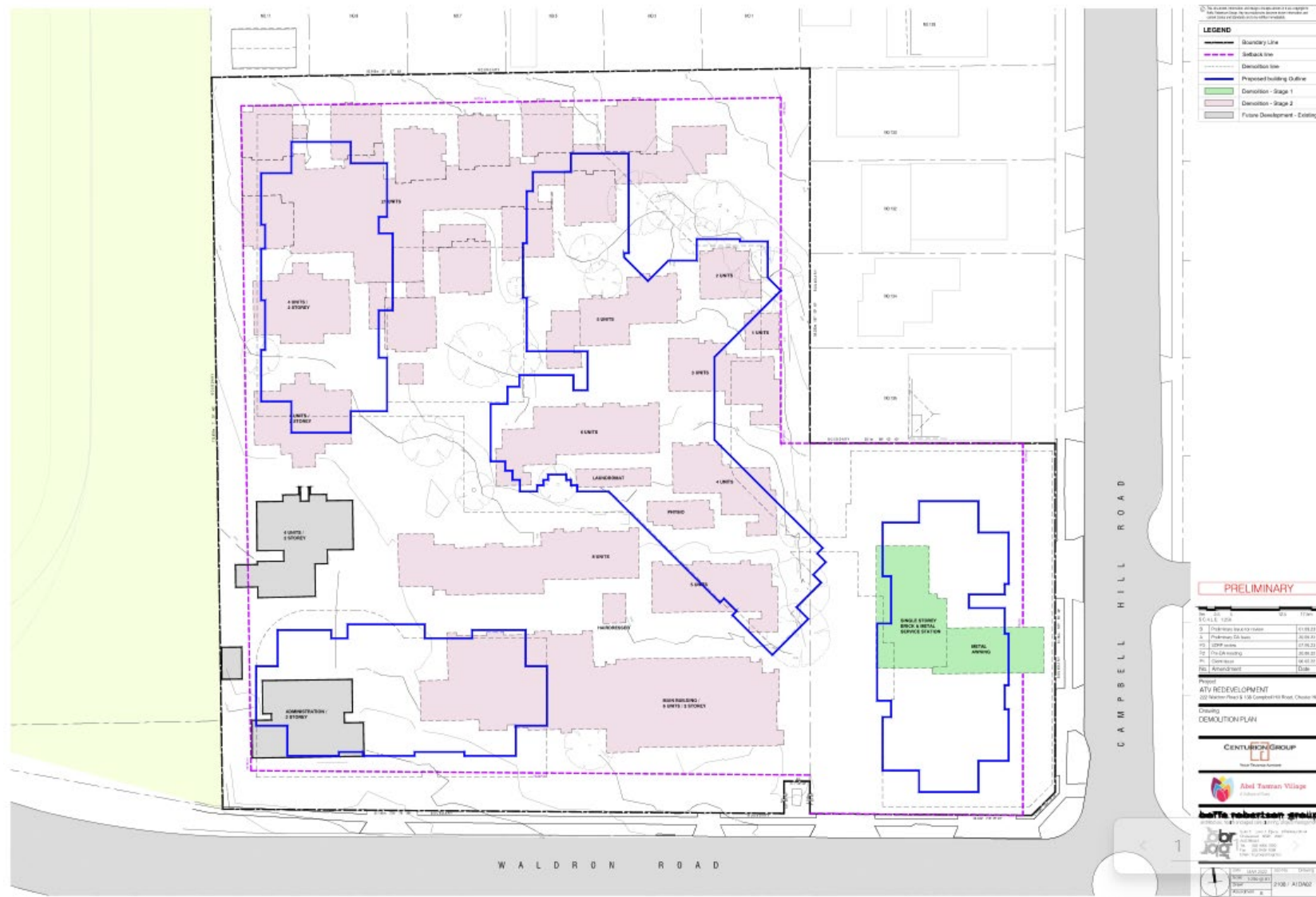


Figure 4. Proposed demolition plan (Boffa Roberston Group 2023)

2. Method

2.1 Site Context Methods

2.1.1 Landscape Features

The Subject Land occurs in an existing Aged Care facility in a suburban area in the suburb of Chester Hill. It is located on a gently sloped area adjacent to Waldron Road and Campbell Hill Road. The Subject Land occurs approximately 82m north of the T3 Bankstown Train Line.

NSW spatial services did not identify any mapped watercourses within the Subject Land (NSW Government Spatial Services 2024).

This section details the landscape features and associated habitat values in and around the Subject Land. A table is provided which details the Landscape Features as required by the BAM (**Table 6**).

2.2 Native vegetation, threatened ecological communities and vegetation integrity methods

2.2.1 Existing Information

Broad mapping of vegetation communities (**Figure 11**) have been undertaken as follows:

- NSW State Vegetation Type Map (NSW DCCEEW 2023)

This resource mapped no remnant vegetation within the Subject Property.

The following Plant Community Types (PCTs) were mapped nearby:

- PCT: 3320 Cumberland Shale Plains Woodland
- PCT: 3629 Castlereagh Scribbly Gum Woodland
- PCT: 3448 Castlereagh Ironbark Forest

2.2.2 Mapping Native Vegetation Extent

Land Eco mapped the native vegetation extent within the Subject Land by:

- Viewing recent aerial imagery (Nearmap 2023) for differences in texture that would suggest different vegetation zones; followed by;
- conducting a ground-based meandering transect, identifying native vegetation and marking the extent using a Garmin 65S hand-held GPS.

Plant Community Type (PCT) selection was undertaken using information from the BioNet Plant Community Type data (DPE 2022a).

2.2.3 Plot-based Vegetation Survey

Two irregular Vegetation Integrity Survey (VIS) plots were sampled within the Subject Land and/or vegetation immediately adjacent.

One representative irregular VIS plot was allocated to adequately sample the largest continuous vegetation patch that was structurally complete within the Subject Land using GIS. This style of VIS plot was chosen to best sample the irregular-shaped, small vegetation zones within the area of structurally complete native vegetation clearing proposed under the development.

One representative irregular VIS plot was allocated to adequately sample the disjunct grassland vegetation within the Subject Land using GIS. This style of VIS plot was chosen to best sample the irregular-shaped, small vegetation zones of grassland within the native vegetation clearing proposed under the development.

Two Ecologists then visited the Subject Land to sample these plots, recording the full species name, percentage cover, and estimate of abundance of all native and exotic vascular plant species.

2.2.4 Vegetation Integrity Survey

One irregularly shaped VIS plot was conducted within the 'Infill Planted' vegetation zone across the Subject Land (**Figure 2; Figure 12**). It was located to provide a representative assessment of vegetation integrity and was allocated to the largest continuous patch of native vegetation within the 'Infill Planted' vegetation zone within the Subject Land. This survey plot was established as follows:

- One 400 m² plot, to assess all the composition and structure attributes
- One 1000 m² plot, to assess the function attributes (number of large trees, stem size classes, tree regeneration and length of logs)
- Five 1 m² subplots, to assess average litter cover (and other optional ground cover components) for the plot.

One VIS irregularly shaped plot was conducted within 'Grassland' vegetation zone across the Subject Land (**Figure 2; Figure 12**). This plot was located to provide a representative assessment of vegetation integrity within the 'Grassland' vegetation zone. As the grassland vegetation within the Subject Property is fragmented by existing buildings, and thus the plot was made up of several smaller disjointed sub-plots. The plot extended into the vegetation on the public land immediately adjacent in order to sample the minimum required area of vegetation (**Figure 2**). This survey plots were as follows:

- One 400 m² plot, to assess all the composition and structure attributes
- Multiple sub-plots combined to meet the requirement of 1000 m² plot, to assess the function attributes (number of large trees, stem size classes, tree regeneration and length of logs)
- five 1 m² sub-plots, to assess average litter cover (and other optional ground cover components) for the plot.

The presence of hollow-bearing trees, the composition, the vegetation structure and vegetation function were all assessed according to the protocol outlined in Section 4.3.4 of the BAM (NSW DPIE 2020a).

2.3 Threatened Flora Survey Methods

2.3.1 Review of Existing Information

Land Eco reviewed any existing information on native vegetation relevant to the Subject Land and land within the 1500 m buffer area. This includes:

- individual species records that are held in the NSW Wildlife Atlas BioNet (NSW DCCEEW 2024b);
- existing maps of native vegetation in the area such as those held by the Department, or a local government authority;
- information from publicly accessible ecological reports, soil surveys or previous native vegetation surveys that is relevant to the subject land (where available).

2.3.2 Habitat Constraints Assessment

Land Eco compiled a detailed summary of potential microhabitats for threatened flora species as well as habitat constraints present on the Subject Land. Where relevant, habitat features were mapped and photographed.

2.3.3 Field Surveys

Preliminary desktop assessment revealed Flora Species Credit species were identified within the BAMC (OEH 2024) and NSW Wildlife Atlas (NSW DCCEEW 2024b) as having the potential to occur within the Subject Land. Targeted surveys were undertaken for all species that were considered likely to occur (**Table 22**).

2.4 Threatened Fauna Survey Methods

2.4.1 Review of Existing Information

Land Eco reviewed any existing information on threatened fauna relevant to the Subject Land and land within the 1500 m buffer area. This includes:

- survey data or individual species records that are held in NSW Wildlife Atlas BioNet (NSW DCEEW 2024b);
- information in ecological reports, soil surveys or previous fauna surveys that is relevant to the Subject Land (where available).

2.4.2 Habitat Constraints Assessment

The Land Eco Consulting Ecologists compiled a detailed summary of potential microhabitats for threatened fauna species as well as habitat constraints present on the Subject Land, including both Species Credit and Ecosystem Credit threatened fauna species. Relevant habitat features were GPS recorded for mapping and were photographed.

2.4.3 Field Surveys

Preliminary Desktop Surveys revealed Fauna Species Credit species were identified within the BAMC (DPIE 2024c) and NSW Wildlife Atlas (NSW DCEEW 2024b) as having the potential to occur within the Subject Land (**Table 19**). Targeted surveys were undertaken for all species that were considered likely to occur (**Table 23**).

2.5 Weather Conditions

All surveys were conducted at an appropriate time of year following suitable weather conditions.

Table 5. Environmental conditions during surveys recorded at the Bankstown Weather Station (BOM 2024). Monthly temperature averages (min – max) and total monthly rainfall are shown in bold (BOM 2024).

Survey undertaken (e.g. method / targeted species)	Date	Time	Temperature (°C) (min. & max.)	Wind (light, mod...)	Rainfall (mm)
N/A	November 2023	N/A	16.3-25.8	N/A	98.6 (total)
Site Assessment / BAM VIS plot survey	20/11/2023	8:30 – 11:30	17.6 – 27.8	High	0
Targeted Fauna Survey (Microbats – Anabats Installed)	30/11/2023	13:30-15:30	15.8-28.8	High	8.4
N/A	December 2023	N/A	18.7-29.4	N/A	102.8 (total)
Targeted Fauna Survey (Microbats – Anabats Retrieval)	10/12/2023	14:00 – 15:00	21.4 – 28.5	High	0
N/A	June 2024	N/A	6.8-17.5	N/A	176.4
Targeted Flora Survey BAM VIS plot survey	4/7/2024	11:20 – 13:50	9.5-17.1	High	4.6
N/A	October 2024	N/A	12.5 – 24.3	N/A	38.2
Targeted Flora Survey (<i>Pterostylis saxicola</i>)	4/11/24	10:00 – 12:00	17.9	24.0	0

3. Site Context

3.1 Assessment Area

The Assessment Area includes a 1500m buffer zone surrounding the Subject Land (**Figure 5**).

3.2 Landscape Features

Landscape features identified within the Subject Land and assessment are presented in **Figure 5-Figure 9**. A discussion of relevant landscape features is provided below.

3.2.1 IBRA Bioregions and Subregions

In accordance with BAM Subsection 3.1.3(2) the Subject Land has been mapped to IBRA Bioregion and Subregion. The Subject Land occurs within the 'Sydney Basin' Interim Biogeographic Regionalisation for Australia ver. 7 (IBRA) bioregion, and 'Cumberland' IBRA subregion (DEE 2016; **Figure 6**).

3.2.2 Rivers, Streams, Estuaries and Wetlands

This subsection details wetlands, rivers and streams classified according to stream order (as described in BAM Subsection 3.1.3(3.) and Appendix E).

There are no mapped watercourses within the Subject Property. The Subject Land occurs approximately 502m north-east of a first-order tributary of Prospect Creek. Prospect Creek drains into Georges River. The proposed development does not include works within 40m of a mapped watercourse and therefore is not considered a Controlled Action under the *Water Management Act 2000* (**Figure 7**).

3.2.3 Habitat Connectivity

In accordance with connectivity of different areas of habitat (as described in BAM Subsection 3.1.3(5–6)), the assessor must identify the connectivity of different areas of habitat that may facilitate the movement of threatened species across their range and identify these on the Location Map (**Figure 8**).

Significant biodiversity links are those that connect different areas of habitat, facilitating movement of threatened species across their distribution. The presence of significant biodiversity links on a site contributes to the biodiversity value of that Subject Land at the landscape scale. Connectivity can be identified at different scales depending on the target species and can include recognised biodiversity corridors in a plan approved by DPIE (e.g. priority investment areas), a local corridor identified by a local council, flyways for migratory species or a riparian buffer of a stream, wetland or estuary.

Land Eco has identified routes of habitat connectivity between the Subject Land and adjoining landscape and has classified them into two categories:

- Habitat Link – a local-scale habitat connection consisting of a narrow or disturbed vegetation corridor (i.e. canopy connectivity); and
- Significant Biodiversity Link – a locally significant habitat connection consisting of remnant vegetation, reserves, densely vegetated riparian corridors or wetlands.

The Subject Land occurs in a highly urbanised, historically cleared locality surrounded by residential dwellings, industrial/commercial facilities, railway lines and roads with weak connectivity to surrounding native vegetation (**Figure 8**). The matrix of native/exotic canopy trees within proximity of the Subject Property provide a flyway for mobile, urban-adapted fauna particular birds, and may act as a stepping-stone for fauna moving across the landscape.

Impacts of development on the connectivity of different forms of habitat have been considered by the assessor (see **section 8**).



Legend

- Subject Property
- 1500m Buffer
- Native Vegetation Cover

0 150 300 600 900 1,200 1,500 Meters



Date: 17/07/2024

Coordinate System: GDA 1994 MGA Zone 56

Imagery: NearMap

This map was produced for this report only.
It is indicative, not survey-accurate.
It should not be used for design
or construction purposes.

Figure 5. Native vegetation patches within the area surrounding the Subject Land (1500m buffer)



Legend

- Subject Property
- 1500m Buffer
- IBRA Subregion**
- Cumberland

0 150 300 600 900 1,200 1,500 Meters



Land
Eco
consulting

Date: 9/01/2024

Coordinate System: GDA 1994 MGA Zone 56

Imagery: NSW Public Imagery

Data: NSW EPI 2020

This map was produced for this report only.
It is indicative, not survey-accurate.
It should not be used for design
or construction purposes.

Figure 6. Subject Land lies entirely within the Cumberland IBRA 7 Subregion of the Sydney Basin IBRA7 Bioregion.

3.2.4 Karst, Caves, Crevices, Cliffs, Rocks or Other Geological Features of Significance

In accordance with BAM Subsections 3.1.3(7.) and 3.1.3(12.) the assessor must detail karst, caves, crevices, cliffs, rocks and other geological features of significance and for vegetation clearing proposals, soil hazard features.

No karsts, caves, crevices or cliffs were identified within the Subject Land. This was determined as a result of comprehensive site-based assessment.

The Subject Land gently slopes towards down towards Waldron Road.

The Subject Land occurs on the 'Blacktown' Soil Landscape which is described as gently undulating rises on Wianamatta Group shales. Local relief to 30 m, slopes usually >5%. Broad rounded crests and ridges with gently inclined slopes. Cleared Eucalypt woodland and tall open-forest (dry sclerophyll forest) (NSW DCCEEW 2024a).

3.2.5 Areas of Outstanding Biodiversity Value

No areas of Outstanding Biodiversity Value occur within the Subject Land or Assessment Area.

3.2.6 Mitchell Landscapes

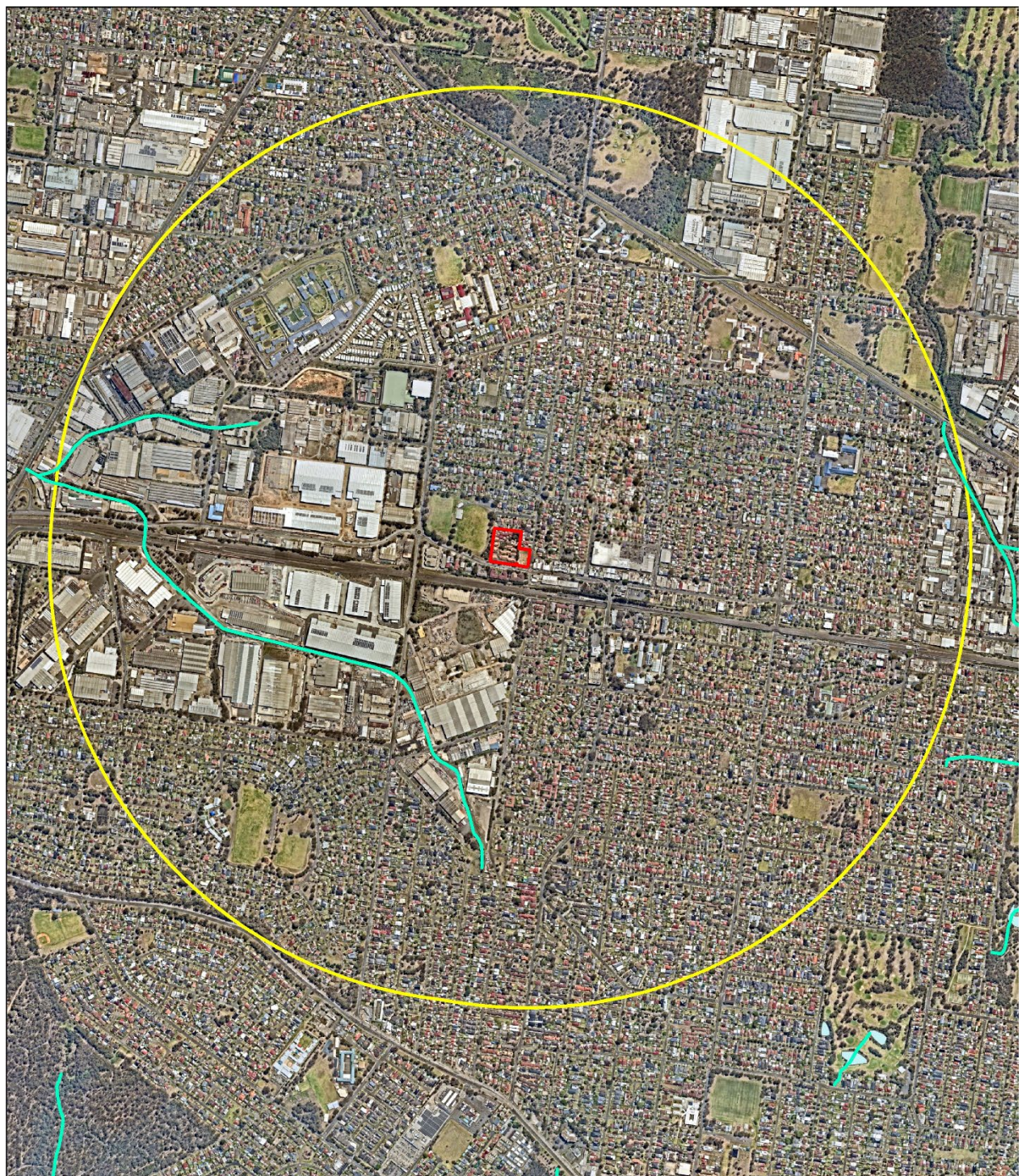
NSW Landscapes Mapping: Background and Methodology (Mitchell 2002; OEH 2016a) groups ecosystems into meso-ecosystems representing larger natural entities based on topography and geology. The naming of ecosystems and meso-ecosystems was standardised so that each name provided location information and a meaningful descriptive landscape term. The Subject Land occurs over the 'Ashfield Plains' Mitchell Landscape (**Figure 9**).

3.2.6.1 Landscape Ecosystem – Ashfield Plains

Undulating hills and valleys on horizontal Triassic shale and siltstone, occasional quartz sandstones especially near the margin of the Port Jackson landscape. General elevation 0 to 45m, local relief <20m. Coastal extension of the Cumberland Plain landscape. Red and brown texture-contrast soils on crests grading to yellow harsh texture-contrast soils in valleys. Open forest of broad-leaved ironbark (*Eucalyptus fibrosa* ssp. *fibrosa*), grey box (*Eucalyptus moluccana*), with tea-tree (*Leptospermum* sp.) along creeks and forests of turpentine (*Syncarpia glomulifera*), red mahogany (*Eucalyptus resinifera*), grey gum (*Eucalyptus punctata*), Sydney blue gum (*Eucalyptus saligna*) and blackbutt (*Eucalyptus pilularis*) with a grassy understorey of kangaroo grass (*Themeda triandra*) on moister sites.

Table 6. Summary of Landscape features identified within the Subject Land and surrounding 1500m buffer.

Landscape Feature	Identification of Landscape Feature on Site
Rivers and Streams (classified according to stream order)	There are no mapped watercourses within the Subject Property. The Subject Land occurs approximately 502m north-east of a first-order tributary of Prospect Creek. Prospect Creek drains into Georges River. The proposed development does not include works within 40m of a mapped watercourse and therefore is not considered a Controlled Action under the <i>Water Management Act 2000</i> (Figure 7).
Wetlands (within, adjacent to and downstream of site)	The Subject Land does not contain any areas identified as 'Coastal Wetlands' as per the <i>State Environmental Planning Policy (Resilience and Hazards) 2021</i> .
Connectivity features	The Subject Land occurs in a highly urbanised, historically cleared locality surrounded by residential dwelling, industrial/commercial facilities, railway lines and roads with weak connectivity to surrounding native vegetation (Figure 8). The matrix of native/exotic canopy trees within proximity of the Subject Property provide a flyway for mobile fauna particular birds, and may act as a stepping-stone for fauna moving across the landscape.
Areas of geological significance and soil hazard features	No areas of geological significance (karsts, caves, crevices or cliffs) were identified within the Subject Land. This was determined from a comprehensive site-based assessment.



Legend

- Subject Property
- 1500m Buffer
- ~ Hydroline
- Hydroarea

0 150 300 600 900 1,200 1,500 Meters



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consulting

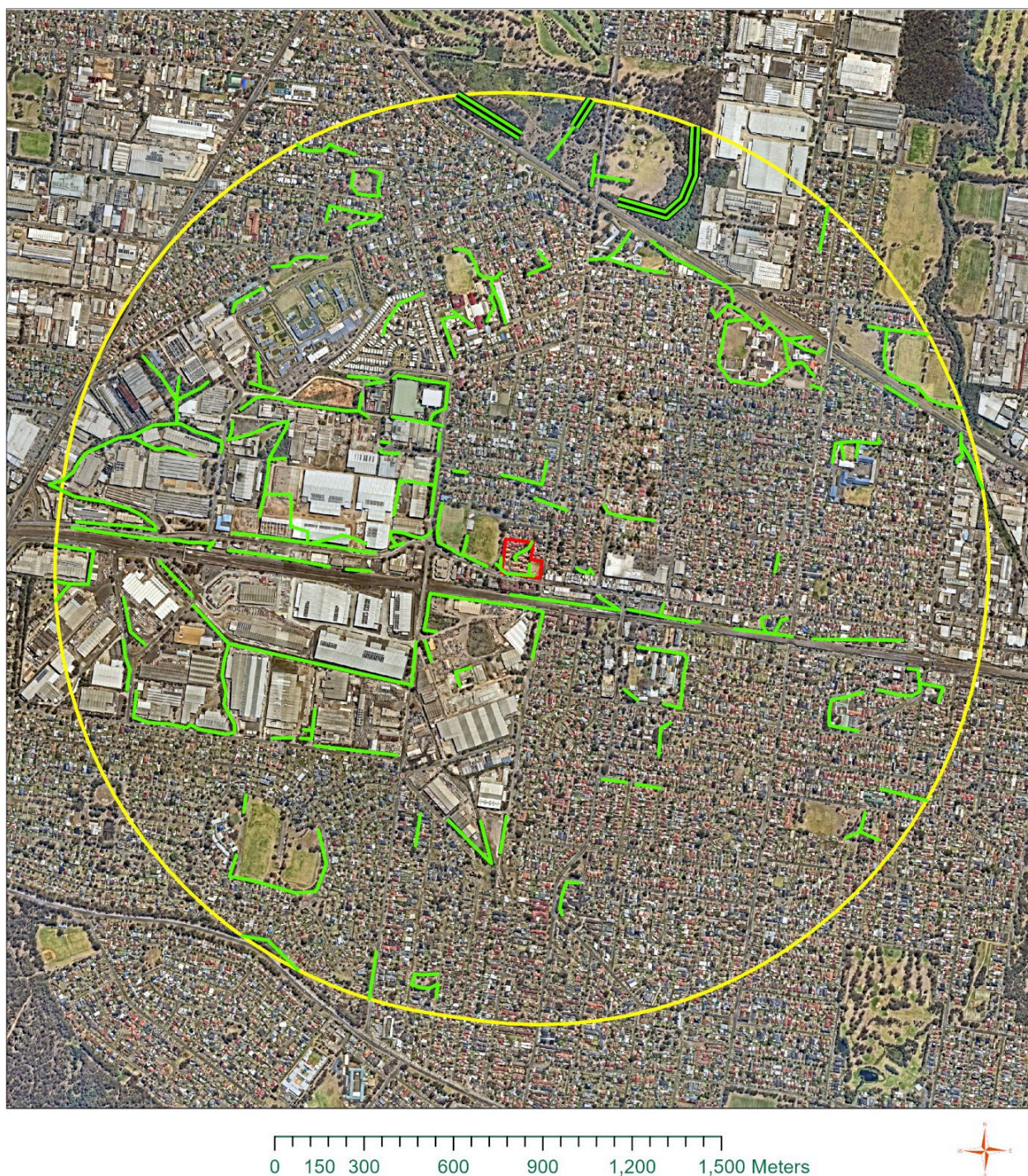
Date: 10/01/2024

Coordinate System: GDA 1994 MGA Zone 56

Imagery: NearMap

This map was produced for this report only.
It is indicative, not survey-accurate.
It should not be used for design
or construction purposes.

Figure 7. Watercourses (streams and waterbodies) within the vicinity of the Subject Land.



Legend

- Subject Property
- 1500m Buffer
- Habitat Corridor
- Habitat Link



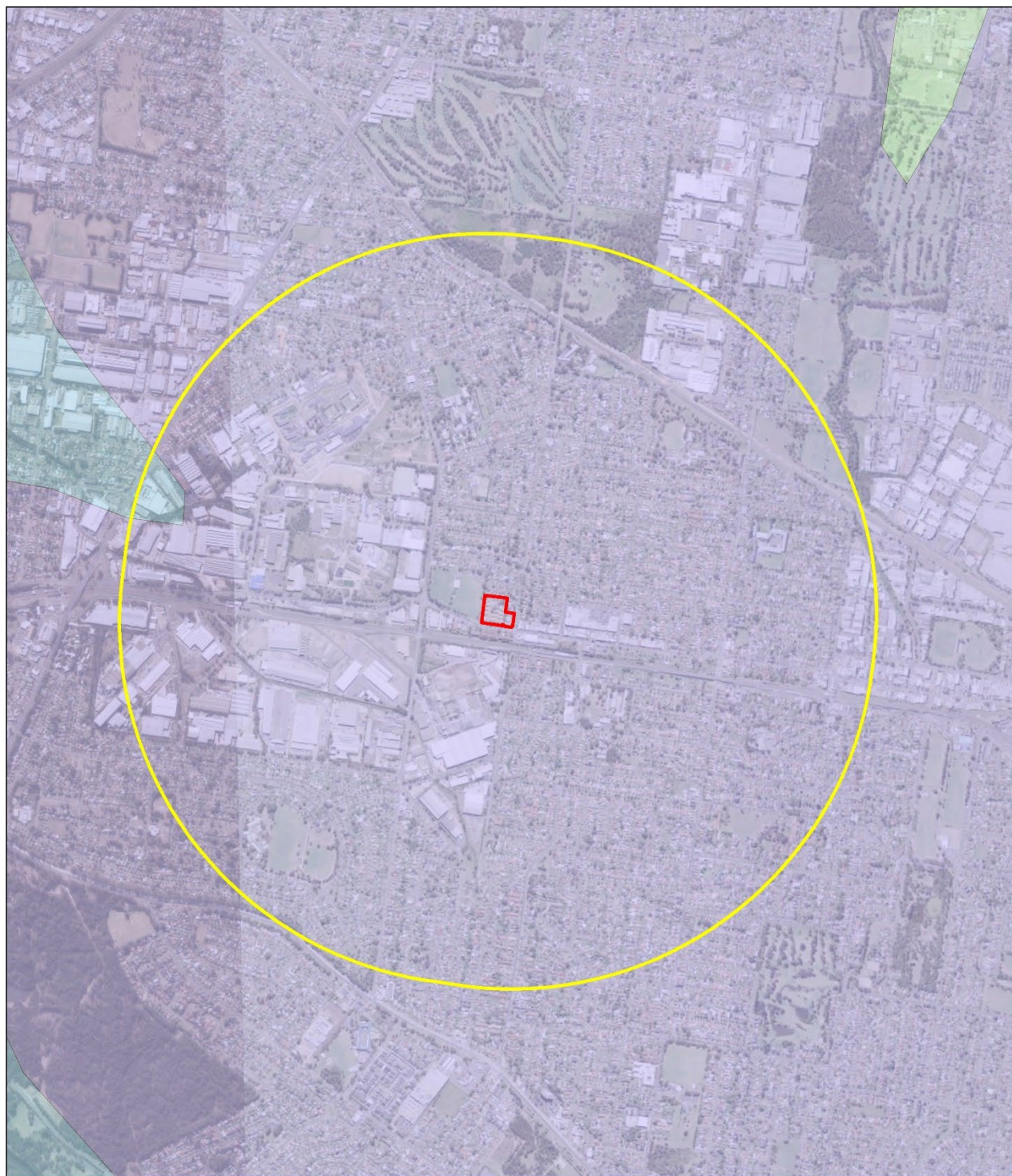
Date: 19/06/2024

Coordinate System: GDA 1994 MGA Zone 56

Imagery: NearMap

This map was produced for this report only.
It is indicative, not survey-accurate.
It should not be used for design
or construction purposes.

Figure 8. Terrestrial and wetland habitat connectivity links within the Subject Land and surrounding area.



Legend

- Subject Property
- 1500m Buffer

Mitchell Landscape

- Ashfield Plains
- Georges River Alluvial Plain
- Port Jackson Basin

0 150 300 600 900 1,200 1,500 Meters



Date: 9/01/2024

Coordinate System: GDA 1994 MGA Zone 56

Imagery: NSW Public Imagery

Data: NSW EPI 2020



This map was produced for this report only.
It is indicative, not survey-accurate.
It should not be used for design
or construction purposes.

Figure 9. The Mitchell Landscapes that comprise the Subject Land and the surrounding assessment area.

3.2.7 Additional Landscape Features Identified

No additional landscape features are identified in the Subject Land for the proposed development.

3.2.8 Soil Hazard Features

The proposed development does not require approval from the Native Vegetation Panel under Chapter 2 (Vegetation in Non-Rural Areas) of the *State Environmental Planning Policy (Biodiversity & Conservation) 2021* as it is mapped 'Category 1 – Exempt Land', therefore the soil hazard features are not relevant to this development.

3.3 Native Vegetation Cover

A 1500m 'assessment circle' surrounding the outside boundary of the Subject Land was prepared in order to determine the extent of native vegetation within the surrounding locality of the Subject Land. Native vegetation was determined from aerial imagery (NSW Public Imagery 2024, Nearmap 2024), local historical native vegetation mapping (NSW OEH 2016c) and local knowledge of the locality. The results are presented in **Table 7**.

Land Eco mapped all substantial patches of native vegetation within the 1500m 'assessment circle'. Isolated native street trees are not considered to contribute substantially to the native vegetation cover within the assessment circle.

Table 7. Native vegetation cover in the Assessment Area

Assessment area (ha)	777.17
Total area of native vegetation cover (ha)	77.94 (78 in the BAM-C)
Percentage of native vegetation cover	10.02% (10% in the BAM-C)
Class (0-10, >10-30, >30-70 or >70%)	0-10%

4. Native Vegetation, Threatened Ecological Communities and Vegetation Integrity

4.1 Native Vegetation Extent

Land Eco mapped the native vegetation extent within the Subject Land (as described in BAM Section 4.1(1–3.) and BAM Subsection 4.1.1). Impacts to vegetation required to facilitate the proposed development are presented in **Table 8**.

Table 8. Impacts to vegetation to facilitate development

Vegetation type	Area to be removed (ha) for Development
Native Vegetation (PCT 3320: Infill Planted)	0.25
Native Vegetation (PCT 3320: Grassland)	0.08
Native Vegetation (Planted Native Vegetation)	0.04
Non-native Vegetation (Exotic Vegetation)	0.08
Total Vegetation	0.45
Total Assessable Under BAM	0.33

4.1.1 Changes to the Mapped Native Vegetation Extent

The actual native vegetation extent matches that shown on the aerial imagery used in the figures of this report (NearMap 2024).

4.1.2 Remnant Native Vegetation

Reviewing historical imagery (NSW Historical Imagery 2024) prior to the 1970s revealed that the Subject Land, historically consisted of woodland but was later entirely cleared. Within the following few years, it appeared as though the trees in the northeastern corner of the Subject Land may have self-sown. The majority of the Subject Land still however remained cleared until the facility was built between 1991-1994 and vegetation was planted amongst the buildings (**Figure 10**).

Precautionarily the trees in the north-eastern corner of the Subject Land are therefore being considered as remnant native vegetation and being assessed as such (**Figure 12**).

4.1.3 Non-native Vegetation

Non-native vegetation within the Subject Land included planted exotic ornamental trees and shrubs. Where a native planted species (not indigenous to the area) was identified in the Arboricultural Assessment (Naturally Trees 2024), the vegetation was mapped as such and not included as remnant vegetation within the BDAR assessment. Where a native canopy was present, the vegetation as a whole was considered to be native and assessed as such. If it was ambiguous whether a patch of vegetation was remnant vegetation, or planted vegetation based off aerial imagery (Nearmap 2023) and site knowledge, the precautionary principle was adopted, and the vegetation patch was mapped as remnant native vegetation and assessed as such. All parts of the Subject Land that supported vegetation have been mapped (**Figure 12**). Areas that have not been mapped consisted of existing structures and hard surfaces.

4.1.4 Planted Native Vegetation

The Subject Land contains planted native vegetation that:

- Does not 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, and
- was not planted for the purpose of environmental rehabilitation or restoration under an existing conservation obligation listed in BAM Section 11.9(2.), and the primary objective was not to replace or regenerate a plant community type or a threatened plant species population or its habitat, and
- was not planted 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,
 - 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).
- was not planted for revegetation, environmental rehabilitation or restoration, and
- was planted for functional and aesthetic purposes.

Historical imagery between 1991-1994 shows that the some of the vegetation within the Subject Land was planted amongst the buildings (**Figure 10; Figure 12**). As the native vegetation was planted for functional and aesthetic purposes surrounding the existing buildings within the Subject Land, it meets subsection D.1 (5.i.) of the decision tree in Appendix D of the BAM, and has been assessed accordingly (i.e. excluded from credit calculations).

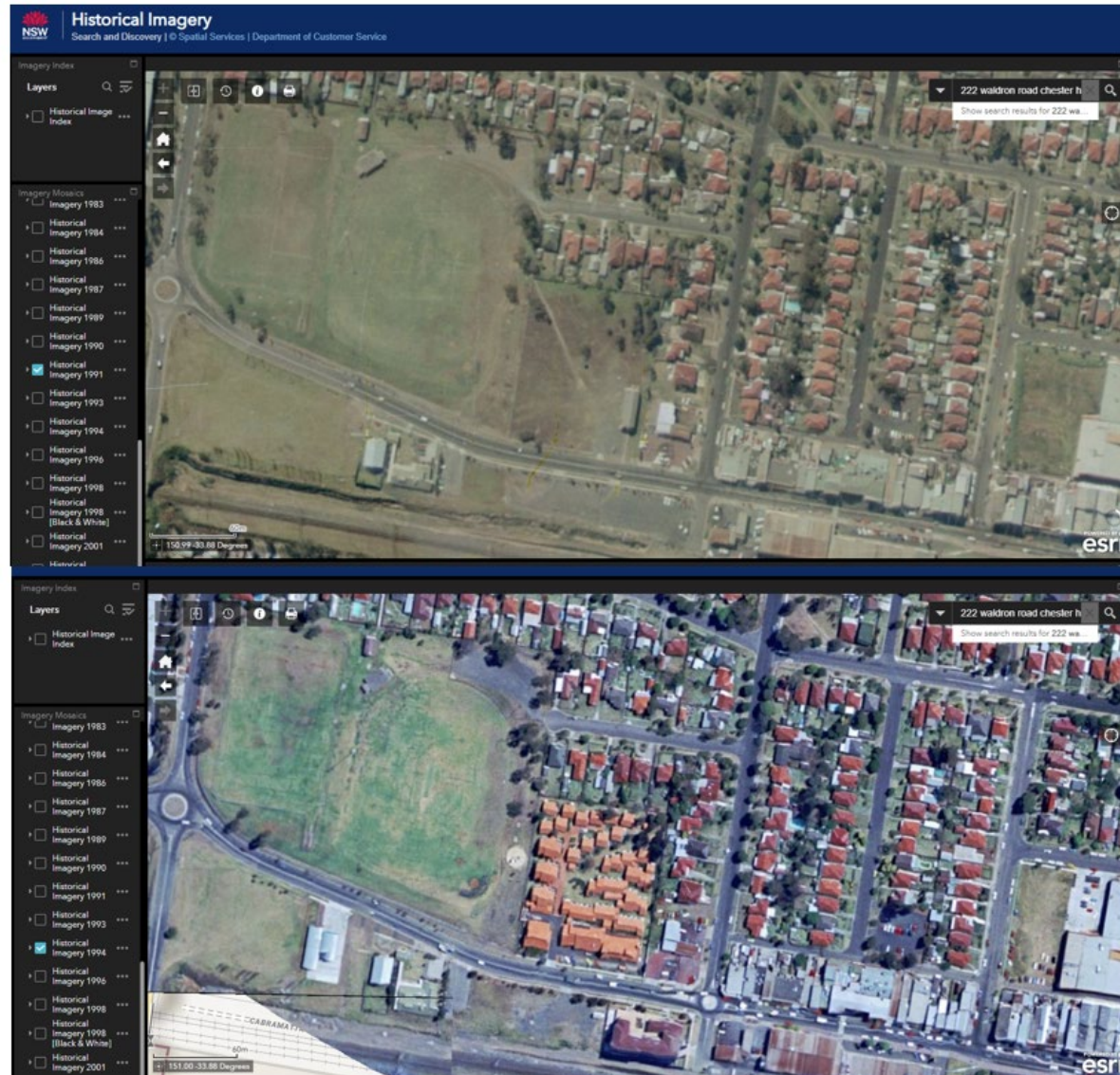


Figure 10. Historical Imagery from 1991 and 1994 indicating the Subject Property prior to and after the construction of the existing Abel Tasman Village (NSW Historical Imagery 2024)

4.2 Plant Community Types

4.2.1 Overview

Vegetation within the Subject Land has been assessed as aligning with the BioNet Vegetation Classification PCTs identified within **Table 9** and their extent is shown in **Figure 12**. Detailed descriptions of each PCT are provided in the following subsections.

An analysis of candidate PCT and the justification for selecting the PCT is shown in **Table 10**.

Table 9. PCTs identified within the Subject Land

PCT ID	PCT name	Vegetation Zone	Management Zone	Subject Land Area (ha)
3320	Cumberland Shale Plains Woodland	Infill Planted	Complete Removal	0.16
			Understory Only Removal	0.08
			Canopy Overhang Removal Only	0.004 (rounds up to 0.01 in the BAM-C)
		Grassland	Complete Removal	0.08
		Total area		0.33

Table 10. Justification for PCT Selection

Attribute	Selection Filters
IBRA Sub-region	Cumberland
Vegetation Formation	Dry Sclerophyll Forests
Vegetation Class	Cumberland Dry Sclerophyll Forests
Dominant Upper Stratum Species	<i>Eucalyptus tereticornis</i> <i>Eucalyptus moluccana</i>
Dominant Mid Stratum Species	<i>Melaleuca decora</i> The shrub layer in the Subject Property is mostly absent because of historical management of the property.
Elevation Range	18m – 20m asl
Short list of PCT	3320 Cumberland Shale Plains Woodland 3448 Castlereagh Ironbark Forest 3629 Castlereagh Scribbly Gum
Excluded PCT	PCT 3448 The vegetation description for PCT 3448 states: “The canopy almost always includes ironbark eucalypts (primarily <i>Eucalyptus fibrosa</i>), occasionally accompanied by stringybark eucalypts (<i>Eucalyptus sparsifolia</i>, <i>Eucalyptus oblonga</i> or <i>Eucalyptus globoides</i>). The dense shrub to small tree layer almost always includes melaleucas and acacias of which <i>Melaleuca decora</i> and <i>Acacia falcata</i> are the most frequent.” In contrast, ironbark eucalypts were notably absent from the vegetation within the Subject Property. While present surrounding the adjacent Abbott Park, these were young, the same age class, and present in rows, and considered likely to be planted and thus not informative for PCT selection. The dense <i>Melaleuca</i> midstorey is representative of this PCT however in the absence of the characteristic canopy, does not closely align with this PCT. PCT 3629 PCT 3629 is usually characterised by the presence of <i>Eucalyptus sclerophylla</i> and <i>Eucalyptus parramattensis</i> with <i>Angophora bakeri</i> with a sparse cover of <i>Melaleuca decora</i>. None of the characteristic canopy species are present within or adjacent the Subject Land. <i>Melaleuca decora</i> is present, but the absence of characteristic canopy species rules out PCT 3629.
Chosen PCT	PCT 3320 PCT 3320 is confirmed present on the Subject Land. PCT 3320 is described as: “A tall sclerophyll open forest to woodland with a sparse mid-stratum of soft-leaved shrubs and small trees with a grassy ground cover on the undulating shale plains of western Sydney. The canopy very frequently

Attribute	Selection Filters
	includes <i>Eucalyptus tereticornis</i> and <i>Eucalyptus moluccana</i>, with ironbarks (<i>Eucalyptus crebra</i> and <i>Eucalyptus fibrosa</i>) occasionally present however prominent in localised areas.” This is representative of the vegetation within the Subject Land, with a canopy of <i>Eucalyptus tereticornis</i>, <i>E. moluccana</i> and <i>Corymbia maculata</i> over a modified understorey which includes <i>Bursaria spinosa</i>. Across the Subject Property, the presence of <i>Eucalyptus moluccana</i> and <i>E. tereticornis</i> indicates the presence of higher nutrient shale influence within the soil, while the dense <i>Melaleuca</i> midstorey in the north-east indicates a potential transition to soils with greater gravel composition.

4.2.2 PCT 3320 Cumberland Shale Plains Woodland

This vegetation was the only native vegetation community identified within the Subject Land. It occurred in a historically modified condition as a result of historical clearing, weed-infestation, ongoing garden maintenance, and infill planting of exotic and native ornamental species. PCT 3320 within the Subject Property could be identified through tall *Eucalyptus moluccana*, *E. longifolia* and *E. tereticornis* over *Melaleuca decora* and *Bursaria spinosa* on soil that forms part of a shale-gravel transition (Table 11).

Table 11. PCT 3320 Cumberland Shale Plains Woodland

PCT ID	3320
PCT name	Cumberland Shale Plains Woodland
Vegetation formation	Grassy Woodlands
Vegetation class	Coastal Valley Grassy Woodlands
Per cent cleared value (%)	93.03
Extent within Subject Land (ha)	0.33
Condition State 1	Infill Planted
Condition State 2	Grassland
Justification of PCT Selection	Historical clearing, infill planting, ongoing garden maintenance and weed-infestation has degraded this ecosystem, increasing the significance of geological characteristics and remnant canopy trees in PCT assignation. The presence of mature, tall <i>Eucalyptus moluccana</i> and <i>Eucalyptus longifolia</i> on a shale-gravel transitional soil is characteristic of an urban, disturbed occurrence of PCT 3320. See Table 10 for more detail.
Alignment with TECs	Shale Gravel Transition Forest in the Sydney Basin Bioregion (see section 4.3)
Photo	Plate 1 Plate 2

4.3 Threatened Ecological Communities

The remnant vegetation belonging to PCT 3320 within the Subject Property qualifies as a TEC (Table 14).

All of PCT 3320 on the Subject Land corresponds to the Shale Gravel Transition Forest in the Sydney Basin Bioregion Endangered Ecological Community (SGTF EEC) under Schedule 2 of the BC Act in accordance with the Final Determination (NSW Threatened Species Scientific Committee 2011) (**Table 12; Table 13; Table 14**).

The vegetation within the Subject Land does not correspond to the Cumberland Plain Woodland in the Sydney Basin Critically Endangered Ecological Community under Schedule 2 of the BC Act in accordance with the Final Determination (NSW Threatened Species Scientific Committee 2010) (CPW EEC). The midstory vegetation within the Subject Land is dominated by mature, dense *Melaleuca* spp. that indicates a shale-gravel transitional soil. This dense *Melaleuca* midstorey is not typical of the open woodland structure of CPW CEEC. A mature remnant *Eucalyptus longifolia* also occurs within the Subject Land. This species occurs less frequently in CPW CEEC compared to SGTF EEC (**Table 13**).

The vegetation within the Subject Land does not qualify as Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest (listed as 'Critically Endangered') under the Commonwealth Listing advice (Commonwealth TSSC 2009). The vegetation within the Subject Land does not have an understorey with greater than 30% cover made up of native species (*Melaleuca* spp. are classified as trees and not shrubs according to the listing advice), and therefore does not qualify under any condition thresholds in the listing advice (Commonwealth TSSC 2009).

Vegetation that is characteristic of SGTF EEC will be removed for the proposed development. This vegetation, however, is in poor condition owing to historical clearing, ongoing garden maintenance, infill-planting and weed infestation. The proposed development has been sited to retain 33 trees, including the majority of the key biodiversity values of the site in the mature *Eucalyptus* spp. and *Melaleuca decora* in the north-eastern corner of the Subject Property. Naturally Trees (2024) *Arboricultural Impact Appraisal and Method Statement* details measures to mitigate impacts to canopy trees.

Table 12. Characteristics of Shale Gravel Transition Forest in the Sydney Basin within the Subject Land (TSSC 2011).

Key Diagnostic Characteristic (NSW Threatened Species Scientific Committee 2019)		Subject Land
Occurs within the Sydney Basin Bioregion		The Subject Land is located within the Sydney Basin Bioregion.
The Shale Gravel Transition Forest is characterised by the following assemblage:		The SGTF EEC within the Subject Land includes the following characteristic species: <i>Melaleuca decora</i> , <i>Eucalyptus moluccana</i> , <i>Eucalyptus tereticornis</i> and <i>Bursaria spinosa</i> .
<i>Acacia falcata</i> <i>Acacia parramattensis</i> <i>Aristida vagans</i> <i>Austrodanthonia tenuior</i> <i>Brunoniella australis</i> <i>Bursaria spinosa</i> <i>Cheilanthes sieberi</i> subsp. <i>sieberi</i> <i>Daviesia ulicifolia</i> <i>Desmodium varians</i> <i>Dianella longifolia</i> <i>Dianella revoluta</i> var. <i>revoluta</i> <i>Dichelachne micrantha</i> <i>Dichondra repens</i> <i>Echinopogon caespitosus</i> var. <i>caespitosus</i> <i>Echinopogon ovatus</i> <i>Entolasia stricta</i> <i>Eucalyptus fibrosa</i> <i>Eucalyptus moluccana</i> <i>Eucalyptus tereticornis</i> <i>Euchiton sphaericus</i> <i>Glycine clandestina</i> <i>Goodenia hederacea</i> subsp. <i>hederacea</i>	<i>Hardenbergia violacea</i> <i>Hydrocotyle peduncularis</i> <i>Hypericum gramineum</i> <i>Laxmannia gracilis</i> <i>Lepidosperma laterale</i> <i>Lissanthe strigosa</i> <i>Lomandra filiformis</i> subsp. <i>filiformis</i> <i>Lomandra multiflora</i> subsp. <i>multiflora</i> <i>Melaleuca decora</i> <i>Microlaena stipoides</i> var. <i>stipoides</i> <i>Opercularia diphylla</i> <i>Oxalis perennans</i> <i>Panicum simile</i> <i>Paspalidium distans</i> <i>Pomax umbellata</i> <i>Poranthera microphylla</i> <i>Pratia purpurascens</i> <i>Themeda australis</i> <i>Tricoryne elatior</i> <i>Vernonia cinerea</i> var. <i>cinerea</i> <i>Wahlenbergia gracilis</i>	
Shale Gravel Transition Forest is predominantly of open-forest structure, usually with trees of <i>Eucalyptus fibrosa</i> sometimes with <i>E. moluccana</i> and <i>Eucalyptus tereticornis</i> . <i>Melaleuca decora</i> is frequently present in a small tree stratum. A sparse shrub stratum is		The SGTF EEC within the Subject Land occurs as an open-forest structure within <i>Eucalyptus moluccana</i> and <i>Eucalyptus tereticornis</i> , with a small tree stratum of

Key Diagnostic Characteristic (NSW Threatened Species Scientific Committee 2019)	Subject Land
usually present with species such as <i>Bursaria spinosa</i> , <i>Daviesia ulicifolia</i> and <i>Lissanthe strigosa</i> . Ground-layer species include <i>Microlaena stipoides</i> subsp. <i>stipoides</i> , <i>Cheilanthes sieberi</i> subsp. <i>sieberi</i> , <i>Themeda australis</i> , <i>Opercularia diphylla</i> , <i>Lomandra multiflora</i> subsp. <i>multiflora</i> , <i>Aristida vagans</i> , <i>Pratia purpurascens</i> and <i>Wahlenbergia gracilis</i> .	<i>Melaleuca decora</i> and a sparse shrub stratum that included <i>Bursaria spinosa</i> .
Shale Gravel Transition Forest occurs primarily in areas where shallow deposits of Tertiary alluvium overlie shale soils but may also occur in association with localised concentrations of iron-indurated gravel. Shale Gravel Transition Forest grades into Cumberland Plain Woodland as alluvial and ironstone influences decline. On thicker deposits of Tertiary alluvium it grades into Cooks River/Castlereagh Ironbark Forest or Castlereagh Scribbly Gum Woodland. South of the Tertiary alluvial deposits at Holsworthy, this community forms complex mosaics with shale/sandstone transitional communities.	The Subject Land occurs on the 'Blacktown' soil landscape which is dominated by gently undulating rises of Wianamatta Group shales. The dense <i>Melaleuca</i> midstorey in the north-east of the Subject Land indicates that tertiary alluvium with a greater gravel component may be present.
Shale Gravel Transition Forest is or has been known to occur in the Auburn, Bankstown, Baulkham Hills, Blacktown, Fairfield, Hawkesbury, Holroyd, Liverpool, Parramatta and Penrith Local Government Areas, but may occur elsewhere in the Sydney Basin Bioregion.	The Subject Land occurs in the Canterbury-Bankstown Local Government Area.

Table 13. Analysis of candidate Plant Community Types within the Subject Land

Key Diagnostic Characteristic	Cumberland Plain Woodland in the Sydney Basin Bioregion (NSW TSSC 2010)	Shale Gravel Transition Forest in the Sydney Basin Bioregion (NSW TSSC 2011)	Vegetation within the Subject Property
Structure	Cumberland Plain Woodland typically comprises an open tree canopy, a near-continuous groundcover dominated by grasses and herbs, sometimes with layers of shrubs and/or small trees. Shrubs may sometimes occur in locally dense stands. Less disturbed stands of the community may have a woodland or forest structure. Small trees or saplings may dominate the community in relatively high densities after partial or total clearing, and the groundcover may be relatively sparse, especially where densities of trees or shrubs are high. The community also includes 'derived' native grasslands which result from removal of the woody strata from the woodlands and forests.	Shale Gravel Transition Forest is predominantly of open-forest structure.	Historically disturbed woodland/open forest with a dense mid-stratum and heavily weed-infested grassy ground layer.
Canopy	Cumberland Plain Woodland is characterised by an upper-storey that is usually dominated by <i>Eucalyptus moluccana</i> (Grey Box) and <i>E. tereticornis</i> (Forest Red Gum), often with <i>E. crebra</i> (Grey Ironbark), <i>E. eugenioides</i> (Narrow-leaved Stringybark), <i>Corymbia maculata</i> (Spotted Gum) or other less frequently occurring eucalypts, including <i>Angophora floribunda</i> , <i>A. subvelutina</i> (Broad-leaved Apple), <i>E. amplifolia</i> (Cabbage Gum) and <i>E. fibrosa</i> (Broad-leaved Ironbark).	The canopy usually includes trees of <i>Eucalyptus fibrosa</i> sometimes with <i>E. moluccana</i> and <i>Eucalyptus tereticornis</i> .	Prominence of mature, tall <i>Eucalyptus moluccana</i> and <i>Eucalyptus longifolia</i> .

Key Diagnostic Characteristic	Cumberland Plain Woodland in the Sydney Basin Bioregion (NSW TSSC 2010)	Shale Gravel Transition Forest in the Sydney Basin Bioregion (NSW TSSC 2011)	Vegetation within the Subject Property
Mid-stratum	The community may have an open stratum of small trees that may include any of these eucalypts, as well as species such as <i>Acacia decurrens</i> (Black Wattle), <i>A. parramattensis</i> (Parramatta Wattle), <i>A. implexa</i> (Hickory Wattle) or <i>Exocarpos cupressiformis</i> (Native Cherry). Shrubs are typically scattered in the understorey but may be absent or locally dense as a result of clearing activity or changes in grazing or fire regimes. <i>Bursaria spinosa</i> (Blackthorn) is usually dominant, while other species include <i>Daviesia ulicifolia</i> (Gorse Bitter Pea), <i>Dillwynia sieberi</i> , <i>Dodonaea viscosa</i> subsp. <i>cuneata</i> and <i>Indigofera australis</i> (Native Indigo).	<i>Melaleuca decora</i> is frequently present in a small tree stratum. A sparse shrub stratum is usually present with species such as <i>Bursaria spinosa</i> , <i>Daviesia ulicifolia</i> and <i>Lissanthe strigosa</i> .	Midstorey including dense, mature <i>Melaleuca decora</i> over occasional <i>Bursaria spinosa</i> .
Ground layer	The ground cover is dominated by a diverse range of grasses including <i>Aristida ramosa</i> (Purple Wiregrass), <i>A. vagans</i> (Threeawn Speargrass), <i>Cymbopogon refractus</i> (Barbed Wire Grass), <i>Dichelachne micrantha</i> (Plumegrass), <i>Echinopogon caespitosus</i> (Forest Hedgehog Grass), <i>Eragrostis leptostachya</i> (Paddock Lovegrass), <i>Microlaena stipoides</i> (Weeping Grass), <i>Paspalidium distans</i> and <i>Themeda australis</i> (Kangaroo Grass), and with graminoids <i>Carex inversa</i> (Knob Sedge), <i>Cyperus gracilis</i> , <i>Lomandra filiformis</i> subsp. <i>filiformis</i> (Wattle Mat-rush) and <i>L. multiflorus</i> subsp. <i>multiflorus</i> (Many-flowered Mat-rush). The ground cover also includes a diversity of forbs such as <i>Asperula conferta</i> (Common Woodruff), <i>Brunoniella australis</i> (Blue Trumpet), <i>Desmodium varians</i> (Slender Tick Trefoil), <i>Dianella longifolia</i> (Blue Flax Lily), <i>Dichondra repens</i> (Kidney Weed), <i>Opercularia diphylla</i> , <i>Oxalis perennans</i> and <i>Wahlenbergia gracilis</i> (Australian Bluebell), as well as scramblers, <i>Glycine</i> spp. and <i>Hardenbergia violacea</i> (Native Sarsaparilla) and the fern <i>Cheilanthes sieberi</i> (Poison Rock Fern).	Ground-layer species include <i>Microlaena stipoides</i> subsp. <i>stipoides</i> , <i>Cheilanthes sieberi</i> subsp. <i>sieberi</i> , <i>Themeda australis</i> , <i>Opercularia diphylla</i> , <i>Lomandra multiflora</i> subsp. <i>multiflora</i> , <i>Aristida vagans</i> , <i>Pratia purpurascens</i> and <i>Wahlenbergia gracilis</i> .	Historically cleared, severely weed-infested groundlayer including <i>Commelina cyanea</i> , <i>Cynodon dactylon</i> and <i>Lomandra longifolia</i> .
Landscape Position	Cumberland Plain Woodland is the name given to the ecological community in the Sydney Basin bioregion associated with clay soils derived from Wianamatta Group geology, or more rarely alluvial substrates, on the Cumberland Plain, a rain shadow area to the west of Sydney's Central Business District. The mean annual rainfall of this area is typically in the range of 700-900 mm, and is generally lower than that received on more elevated terrain that partially surrounds	Shale Gravel Transition Forest occurs primarily in areas where shallow deposits of Tertiary alluvium overlie shale soils but may also occur in association with localised concentrations of iron-indurated gravel. Shale Gravel Transition Forest grades into Cumberland Plain Woodland as alluvial and ironstone influences decline. On thicker deposits of Tertiary alluvium it grades into Cooks	Occurs on the Cumberland Plain in the Sydney Basin bioregion. Occurs on the intergrade between shale and gravel soils, indicated by the dominance of <i>Melaleuca decora</i> which proliferate in these geological positions.

Key Diagnostic Characteristic	Cumberland Plain Woodland in the Sydney Basin Bioregion (NSW TSSC 2010)	Shale Gravel Transition Forest in the Sydney Basin Bioregion (NSW TSSC 2011)	Vegetation within the Subject Property
	the Plain. The community typically occurs on flat to undulating or hilly terrain up to about 350 m elevation but may also occur on locally steep sites and at slightly higher elevations.	River/Castlereagh Ironbark Forest or Castlereagh Scribbly Gum Woodland. South of the Tertiary alluvial deposits at Holsworthy, this community forms complex mosaics with shale/sandstone transitional communities.	

Table 14. TECs within the Subject Land

TEC name	Profile ID (from TBDC)	BC status	Act	Associated vegetation within the subject land	Area within Subject Land (ha)
Shale Gravel Transition Forest in the Sydney Basin Bioregion	10754	Endangered Ecological Community		PCT 3320: Infill Planted PCT 3320: Grassland	0.33

4.4 Vegetation Zones

Two native vegetation zones were identified within the Subject Land:

- PCT 3320: Infill Planted
- PCT 3320: Grassland

The PCT 3320: Infill Planted zone contains three management zones:

- Complete Removal
- Understory Only Removal
- Canopy Overhang Removal Only

The PCT 3320: Grassland zone contains one management zone:

- Complete Removal

4.4.1 Patch Size

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

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

Patch size may extend onto adjoining land that is not part of the development site (OEH 2020a). Patch size was calculated according to the above guidelines. Despite occurring within a residential/commercial precinct, the Subject Property has sparse canopy connectivity (i.e. gaps of less than 100m) to other areas of remnant native vegetation in the locality including nearby reserves. As such, Land Eco confirmed the Subject Land must be assessed under the >100 ha patch size category (**Figure 8**). For the purpose of the report and the BAM calculator we have assumed > 100 ha as the 78 ha patch size of native vegetation cover within the 1500m bigger connects to substantial remnant vegetation in nearby reserves which is the vegetation cover in the 1500m buffer area (**Figure 5**).

Table 15. Vegetation Zones and Patch Sizes

Vegetation zone ID	Management Zone	PCT	Condition / other defining feature	Area (ha)	Patch class (select multiple areas if native vegetation are discontinuous)	Number of vegetation integrity plots required	Number of vegetation integrity plots completed	Number of vegetation integrity plots used in assessment	Plot IDs of vegetation integrity plots used in assessment
Infill Planted	Complete Removal	PCT 3320	Removal of vegetation across all strata.	0.16	☐ <5 ha ☐ 5–24 ha ☐ 25–100 ha ☒ >100 ha	1	1	1	Plot 1
	Understorey Only Removal	PCT 3320	Removal of understorey vegetation	0.08	☐ <5 ha ☐ 5–24 ha ☐ 25–100 ha ☒ >100 ha				
	Canopy Overhang Removal Only	PCT 3320	Removal of canopy overhang vegetation	0.01	☐ <5 ha ☐ 5–24 ha ☐ 25–100 ha ☒ >100 ha				
Grassland	Complete Removal	PCT 3320	Removal of grassland	0.08	☐ <5 ha ☐ 5–24 ha ☐ 25–100 ha ☒ >100 ha	1	1	1	Plot 2



Plate 1. Representative photograph of PCT 3320: Infill Planted within the Subject Land from BAM Plot 1



Plate 2. Representative photograph of PCT 3320: Grassland within the Subject Land from BAM Plot 2

4.5 Vegetation Integrity (Vegetation Condition)

4.5.1 Vegetation Integrity Survey Plots

A total of two (2) BAM Vegetation Integrity (VI) Score (VIS) Plot was sampled within the Subject Land, one within the 'Infill Planted' vegetation zone and one within the 'Grassland' vegetation zone. The VIS Plot within the 'Infill Planted' vegetation zone covered all three 'Complete removal', 'Canopy overhang only removal' and 'Understorey only removal' management zones that occur within the 'Infill Planted' vegetation zone (**Figure 12**).

The two (2) VIS plots were irregular in shape in order to best sample the irregularly shaped garden beds and vegetation within the Subject Land. These plots covered the minimum 400m²/1000m² area as required by the BAM as discussed in **Section 2.2.3**.

Composition, structural and function data was collected across each entire plot. Plot data gathered for each attribute used to assess the function of the Subject Land vegetation is detailed in **Appendix C**.

4.5.2 Vegetation Integrity Scores

The VI scores, represented by existing vegetation within each vegetation zone, are detailed in **Table 16**.

The future VI score post-development for 'Complete Removal' Management Zone for the PCT 3320 Infill Planted vegetation zone will be zero from 31.6 due to complete removal of all vegetation in the zone.

The future VI score post-development for 'Understorey Only' Management Zone for the PCT 3320 Infill Planted vegetation zone will be 22.8, because the development will result in partial loss of vegetation (understorey) and the retention of canopy trees (*Eucalyptus* sp. and *Melaleuca decora*) resulting in an associated loss of -8.8 VI. To represent the removal of all understorey species except for trees and *Melaleuca* spp. as determined by the Arboricultural Assessment (Naturally Trees 2024), the grass and forb composition scores were reduced to zero, the shrub composition score was reduced to two to reflect the retention of two *Melaleuca* spp. and the tree composition score was kept unchanged to reflect the retention of all tree species within this zone. The structure score for grass and forb was reduced by 100% due to the loss of all groundcovers, and the shrub structure data was reduced by 67% due to the loss of two thirds of native shrub structure.

The future VI score post-development will be 12.1 for the 'Canopy Only' Management Zone for the PCT 3320 Infill Planted zone, because the development within this zone will result in the loss of canopy overhang and the retention of understorey vegetation, which will result in an associated loss of -19.5 VI. To represent the removal of canopy overhang within this management zone including the loss of six tree species and two *Melaleuca* spp. as determined by the Arboricultural Assessment (Naturally Trees 2024), the tree composition score was reduced by six and the shrub composition score was reduced by two. The structure score was reduced by 100% for trees and by 33% for shrubs due to the loss of all native tree structure (canopy) and the loss of one third of native shrub structure.

In total, the VI loss for the development within the 'Infill Planted' vegetation zone will be -23.8, resulting in a future VI score of 7.8.

The future VI score post-development for the 'grassland' vegetation zone will be zero from 9.8 which equates to complete removal of all vegetation in this vegetation zone.

In accordance with section 9.2. of the BAM (DPIE 2020a) if, during the assessment of biodiversity values for any type of development, clearing or biodiversity certification proposal, the assessor determines that:

- (a) an area of land does not contain native vegetation, or
- (b) a vegetation zone has a vegetation integrity score <15 where the PCT is representative of an endangered or critically endangered ecological community, or
- (c) a vegetation zone has a vegetation integrity score <17 where the PCT is associated with threatened species habitat (as represented by ecosystem credits), or is representative of a vulnerable ecological community, or
- (d) a vegetation zone has a vegetation integrity score <20 where the PCT is not representative of a TEC or associated with threatened species habitat then for that vegetation zone:
- (e) assessment of native vegetation is not required beyond Section 5.4, and

An offset is not needed for impacts on native vegetation if the vegetation integrity score is below those listed in subsection 9.2.1(1.) of the BAM (see above) which is the case for the PCT 3320: Grassland zone. However, if the entity is at risk of an SAI the assessor will need to address the relevant criteria in Section 9.1 of the BAM and include this in the BDAR.

4.5.3 Scores

Table 16. Vegetation Integrity Scores

Vegetation zone ID	Management Zone	Composition condition score	Structure condition score	Function condition score (where relevant)	Vegetation Integrity (VI) Score	Hollow bearing trees present
PCT 3320: Infill Planted	Complete Removal	27.9	17.8	63.8	31.6	Absent
	Understorey Only	27.9	17.8	63.8	31.6	Absent
	Canopy Overhang Only	27.9	17.8	63.8	31.6	Absent
PCT 3320: Grassland	Complete Removal	1.5	42.1	15	9.8	Absent

4.5.4 Use of Benchmark Data

This BDAR used the Version 1.2 benchmark data sourced from the BAMC (OEH 2024). No alternative benchmark data was utilised in preparing this report.



Legend

Subject Land

0 55 110 220 330 440 550 Meters



Date: 4/07/2024

Coordinate System: GDA 2020 MGA Zone 56

Imagery: NearMap



This map was produced for this report only.
It is indicative, not survey-accurate.
It should not be used for design
or construction purposes.

Figure 11. Historically Mapped Vegetation in the vicinity of the Subject Land (NSW DCCEW 2023)



Legend

Subject Land

Vegetation Zones

Exotic Vegetation

Native Planted Vegetation

PCT 3320: Grassland

PCT 3320: Infill Planted (Canopy Only)

PCT 3320: Infill Planted (Complete Removal)

PCT 3320: Infill Planted (Understorey Only)

Retention Status

Remove

Retain

Land
Eco
consulting



Date: 6/08/2024

Imagery: © NSW Public Imagery

Coordinate System: GDA2020 MGA Zone 56

This map was produced for this report only.
It is indicative, not survey-accurate
and should not be used for design or
construction purposes.

Figure 12. Field validated vegetation mapping within the Subject Land

5. Habitat Suitability for Threatened Species

5.1 Identification Of Threatened Species for Assessment

5.1.1 Ecosystem Credit Species

The assessor must determine an offset for the impacts of proposals on the habitat of Ecosystem Credit species associated with a PCT in a vegetation zone with a vegetation integrity score (VIS) of ≥ 17 . This VIS threshold reduces to ≥ 15 when the vegetation is an EEC or CEEC.

This section provides a summary of the candidate Ecosystem Credit Species for the Subject Land derived from BAMC (OEH 2024) and a 10km BioNet Atlas Search (NSW DCCEEW 2023b). Ecosystem credit species associated with the Subject Land are listed below in **Table 17**.

Ecosystem credits are not required to offset the proposed impacts of the development onto vegetation accessed as 'Planted Native Vegetation'.

Table 17. Predicted ecosystem credit species

Common name	Scientific name	Listing status		Dual credit species	Sources	Species retained for further assessment?	Reason for exclusion from further assessment	Vegetation zone ID species retained within, including PCT ID
		BC Act	EPBC Act					
Regent Honeyeater (Foraging)	<i>Anthochaera phrygia</i>	Critically Endangered	Critically Endangered	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland
Dusky Woodswallow	<i>Artamus cyanopterus cyanopterus</i>	Vulnerable	-	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland
South-eastern Glossy Black-Cockatoo (Foraging)	<i>Calyptorhynchus lathami lathami</i>	Vulnerable	Vulnerable	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	No	No presence of Allocasuarina and casuarina species	N/A

Common name	Scientific name	Listing status		Dual credit species	Sources	Species retained for further assessment?	Reason for exclusion from further assessment	Vegetation zone ID species retained within, including PCT ID
		BC Act	EPBC Act					
Speckled Warbler	<i>Chthonicola sagittata</i>	Vulnerable	-	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland
Spotted Harrier	<i>Circus assimilis</i>	Vulnerable	-	No	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland
Brown Treecreeper (eastern subspecies)	<i>Climacteris picumnus victoricae</i>	Vulnerable	Vulnerable	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland
Varied Sittella	<i>Daphoenositta chrysoptera</i>	Vulnerable	-	No	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland
Spotted-tailed Quoll	<i>Dasyurus maculatus</i>	Vulnerable	Endangered	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland
Black-necked Stork	<i>Ephippiorhynchus asiaticus</i>	Endangered	-	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	No	No Swamps; No Shallow, open freshwater or saline wetlands or shallow edges of deeper wetlands within 300m of these swamps. Waterbodies; No Shallow lakes, lake margins and estuaries within 300m of these waterbodies	N/A
Black Falcon	<i>Falco subniger</i>	Vulnerable	-	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland

Common name	Scientific name	Listing status		Dual credit species	Sources	Species retained for further assessment?	Reason for exclusion from further assessment	Vegetation zone ID species retained within, including PCT ID
		BC Act	EPBC Act					
Eastern False Pipistrelle	<i>Falsistrellus tasmaniensis</i>	Vulnerable	-	No	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland
Little Lorikeet	<i>Glossopsitta pusilla</i>	Vulnerable	-	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland
White-bellied Sea-Eagle (Foraging)	<i>Haliaeetus leucogaster</i>	Vulnerable	-	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland
Little Eagle (Foraging)	<i>Hieraaetus morphnoides</i>	Vulnerable	-	Yes	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland
White-throated Needletail	<i>Hirundapus caudacutus</i>	Vulnerable	Vulnerable	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland
Swift Parrot (Foraging)	<i>Lathamus discolor</i>	Endangered	Critically Endangered	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland
Square-tailed Kite (Foraging)	<i>Lophoictinia isura</i>	Vulnerable	-	Yes	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland

Common name	Scientific name	Listing status		Dual credit species	Sources	Species retained for further assessment?	Reason for exclusion from further assessment	Vegetation zone ID species retained within, including PCT ID
		BC Act	EPBC Act					
Black-chinned Honeyeater (eastern subspecies)	<i>Melithreptus gularis gularis</i>	Vulnerable	-	No	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland
Eastern Coastal Free-tailed Bat	<i>Micronomus norfolkensis</i>	Vulnerable	-	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland
Little Bent-winged Bat (Foraging)	<i>Miniopterus australis</i>	Vulnerable	-	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland
Large Bent-winged Bat (Foraging)	<i>Miniopterus orianae oceanensis</i>	Vulnerable	-	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland
Turquoise Parrot	<i>Neophema pulchella</i>	Vulnerable	-	No	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland
Eastern Osprey (Foraging)	<i>Pandion cristatus</i>	Vulnerable	-	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland
Scarlet Robin	<i>Petroica boodang</i>	Vulnerable	-	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland

Common name	Scientific name	Listing status		Dual credit species	Sources	Species retained for further assessment?	Reason for exclusion from further assessment	Vegetation zone ID species retained within, including PCT ID
		BC Act	EPBC Act					
Flame Robin	<i>Petroica phoenicea</i>	Vulnerable	-	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland
Grey-headed Flying-fox (Foraging)	<i>Pteropus poliocephalus</i>	Vulnerable	Vulnerable	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland
Yellow-bellied Sheathtail-bat	<i>Saccolaimus flaviventris</i>	Vulnerable	-	No	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland
Greater Broad-nosed Bat	<i>Scoteanax rueppellii</i>	Vulnerable	-	No	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland
Diamond Firetail	<i>Stagonopleura guttata</i>	Vulnerable	Vulnerable	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland

5.1.2 Species Credit Species

This section provides a summary of the candidate Species Credit flora (**Table 18**) and fauna species (**Table 19**) for the Subject Land derived from BAMC (OEH 2024) and a 10km BioNet Atlas Search (NSW DCCEEW 2024d). 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 18;Table 19**). Where a species is assumed to be present on the Subject Land, the species polygon must encompass the entire vegetation zone/s within which the candidate species is predicted to use/occur.

The assessor must determine an offset for the impacts of proposals on threatened species that require species credits, identified in accordance with Chapter 5 of the BAM (DPIE 2020a). When the development is smaller than 1 hectare in area, it is a 'Streamlined – Small Areas' assessment and therefore only requires assessment of species that are Serious and Irreversible Impact (SAIL) entities, and any other species credit species that were confirmed present in the Subject Land.

Species credits are not required to offset the proposed impacts of the development onto vegetation accessed as 'Planted Native Vegetation'.

Table 18. Predicted flora species credit species

Common name	Scientific name	Listing status		Sources	Species retained for further assessment?	Reason for exclusion from further assessment	Vegetation zone ID species retained within, including PCT ID
		BC Act	EPBC Act				
Deyeuxia appressa	<i>Deyeuxia appressa</i>	Endangered	Endangered	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	No	Habitat degraded and soil not suitable. Only known from wet ground (i.e. coastal upland swamp) in the Hornsby and Kuring-gai areas (PlantNet 2023). Such microhabitat is absent from the Subject Property and locality. Only known from two pre-1942 records in the Sydney area. Believed to be extinct.	-
Camden White Gum	<i>Eucalyptus benthamii</i>	Critically Endangered	Vulnerable	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	-	PCT 3320: Infill Planted PCT 3320: Grassland
-	<i>Micromyrtus minutiflora</i>	Endangered	Vulnerable	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	-	PCT 3320: Infill Planted PCT 3320: Grassland

Common name	Scientific name	Listing status		Sources	Species retained for further assessment?	Reason for exclusion from further assessment	Vegetation zone ID species retained within, including PCT ID
		BC Act	EPBC Act				
Sydney Plains Greenhood	<i>Pterostylis saxicola</i>	Endangered	Endangered	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3320: Infill Planted PCT 3320: Grassland

Table 19. Predicted fauna species credit species

Common name	Scientific name	Listing status		Dual credit species	Sources	Species retained for further assessment?	Reason for exclusion from further assessment	Vegetation zone ID species retained within, including PCT ID
		BC Act	EPBC Act					
Regent Honeyeater (Breeding)	<i>Anthochaera phrygia</i>	Critically Endangered	Critically Endangered	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	No	Habitat degraded. Not in a mapped area.	-
Large-eared Pied Bat	<i>Chalinolobus dwyeri</i>	Vulnerable	Endangered	No	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	Yes	-	PCT 3320: Infill Planted PCT 3320: Grassland
Swift Parrot (Breeding)	<i>Lathamus discolor</i>	Endangered	Critically Endangered	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	No	Habitat degraded. Not in a mapped area.	-
Little Bent-winged Bat (Breeding)	<i>Miniopterus australis</i>	Vulnerable	-	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	No	Habitat degraded. No caves, tunnels, mines, culverts or other structures known or suspected to be used for breeding including species records in BioNet with microhabitat code 'IC – in cave', observation type code	-

Common name	Scientific name	Listing status		Dual credit species	Sources	Species retained for further assessment?	Reason for exclusion from further assessment	Vegetation zone ID species retained within, including PCT ID
		BC Act	EPBC Act					
							'E nest-roost', with numbers of individuals >500 or from the scientific literature.	
Large Bent-winged Bat (Breeding)	<i>Miniopterus orianae oceanensis</i>	Vulnerable	-	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	No	Habitat degraded. No caves, tunnels, mines, culverts or other structures known or suspected to be used for breeding including species records in BioNet with microhabitat code 'IC – in cave', observation type code 'E nest-roost', with numbers of individuals >500.	-
Eastern Cave Bat	<i>Vespardelus troughtoni</i>	Vulnerable	-	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	-	PCT 3320: Infill Planted PCT 3320: Grassland

5.2 Presence of Candidate Species Credit Species

The presence or absence of candidate species credit species are presented below (Table 20; Table 21).

Table 20. Determine the presence of candidate flora species credit species on the Subject Land

Common Name	Scientific Name	Listing Status		Method used to Determine Presence	Present?	Further assessment required? (BAM Subsections 5.2.5 and 5.2.6)
		BC Act	EPBC Act			
Camden White Gum	<i>Eucalyptus benthamii</i>	Critically Endangered	Vulnerable	Targeted threatened species survey	No	No
-	<i>Micromyrtus minutiflora</i>	Endangered	Vulnerable	Targeted threatened species survey	No	No
Sydney Plains Greenhood	<i>Pterostylis saxicola</i>	Endangered	Endangered	Targeted threatened species survey	No	No

Table 21. Determine the presence of candidate fauna species credit species on the Subject Land

Common name	Scientific name	Listing status		Method used to determine presence	Present?	Further assessment required? (BAM Subsections 5.2.5 and 5.2.6)
		BC Act	EPBC Act			
Large-eared Pied Bat	<i>Chalinolobus dwyeri</i>	Vulnerable	Endangered	Targeted threatened species survey	No	No
Eastern Cave Bat	<i>Vespadelus troungtoni</i>	Vulnerable	-	Targeted threatened species survey	No	No

5.3 Candidate Species Credit Species

The survey methods for the candidate flora and fauna species credit species is presented below (Table 22; Table 23).

Table 22. Threatened species surveys for candidate flora species credit species on the Subject Land

Common name	Scientific name	Threatened flora species surveys			Present	Further assessment required (BAM Subsections 5.2.5 and 5.2.6)	
		Survey method (transects or grids)	Timing of survey – within recommended (BAM-C / TBDC) period?				Effort (hours & no. people)
Camden White Gum	<i>Eucalyptus benthamii</i>	Transects	☒ Yes 4/7/24	☐ No	Transects were conducted 10m apart across the Subject Property (DPIE 2020b).	No	No
-	<i>Micromyrtus minutiflora</i>	Transects	☒ Yes 4/7/24	☐ No	Transects were conducted 10m apart across the Subject Property (DPIE 2020b). All native shrubs present within the Subject Land were inspected, and as such, no repeat surveys were deemed necessary.	No	No
Sydney Plains Greenhood	<i>Pterostylis saxicola</i>	Transects	☐ Yes	☒ No 4/11/24 (the TBDC indicates that this species flowers from late Sep to early Nov.			

				sometimes into late Nov. As such, the survey in early Nov is within the recorded flowering period and followed adequate rainfall, providing suitable conditions for the flowering of this species)			
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Table 23. Threatened species surveys for candidate fauna species credit species on the Subject Land

Common name	Scientific name	Threatened fauna species surveys				Present	Further assessment required (BAM Subsections 5.2.5 and 5.2.6)
		Survey method (e.g. harp trap, Elliott trap, bioacoustics, etc.)	Timing of survey – within recommended period? (BAM-C / TBDC)		Effort (hours & no. people)		
Large-eared Pied Bat	Chalinolobus dwyeri	Bioacoustics (Anabat)	☒ Yes 30/11/23 to 10/12/23	☐ No	2 Anabat Express detectors, 8 consecutive nights	No	No
Eastern Cave Bat	Vespadelus troughtoni	Bioacoustics (Anabat)	☒ Yes 30/11/23 to 10/12/23	☐ No	2 Anabat Express detectors, 8 consecutive nights	No	No

5.4 Expert Reports

One expert report was sought in the preparation of this BDAR. A Microbat Call Identification Report was prepared by Corymbia Ecology (2023) to analyse the bat call sequence files (ZC files) from the two Anabats.

5.5 More Appropriate Local Data

No additional local data has been used to assess habitat suitability.

5.6 Area or Count, and Location of Suitable Habitat for a Species Credit Species (A Species Polygon)

Where a Species credit species is confirmed present or assumed to be present within the Subject Land, the assessor must assign species polygon that encompasses the entire vegetation zone(s) within which the candidate species is predicted to occur based on the correct application of the BAM (DPIE 2020a).

No Species Credit Species or EPBC Act listed species are present within the Subject Land (**Table 24; Table 25**).

Table 24. Results for present species (recorded within the Subject Land)

Common name	Scientific name	Biodiversity risk weighting (BAM-C & TBDC*)	SAll entity** (BAM-C & TBDC)	Habitat constraints / microhabitats present on the subject land / vegetation zone	Abundance – No. individual plants present on subject land (flora with unit of measure of count)	Extent (ha) of suitable habitat present on site (flora or fauna with unit of measure of area)	TBDC species specific recommendations e.g. buffers, general comments (where relevant)	Habitat condition (vegetation integrity score for each vegetation zone in the polygon – area species only)
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 25. Results for EPBC Act listed species present (recorded within the Subject Land)

Common name	Scientific name	Abundance – No. individual plants present on subject land (flora with unit of measure as count)	Extent (ha) of suitable habitat present on site (flora or fauna with unit of measure as area)
N/A	N/A	N/A	N/A



Legend

- ▬ Subject Land
- ▬ Ecologist Tracks
- Anabat Location

Date: 8/07/2024

Imagery: © NSW Public Imagery

Coordinate System: GDA2020 MGA Zone 56



This map was produced for this report only.
It is indicative, not survey-accurate
and should not be used for design or
construction purposes.

Figure 13. Targeted Species Credit Flora and Fauna survey effort undertaken by Land Eco Ecologists in 2023 and 2024. Ecologist transects have an accuracy error of between 1 and 20m.

6. Identifying Prescribed Impacts

This chapter of the report details the type and extent of impacts to biodiversity that will occur as a result of the proposed development. Prescribed additional biodiversity impacts (prescribed impacts) must be assessed as part of the BOS, as per clause 6.1 of the BC Regulation. Such prescribed impacts (including direct and indirect impacts) are impacts:

- a. on the habitat of threatened entities including:
 - i. karst, caves, crevices, cliffs, rocks and other geological features of significance, or
 - ii. human-made structures, or
 - iii. non-native vegetation
- b. on areas connecting threatened species habitat, such as movement corridors
- c. that affect water quality, water bodies and hydrological processes that sustain threatened entities (including from subsidence or upsidence from underground mining)
- d. on threatened and protected animals from turbine strikes from a wind farm
- e. on threatened species or fauna that are part of a TEC from vehicle strikes.

If relevant, these features must be identified on a map.

Table 26. Prescribed impacts identified

Feature	Present	Description of feature characteristics and location	Threatened entities that use, are likely to use, or are part of the habitat feature.	Describe how these features provide habitat for, or are used by, each threatened entity
Karst, caves, crevices, cliffs, rocks or other geological features of significance	☐ Yes / ☒ No	N/A	N/A	N/A
Human-made structures	☒ Yes / ☐ No	Existing old buildings with open gutters occurs scattered throughout the Subject Land.	Ecosystem Credit microbats	Acoustic bat surveys revealed possible calls of <i>Micronomus norfolkensis</i> (Corymbia Ecology 2023). This threatened microbat and other microbats may utilise the gutters and overhangs within the Subject Property for shelter or roosting, with a low possibility of breeding activity.
Non-native vegetation	☒ Yes / ☐ No	The Subject Land is infill planted vegetation with exotic ornamental species and infested with invasive weed species.	All Ecosystem Credit species	Threatened species may forage within and around this non-native vegetation.
Habitat connectivity	☒ Yes / ☐ No	The Subject Property occurs in an urban landscape and has mostly poor connectivity to surrounding habitat through the mixed	All Ecosystem Credit species SGTF EEC	Most Ecosystem Credit Species are mobile, generalist fauna that benefit from increased foraging resources accessible through

Feature	Present	Description of feature characteristics and location	Threatened entities that use, are likely to use, or are part of the habitat feature.	Describe how these features provide habitat for, or are used by, each threatened entity
		native/exotic canopy trees within the Subject Land and surrounding area. The Subject Land may provide a stopover used by mobile fauna particular birds, and as a stepping stone for other mobile fauna moving across the landscape.		adequate habitat connectivity. The Subject Land offers temporary foraging and roosting habitat to resilient, urban-adapted threatened fauna. The habitat is too disturbed to be heavily relied upon.
Waterbodies, water quality and hydrological processes	☐ Yes / ☒ No	N/A	N/A	N/A
Wind turbine strikes (wind farm development only)	☐ Yes / ☒ No	N/A	N/A	N/A
Vehicle strikes	☒ Yes / ☐ No	Low-speed driveways and are part of the proposed development.	No threatened entities are likely to be significantly impacted by the risk of vehicle strikes. The Subject Property occurs in an area with existing roads and, where vehicles are highly prevalent.	N/A

Stage 2: Impact Assessment (Biodiversity Values and Prescribed Impacts)

7. Avoid and Minimise Impacts

7.1 Avoid and Minimise Direct and Indirect Impacts

7.1.1 Project Location

The proposed development has been designed to avoid and minimise indirect impacts on biodiversity values in keeping with the purposeful use of the Subject Land. The Subject Land occurs in a weed-infested patch of disturbed, urban vegetation that is surrounded by roads, other residential dwellings and urban infrastructure. The proposed development avoids the removal of remnant native vegetation that is in high quality condition.

7.1.2 Project Design

The proposed development has been developed in consultation with a qualified Ecologist (Land Eco Consulting) and a qualified Arborist (Naturally Trees 2024), retaining the trees in the area of greatest vegetation integrity within the Subject Property, located in the north-eastern corner. The development has been designed through five stages of review for the design layout, with the preferred layout designed to setback further from the north-eastern corner of the Subject Property to retain more *Melaleuca* spp.

7.2 Avoid and Minimise Prescribed Impacts

7.2.1 Project Location

Impacts from clearing native vegetation and threatened species habitat can be avoided or minimised by locating the proposal in areas as detailed (**Table 27**). When selecting a proposal's location, all of the following have been analysed. Justification for the decisions in determining the final location must be based on consideration of the items listed in **Table 27**.

The proposed development will impact habitat connectivity, human-made structures, non-native vegetation, and vehicle strikes within the Subject Land, however none of these impacts are considered likely to have a significant impact on any threatened entity

Table 27. Measures to locate the proposal to avoid or minimise direct and indirect impacts on native vegetation, threatened species, threatened ecological communities and their habitat

How has the proposal has been located in areas lacking biodiversity values?	The Subject Land occurs within the Chester Hill township in Western Sydney. The Subject Land is suitably located within an existing commercial/residential estate with existing buildings. The Subject Property contains historically cleared, weed-infested, modified vegetation that contains planted and self-sown species. The majority of the Subject Land is existing hardstand surfaces associated with the existing land usage for the Abel Tasman Village. The proposed development avoids the construction of hardstand surfaces in areas of remnant vegetation that is of greatest vegetation integrity within the Subject Property (Naturally Trees 2024). The Subject Land is not likely to provide important habitat to any threatened species. No highly valuable foraging or breeding habitat will be directly impacted by the proposed development.
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How has the proposal has been located in areas where the native vegetation or threatened species habitat is in the poorest condition (i.e. areas that have a low vegetation integrity score)?	The Subject Property is located in an existing commercial/residential area with an existing Aged Care facility building. The majority of the Subject Land is existing hardstand surfaces associated with the Abel Tasman village. The vegetation that is of greatest conservation significance within the Subject Land has been retained in the north-eastern corner of the Subject Land. The proposed development has been located within areas of vegetation that have a lower vegetation integrity score. The vegetation within the Subject Land does not provide substantial habitat that would be heavily relied upon by any threatened species.
How does the proposal avoid habitat for species with a high biodiversity risk weighting or land mapped on the important habitat map, or native vegetation that is a TEC or a highly cleared PCT.	While the proposed development does impact upon SGTF EEC, this community is not a SALL entity, and the vegetation is weed-infested and managed. The remnant native canopy trees in the north-eastern corner of the Subject Land that is of greatest conservation value will be retained (Naturally Trees 2024). While some native trees, shrubs and ground cover will be removed, the vegetation to be removed is already degraded and fragmented. This vegetation is not likely to be important to the integrity or long-term viability of this TEC. The proposal will not impact upon land mapped on the habitat map, or habitat that is important to the persistence of any threatened species.
Has the proposal been located outside of the buffer area around breeding habitat features such as nest trees or caves?	The gutters and overhangs within the Subject Land's structures may provide shelter/ roosting habitat for microbat species. These structures are unlikely to provide breeding habitat for threatened microbats due to the disturbed nature of the Subject Property and poor habitat connectivity. No hollow-bearing trees, caves or other important breeding habitat will be directly impacted by the proposed development. The Subject Land does not occur within the buffer of any known hollows, nests or significant habitat constraints.
Has the proposal sought alternative:	
modes or technologies that would avoid or minimise impacts on biodiversity values	Measures outlined in Naturally Trees (2024) <i>Arboricultural Impact Assessment</i> outline design measures to protect native vegetation within the Subject Land.
routes that would avoid or minimise impacts on biodiversity values	Site access should be undertaken from Waldron Road and Campbell Hill Road, to minimise potential inadvertent vegetation impacts. Access routes and stockpiles must avoid impacts on native vegetation within the Subject Land and adjacent vegetation including in Frank Bamfield Reserve.
locations that would avoid or minimise impacts on biodiversity values	The Subject Land has been selected as it is the site of the existing Abel Tasman village and it contains minimal biodiversity values, avoiding impacts to undisturbed remnant patches. No highly valuable foraging or breeding habitat will be impacted by the proposed development.
sites within a property on which the proposal is located that would avoid or minimise impacts on biodiversity values.	The Subject Land occupies on a modified patch or disturbed, weed-infested urban garden with a modified soil stratum and existing Abel Tasman village. The proposed development layout has been designed to setback further from the north-eastern corner of the Subject Property to retain more <i>Melaleuca spp.</i> , prioritising the retention of the trees in the area of greatest vegetation integrity within the Subject Property.
Detail the site constraints that have contributed to selecting this location	

• bushfire protection requirements, including clearing for asset protection zones	The Subject Property does not contain 'Bushfire Prone Land'.
• flood planning levels	The Subject Property does not contain any land mapped on the Flood Planning Map.
• servicing constraints.	The Subject Property is located in a suitable locality for all relevant servicing constraints. The proposed development will utilise the existing roads, and council services (e.g. sewage and rubbish collection).

7.2.2 Project Design

This BDAR documents the reasonable measures taken by the proponent to avoid or minimise clearing of native vegetation and threatened species habitat during proposal design, including placement of temporary and permanent ancillary construction and maintenance facilities (**Table 28**).

The proposed development has been designed to avoid and minimise avoid significant prescribed impacts on any threatened entities.

Table 28. Design the proposal to avoid or minimise direct and indirect impacts on native vegetation, threatened species, threatened ecological communities and their habitat

Efforts to reduce the proposal's clearing footprint by minimising the number and type of facilities	The proposed development has been designed to avoid and minimise indirect impacts on biodiversity values in keeping with the purposeful use of the Subject Land. The proposed development has been developed in consultation with a qualified Ecologist (Land Eco Consulting) and a qualified Arborist (Naturally Trees 2024), retaining the trees in the area of greatest vegetation integrity within the Subject Property. The development has been designed through five stages of review for the design layout. The layout has been designed to setback further from the north-eastern corner of the Subject Property to retain more <i>Melaleuca spp.</i>
Efforts to locate ancillary facilities in areas that have no biodiversity values	While the proposed development covers the entire extent of the Subject Property, the layout has been designed to setback further from the north-eastern corner of the Subject Property to retain more <i>Melaleuca spp.</i> in the area of greatest vegetation integrity in the Subject Property. The landscaping has been designed to retain more trees in this area (Boffa Roberston Group 2024; Naturally Trees 2024).
Efforts to locate ancillary facilities in areas where the native vegetation or threatened species habitat is in the poorest condition (i.e. areas with the lowest vegetation integrity scores)	While the Subject Land covers the extent of the Subject Property, the SGTF EEC to be impacted is in poor condition owing to existing land usage and weed infestation. The majority of the remnant trees in the north-eastern corner of the Subject Property will be retained as the proposed structures have been setback from the north-eastern boundary (Naturally Trees 2024).
Efforts to locate ancillary facilities in areas that avoid habitat for species and vegetation that has a high threat status (e.g. an endangered ecological community (EEC) or critically endangered ecological community (CEEC) or is an entity at risk of a serious and irreversible impact (SAIL))	While SGTF EEC will be removed for the proposed development, removal of characteristic canopy trees have been avoided where possible. This ecological community is not a SAIL entity. The vegetation is weed-infested, managed and infill planted. No hollow-bearing trees, caves or other important breeding habitat occurs within the Subject Land and as such breeding habitat will not be directly impacted by the proposed development. Additionally, the structures within the Subject Land are unlikely to provide breeding habitat for threatened microbats species due to the disturbed nature and poor habitat connectivity within the Subject Property. As such no important habitat for threatened species will be impacted by the proposed development.

Actions and activities that provide for rehabilitation, ecological restoration and/or ongoing maintenance of retained areas of native vegetation, threatened species, threatened ecological communities and their habitat on the subject land.

The proposed development will involve landscaping. It is recommended that the landscaping incorporates a greater proportion of locally indigenous species belonging to SGTF EEC.

8. Impact Assessment

8.1 Direct Impacts

Residual direct impacts from the proposed development are presented in **Table 29**. Changes in vegetation integrity scores as a result of the proposed development presented in **Table 30**.

8.1.1 Residual Direct Impacts

An assessment of residual direct impacts is detailed in **Table 29**.

Table 29. Summary of residual direct impacts

Direct impact (Describe the impact on PCT/TEC/EC or threatened species and their habitat)	BC Act status	EPBC Act status	SAIL entity	Project phase/timing of impact (e.g. construction, operation, rehabilitation)	Extent (ha, number of individuals)
PCT 3320: Cumberland Shale Plains Woodland (which forms part of the 'Shale Gravel Transition Forest in the Sydney Basin Bioregion' Endangered Ecological Community) (SGTF EEC)	Endangered Ecological Community	-	No	Construction, Operation	0.33 ha

8.1.2 Change in Vegetation Integrity Scores

The change in VIS caused by the development is summarised in **Table 30**.

Table 30. Impacts to vegetation integrity

Vegetation zone	PCT ID	Management zone	Area (ha)	Before development				After development				Change		
				Composition	Structure	Function	VI score	Composition	Structure	Function	VI score	Change in VI score	Total loss	VI
Infill Planted	3320	Complete Removal	0.16	27.9	17.8	63.8	31.6	0	0	0	0	-31.6	-23.8	
		Canopy Only	0.01					11	10.7	15	12.1	-19.5		
		Understorey Only	0.08					13.7	17.8	48.8	22.8	-8.8		
Grassland	3320	Complete Removal	0.08	1.5	42.1	15	9.8	0	0	0	0	-9.8	-9.8	

8.2 Indirect Impacts

A summary of indirect impacts caused by the development is summarised in **Table 31**.

Table 31. Summary of residual indirect impacts

Indirect impact (Describe impact, e.g. transport of weeds and pathogens from the site to adjacent vegetation)	Impacted entities (PCT/threatened entity and their habitats and where relevant, EPBC Act listing)	Extent (ha or zone reference)	Frequency	Duration (long-term/short-term/medium-term)	Project phase/ timing of impact (e.g. construction, operation, rehabilitation)	Likelihood and consequences
(a) inadvertent impacts on adjacent habitat or vegetation	SGTF EEC vegetation to be retained and immediately surrounding the Subject Land Mobile Ecosystem Credit Species	Vegetation to be retained within the Subject Land and adjacent vegetation	During Construction	Long-term	Construction, Operation	Tree protection zones and no-go areas will minimise the potential for clearing of adjacent vegetation. In the unlikely event adjacent vegetation is cleared it is unlikely that this would cause significant impacts to threatened ecological communities or threatened species. The locality is already highly developed, as such the impact is unlikely to be significant. The proposed development has the potential to result in soil disturbance impacting adjacent vegetation including increased stormwater runoff and soil sedimentation, however erosion and sedimentation controls will adequately mitigate these impacts (Hydracor Consulting Engineers 2024).
(b) reduced viability of adjacent habitat due to edge effects	SGTF EEC Mobile Ecosystem Credit Species	Vegetation to be retained within the Subject Land and adjacent vegetation	During construction and ongoing	Long-term	Construction, Operation	The Subject Land and adjacent habitat is already impacted due to edge effects from existing Aged Care facility and surrounding urban land uses including weed infestation, gross pollutants and litter. While the proposed development has the potential to exacerbate these impacts, this is unlikely to substantially reduce the viability of adjacent habitat beyond its current condition.
(c) reduced viability of adjacent habitat due to noise, dust or light spill	SGTF CEEC All Ecosystem Credit species	Vegetation to be retained within the Subject Land and	During Construction and Ongoing	Long-term	Construction, Operation	The proposed development may result in the increase of noise, dust or light spill associated with the construction activities and operation of the Aged Care facility. However, the Subject Property is already impacted in these ways by the existing Aged

Indirect impact (Describe impact, e.g. transport of weeds and pathogens from the site to adjacent vegetation)	Impacted entities (PCT/threatened entity and their habitats and where relevant, EPBC Act listing)	Extent (ha or zone reference)	Frequency	Duration (long-term/short-term/medium-term)	Project phase/ timing of impact (e.g. construction, operation, rehabilitation)	Likelihood and consequences
		adjacent vegetation				Care facility on the Subject Property and surrounding land uses in the suburb of Chester Hill. The proposed development is unlikely to exacerbate this reality beyond the current condition.
(d) transport of weeds and pathogens from the site to adjacent vegetation	SGTF CEEC All Ecosystem Credit species	Vegetation to retained within the Subject Land and adjacent vegetation	During Construction and Ongoing	Long-term	Construction, Operation	The proposed development will result in soil disturbance on the Subject Land which may result in the propagation and spread of seeds from the soil bank to adjacent native vegetation such as within Frank Bamfield Reserve. The Subject Land is already weed infested with high threat exotic weeds. There is the potential for construction vehicles to transport novel weeds onto the Subject Land and surrounds however this is unlikely to exacerbate this reality beyond the current condition.
(e) increased risk of starvation, exposure and loss of shade or shelter	SGTF CEEC All Ecosystem Credit species	Vegetation to retained within the Subject Land and adjacent vegetation	During construction and Ongoing	Short-term, Possible long-term	Construction, Operation	The proposed development will remove vegetation that may reduce shelter and increase the risk of exposure. However, this increased risk of starvation, exposure, and loss of shade or shelter is unlikely to be a significant impact at a species level as suitable habitat of a similar condition occurs adjacent and will be retained post-development.
(f) loss of breeding habitats	Ecosystem Credit Microbats	Open gutters and overhangs within the existing residential dwelling proposed for removal.	During construction and Ongoing	Long term	Construction, Operation	Acoustic bat surveys revealed possible calls of <i>Micronomus norfolkensis</i> (Corymbia Ecology 2023). This threatened microbat may utilise the gutters and overhangs within the Subject Property for shelter or roosting, with a low possibility of breeding activity. No known hollow-bearing trees are proposed for removal. The proposed development will include direct disturbance to potential microbat roosting habitat in the existing human-made

Indirect impact (Describe impact, e.g. transport of weeds and pathogens from the site to adjacent vegetation)	Impacted entities (PCT/threatened entity and their habitats and where relevant, EPBC Act listing)	Extent (ha or zone reference)	Frequency	Duration (long-term/short-term/medium-term)	Project phase/ timing of impact (e.g. construction, operation, rehabilitation)	Likelihood and consequences
						structures to be demolished, with a low likelihood of suitable breeding habitat within these structures. Indirect impacts will be limited to low suitability nesting trees outside of the development footprint, unlikely to be utilised by any threatened species. Disturbance from the proposed development is unlikely to be a significant impact at a species level for any threatened species.
(g) trampling of threatened flora species	N/A	N/A	N/A	N/A	N/A	No threatened flora are known or considered likely to occur within the Subject Land.
(h) inhibition of nitrogen fixation and increased soil salinity	N/A	N/A	N/A	N/A	N/A	The replacement of native vegetation with hardstand surfaces such as roads and buildings is likely to inhibit nitrogen fixation. The locality is already degraded so this impact is unlikely to exacerbate this reality beyond the current condition.
(i) fertiliser drift	N/A	N/A	N/A	N/A	N/A	The proposed development may increase fertiliser drift from garden maintenance activities associated with the proposed development. However, the proposed development will not adversely impact the Subject Land beyond its current condition.
(j) rubbish dumping	Mobile Ecosystem Credit Species	Subject Property	During Construction and Operation	Short-term, Possible long-term	Construction, Operation	The Subject Land is in a highly disturbed, urbanised setting with an existing Aged Care facility. The construction and operation of the proposed new Aged Care facility is unlikely to significantly increase anthropogenic litter beyond its current condition.
(k) wood collection	N/A	N/A	N/A	N/A	N/A	The Subject Land is in a highly disturbed, urbanised setting. Wood collection will not be significantly beyond the current condition.
(l) bush rock removal and disturbance	N/A	N/A	N/A	N/A	N/A	The Subject Land is in a highly disturbed, urbanised setting. Bush rock removal and disturbance will not be indirectly impacted beyond the current condition.

Indirect impact (Describe impact, e.g. transport of weeds and pathogens from the site to adjacent vegetation)	Impacted entities (PCT/threatened entity and their habitats and where relevant, EPBC Act listing)	Extent (ha or zone reference)	Frequency	Duration (long-term/short-term/medium-term)	Project phase/ timing of impact (e.g. construction, operation, rehabilitation)	Likelihood and consequences
(m) increase in predatory species populations	Mobile Ecosystem Credit Species	Subject Property	Ongoing	Long-term	Construction, Operation	The Subject Land is in a highly disturbed, urbanised setting likely to support a population of feral predatory species. The proposed development is unlikely to exacerbate this reality beyond the current condition.
(n) increase in pest animal populations	Mobile Ecosystem Credit Species	Subject Property	Ongoing	Long-term	Construction, Operation	It is likely that pest animals occur in high densities already as the locality is disturbed and situated in an urban environment. The proposed development is unlikely to exacerbate this reality beyond the current condition.
(o) increased risk of fire	Mobile Ecosystem Credit Species	Subject Property	During Construction and Operation	Long-term	Construction, Operation	The Subject Land is in a highly disturbed, urbanised setting. The removal of vegetation from the Subject Land will reduce the risk of fire. The potential for fire to occur within the Aged Care facility will be reduced through appropriate management.
(p) disturbance to specialist breeding and foraging habitat, e.g. beach nesting for shorebirds.	N/A	N/A	N/A	N/A	N/A	No specialist breeding habitat occurs in or near the Subject Land and will be impacted by the proposed development.

8.3 Prescribed Impacts

This section of the report addresses impact mitigation measures for prescribed impacts.

8.3.1 Karst, caves, crevices, cliffs, rocks or other geological features of significance

Not Applicable

8.3.2 Human-made structures

Impacts of the development upon threatened species or fauna habitat associated with human-made structures is presented (Table 32).

Table 32. Residual prescribed impacts – impacts to human-made structures

Nature	Threatened fauna or flora protected fauna that are at risk	SAll entities at risk	Likelihood	Extent	Duration	Consequences
Existing buildings with open gutters occur scattered throughout the Subject Land.	Ecosystem Credit Microbats	None	Moderate	These structures will be demolished for the proposed development.	This impact will be permanent.	Demolition of these structures for the proposed development may lead to injury or death of threatened microbat species. These species will be unable to utilise this habitat post-development. Measures are outlined in (Table 37) to mitigate these potential consequences.

8.3.3 Non-native vegetation

Impacts from the development upon threatened species or fauna habitat associated with non-native vegetation is presented (Table 33).

Table 33. Residual prescribed impacts – impacts to non-native vegetation

Nature	Threatened fauna or flora protected fauna that are at risk	SAll entities at risk	Likelihood	Extent	Duration	Consequences
The Subject Land is infill planted with by exotic ornamental species and infested with invasive weed species.	Mobile Ecosystem Credit Species	Nil	High	0.45 ha of weed-infested native/exotic vegetation.	This impact will be permanent.	The proposed development will remove this vegetation, which may provide occasional foraging habitat to a small range of mobile ecosystem credit species. This impact is unlikely to be significant for any of these species. Additional foraging habitat will remain within the Subject Property and surrounding area.

8.3.4 Habitat connectivity

Impacts from the development upon habitat connectivity is presented (Table 34).

Table 34. Residual prescribed impacts – impacts to habitat connectivity

Nature	Threatened fauna or flora protected fauna that are at risk	SAll entities at risk	Likelihood	Extent	Duration	Consequences
The Subject Property occurs in an urban landscape and has mostly poor connectivity to surrounding habitat through the mixed native/exotic canopy trees within the Subject Land and surrounding area. The Subject Land may provide a stopover used by mobile fauna particular	SGTF EEC Mobile Ecosystem Credit Species	Nil	Moderate	Vegetation removal will moderately disrupt this connectivity, however disjunct flyway corridors will remain post-development.	This impact will be permanent, though may be minimised through proposed plantings.	The removal of habitat from the Subject Land will moderately disrupt connectivity within the Subject Property and immediate surrounds, however habitat in the locality is already fragmented and not likely to be important to threatened species populations, owing to its urban context. As such, the proposed development is unlikely to have a significant impact on habitat connectivity at the landscape level.

Nature	Threatened fauna or flora protected fauna that are at risk	SAIL entities at risk	Likelihood	Extent	Duration	Consequences
birds, and as a stepping stone for other mobile fauna moving across the landscape.						

8.3.5 Waterbodies, water quality and hydrological processes

Not applicable.

8.3.6 Wind turbine strikes

Not applicable.

8.3.7 Vehicle strikes

Impacts from the development upon vehicle strikes is presented (**Table 35**).

Table 35. Residual prescribed impacts – impacts to vehicle strikes

Nature	Threatened fauna or flora protected fauna that are at risk	SAIL entities at risk	Likelihood	Estimated vehicle strikes	Consequences
Low-speed driveways are part of the proposed development.	Mobile Ecosystem Credit Species	Nil	Low	Nil	Motor vehicles are highly prevalent in the locality along the bordering roads. The proposed development will include a low-speed limit. Threatened species are unlikely to be impacted by the negligible increase in vehicle traffic in this urbanised locality.

8.4 Mitigating residual impacts – management measures and implementation

A detailed summary of measures to mitigate residual impacts of the development is presented (Table 36; Table 37).

Table 36. Summary of proposed mitigation and management measures for residual impacts (direct, indirect and prescribed)

Mitigation measure	Method/technique	Timing	Frequency	Responsibility	Likely efficacy (including risk of failure)
Project Location	The proposed development has been located in an existing Aged Care facility with highly disturbed, weed-infested vegetation in an urbanised area surrounded by roads.	Pre-construction phase	Once	Proponent	High
Project Design	The development footprint has been designed for the purposeful use of the Subject Land. The proposed development has been designed to reduce native vegetation clearing to the minimum required (Naturally Trees 2024).	Pre-construction phase	Once	Proponent	High
Assigning a Project Ecologist	Prior to construction, the proponent will commission the services of a qualified and experienced Ecologist Consultant (>3 years of experience) 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 must be a member of the NSW Ecological Consultants Association. The Ecologist will be commissioned to: • Help the proponent undertake any Threatened species habitat augmentation or translocation. • provide staff training and site briefing to communicate environmental features to be protected and measures to be implemented.	Prior to vegetation clearance works	Once	Proponent	Moderate
Tree Protection	All trees to be retained must be protected in accordance with <i>Australian Standard - Protection of Trees on Development Sites (AS-4970-2009)</i> , which outlines that a Tree Protection Zone (TPZ) is the principal means of protecting trees on development sites. It is an area isolated from construction disturbance so that the tree remains viable.	Prior to vegetation clearance works	During Construction	Project Arborist	Moderate

Mitigation measure	Method/technique	Timing	Frequency	Responsibility	Likely efficacy (including risk of failure)
	Works will be avoided within the TPZ of any trees located outside of the development site that require retention. This includes trees on neighbouring properties. TPZs and tree protection measures are detailed in <i>Naturally Trees (2024) Arboricultural Impact Appraisal and Method Statement</i> and must be enforced accordingly.				
Clearing of Vegetation and Fauna Habitat	Project Ecologist to undertake a pre-clearing survey of the Subject Land, identifying active hollows, threatened species and/or nests. All felling of native trees should be supervised by an Ecologist who will be available on site to capture, treat/relocate any displaced fauna. If any threatened species are identified, the Project Ecologist must be consulted to determine the best course of action, including potential translocations.	Prior and During Construction	During construction	Project Ecologist	Moderate
Demolition of Human-Made Structures	An experienced, vaccinated ecologist to check buildings for roosting microbats and remain present during the demolition of all human-made structures that contain microbat habitat to capture, treat/relocate and displaced fauna, particularly microbats.	Prior and During Construction	During construction	Project Ecologist	Moderate
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	During construction	Construction Contractors	Moderate
Erosion and Sedimentation	Appropriate erosion and sediment control will be erected and maintained during construction. At minimum such measures will comply with the relevant industry guidelines such as 'the Blue Book' (Landcom 2004).	Construction phase	During construction	Construction Contractors	Moderate
Management of Light, Noise and Dust from Construction	Appropriate light, noise and dust suppression methods must be implemented to reduce their impact on surrounding flora and fauna. Construction works should be limited to daylight hours where possible. Diurnal timing of construction and operational activities will reduce impacts of light spill. All noise will be limited to standard daylight working hours	Prior and During Construction	During construction	Proponent Construction Engineer Architect Contractors	Moderate

Mitigation measure	Method/technique	Timing	Frequency	Responsibility	Likely efficacy (including risk of failure)
	6am-6pm Monday to Friday, 7am-1pm Saturday. No work on Sunday.				

Table 37. Implementation of the mitigation and management measures

Measure/action	Monitoring and evaluation strategy (Data, frequency, timing and reporting)	Performance criteria (linked to monitoring and evaluation strategy)	Adaptive management threshold (trigger for adaptive management plan/actions)	Adaptive management response (when triggered)
Assigning a Project Ecologist	Project Ecologist to be engaged by proponent. Ecologist to conduct a pre-clearing and pre-demolition survey for any sensitive sheltering fauna, nesting fauna, or threatened species in the Subject Property. No less than 48 hours prior to clearing commencing. Survey to include gutters present in existing buildings for microbat species.	Assigned Project Ecologist to prepare an 'Ecologist Pre-clearing Report' and 'Ecologist Pre-demolition Report' to detail findings of the pre-clearing survey.	If a tree hollow, or nesting, sensitive, or threatened fauna or flora is found, the Ecologist will prepare a strategy to maximise likelihood of safe relocation.	Relocate sensitive fauna, or threatened entity.
Tree Protection	Project Arborist (Qualified Consulting Arborist) to be engaged by proponent. Tree protection fencing to be installed around any trees and other native vegetation to prevent such trees/vegetation being impacted by the proposed excavation or construction (Naturally Trees 2024).	Project Arborist to supervise the installation of tree protection fencing. Arborist to provide letter with photographic evidence to confirm appropriate controls have been installed.	If any trees that have not been approved for clearing are accidentally cleared/harmed, or excavation works occur within the 'drip-zones' or structural root zones of trees that are to be retained on the Subject Property or neighbours property.	Stop works immediately. Qualified Consulting Arborist must be present to supervise any excavation works and provide advice to ensure such works do not harm trees on adjacent properties. The Project Ecologist will work with the Arborist to restore the vegetation cleared.
Clearing of Vegetation and Fauna Habitat	Project Ecologist to supervise all vegetation clearing.	Assigned Project Ecologist to prepare an 'Ecologist Post-clearing Report' to detail findings of the clearing works.	N/A	N/A

Measure/action	Monitoring and evaluation strategy (Data, frequency, timing and reporting)	Performance criteria (linked to monitoring and evaluation strategy)	Adaptive management threshold (trigger for adaptive management plan/actions)	Adaptive management response (when triggered)
Demolition of Human-Made Structures	Project Ecologist to supervise all demolition works.	Assigned Project Ecologist to prepare an 'Ecologist Post-Demolition Report' to detail findings of the demolition works.	N/A	N/A
Erosion and Sedimentation	Appropriate Erosion and Sedimentation Controls informed by the Blue Book (Landcom 2004) to be included in a Construction Environmental Management Plan (CEMP) commissioned by the proponent.	Minimum industry standards enforced prior to and during earthworks, clearing and construction.	If controls are not properly installed, or fail.	Engage Earthworks Contractor, Civil or Environmental Engineer to install appropriate controls within 24 hours of the breach.
Storage and Stockpiling	All storage and stockpiling of construction resources must be in appropriate laydown areas away from the dripline of trees that will be retained. Ensure tree and vegetation protection fencing is installed around trees /vegetation that must be protected outside the development footprint (Naturally Trees 2024).	No inadvertent impacts (harm) to trees, habitat or other vegetation.	Inadvertent impacts (e.g., accidental felling of trees or vegetation not approved for clearing) occur to adjacent vegetation as a result of improper management of construction materials.	Review controls and implement new measures. Restore the vegetation impacted under the guidance of the Project Ecologist.
Management of Light, Noise and Dust from Construction	Restrict construction to daylight hours. Manage dust, erosion and runoff in accordance with the provisions of 'The Blue Book' (Landcom 2004). Limit the unnecessary use of flood lighting.	Control measures implemented.	Control measures ineffective, resulting in disturbance to protected flora or fauna, or disturbance to nearby landholders.	Review controls and implement new measures under guidance of Construction Contractor to adequately mitigate impacts.

8.5 Adaptive management strategy for uncertain impacts

If during the construction of the proposed development, the Project Ecologist finds that a species listed under the EPBC Act or a species at risk of an SAI has the potential to be significantly impacted, works must cease until the Project Ecologist advises on a suitable approach. This may require a referral to the Commonwealth to determine whether the proposed development will need formal assessment and approval under the EPBC Act.

9. Serious and Irreversible Impacts

9.1 Assessment for serious and irreversible impacts on biodiversity values

The determination of a serious and irreversible impact on biodiversity values is to be made by the decision-maker in accordance with the principles set out in the BC Regulation.

To assist the decision-maker, the document Guidance to assist a decision-maker to determine a serious and irreversible impact (SAIL) includes criteria that enable the application of the four principles set out in clause 6.7 of the BC Regulation to identify the species, populations and ecological communities that are likely to be at risk of SAILs.

There are no SAIL entities that are considered likely to be impacted by the proposed development (**Table 38**).

Table 38. SAIL Entities Impacted by the Development

Common name	Scientific name	Reason for inclusion in assessment
N/A	N/A	N/A

10. Impact Summary

10.1 Determine an offset requirement for impacts

10.1.1 Impacts on Native Vegetation and Threatened Ecological Communities

A summary of impacts on Native Vegetation and Threatened Ecological Communities that require retiring of biodiversity offset credits is provided. The impacts that do not require Ecosystem Credit obligations are summarised in **Table 39**. A summary of impacts that do require Ecosystem Credit obligations are summarised in **Table 40**.

Table 39. Impacts that do not require offset - ecosystem credits

Vegetation zone	PCT name	TEC	Impact area (ha)	Entity at risk of an SAI?	Current score	VI
Grassland	PCT 3320 Cumberland Shale Plains Woodland	Shale Gravel Transition Forest in the Sydney Basin Bioregion	0.08	No	9.8	

Table 40. Impacts that require an offset - ecosystem credits

Vegetation zone	PCT name	TEC	Impact area (ha)	Current VI score	Future VI score	Change in VI score	Biodiversity risk weighting	Number of ecosystem credits required
Infill Planted	PCT 3320 Cumberland Shale Plains Woodland	Shale Gravel Transition Forest in the Sydney Basin Bioregion	0.25	31.6	7.8	23.8	2	3
Total credits								3

10.1.2 Impacts on Threatened Species and their Habitat (Species Credits)

Table 41. Impacts that require an offset - species credits

Common name	Scientific name	BC status	Act	EPBC Act status	Loss of habitat (ha) or individuals	Biodiversity risk weighting	Number of species credits required
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total credits							0

10.1.3 Indirect and prescribed impacts

Table 42. Summary of proposed offsets for residual indirect and prescribed impacts

Residual (identified after mitigation)	indirect or prescribed impact	Proposed (additional biodiversity conservation measures)	offset and/or other
N/A		N/A	

10.2 Impacts that do not need further assessment

Vegetation that scores below the thresholds which require further assessment (e.g. offset obligation) is detailed (**Table 43**).

Table 43. Impacts that do not need further assessment for ecosystem credits

Impact	Location within subject land	Justification why no further assessment is required
Removal of 0.08 ha of PCT 3320: Grassland Vegetation	See Figure 12	The VIS is 9.8 which is below the VIS threshold (i.e. 15 for EEC/CEEC).

11. Biodiversity Credit Report

11.1 Ecosystem credits

In accordance with section 9.2.1 of the BAM (DPIE 2020a) the assessor must determine an offset for all impacts of proposals on PCTs that are associated with a vegetation zone that has a vegetation integrity score of:

- a. ≥ 15 , where the PCT is representative of an EEC or a CEEC
- b. ≥ 17 , where the PCT is associated with threatened species habitat (as represented by ecosystem credits) or represents a vulnerable ecological community
- c. ≥ 20 , where the PCT does not represent a TEC and is not associated with threatened species habitat.

Table 44. Ecosystem credits class and matching credit profile

Credits to Retire	Attributes shared with matching credits						
	PCT name	PCT vegetation class	PCT vegetation formation	Associated TEC or EC	Offset trading group (BAM Section 10.2, Tables 4 & 5)	Hollow bearing trees present?	IBRA subregion (in which proposal is located)
3	PCT 3320: Cumberland Shale Plains Woodland	Coastal Valley Woodlands	Grassy Woodlands	Shale Gravel Transition Forest in the Sydney Basin Bioregion	Shale Gravel Transition Forest in the Sydney Basin Bioregion This includes PCT's: 3320, 3448	No	Cumberland, Burragorang, Pittwater, Sydney Cataract, Wollemi and Yengo. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

11.2 Species credits

In accordance with section 9.2.2 of the BAM (DPIE 2020a):

1. The assessor must determine an offset for the impacts of proposals on the habitat of threatened species assessed for ecosystem credits and associated with a PCT in a vegetation zone with a vegetation integrity score of ≥ 17 .
2. The assessor must determine an offset for the impacts of proposals on threatened species that require species credits, identified in accordance with Chapter 5 of the BAM (DPIE 2020a).
3. The method for determining offset requirements for impacts on threatened species and threatened species habitat is described in Chapter 10 of the BAM (DPIE 2020a).
4. An offset requirement can be proposed for a prescribed impact in accordance with Section 8.6 of the BAM (DPIE 2020a).

No threatened species credits require offsetting for the proposed development (**Table 45**).

Table 45. Species credit class and matching credit profile

Credits to Retire	Attributes shared with matching credits					
	Name of threatened species	Kingdom	BC Act status	EPBC status	Act	IBRA region
N/A	N/A	N/A	N/A	N/A		N/A

12. Other Relevant Legislation, Plans & Policies Requiring Address

12.1 Canterbury-Bankstown Local Environmental Plan 2023

This section details controls relevant to the biodiversity addressed in this report (**Table 46**).

Table 46. Local Environmental Plan controls relevant to the biodiversity within the Subject Land

Local Environmental Plan Reference	Application	Suitable Action
Part 2.1 Land use zones	The majority of the Subject Property is zoned 'R4 – High Density Residential'. The eastern portion of the Subject Property is zoned 'B2 – Local Centre'.	The proposed development is permitted with consent.
Part 5.23 Public Bushland	The proposed development has the potential to impact upon public bushland adjacent to the Subject Property at Frank Bamfield Reserve.	The consent authority must be satisfied that the proposed development has been designed to minimise the amount of public bushland to be disturbed. This development may cause indirect impacts to vegetation in adjacent public bushland, however these indirect impacts can be avoided and managed through implementation of Impact Mitigation Measures (Table 36).
Part 6.2 Earthworks	The proposed development will require earthworks that will impact native vegetation.	Vegetation clearing and earthworks have been minimised through the design process. All trees proposed to be retained can be protected without adverse effects through appropriate protective measures advised by a qualified Consulting Arborist (Naturally Trees 2024) and by following industry guidelines outlined in the 'Blue Book' (Landcom 2004).
Part 6.4 Biodiversity	The Subject Property has no land mapped as containing 'Biodiversity' on the Terrestrial Biodiversity Map.	While the Subject Property contains no land mapped as "Biodiversity" on the Terrestrial Biodiversity Map, the values outlined in this clause have been upheld where possible. Although the proposed development involves the removal of 40 trees, the development has been designed to retain 33 trees through appropriate measures advised by a qualified Consulting Arborist (Naturally Trees 2024). Further to this, to replace the loss of native vegetation, particularly trees, a comprehensive new planting scheme is proposed including semi-mature trees that will be planted in available areas amongst the new proposed buildings.

12.2 Canterbury-Bankstown Development Control Plan 2023

This section details development controls relevant to the terrestrial biodiversity that are addressed in this report (**Table 47**).

Table 47. Development controls relevant to the biodiversity within the Subject Land

Development Control Plan Reference	Application	Suitable Action
Part 3.3 Tree Management	The proposed development will remove vegetation including mature native canopy trees (Naturally Trees 2024).	This BDAR has been prepared to assess the impacts of the proposed development on native vegetation. It is recommended that the proposed development will follow the Canterbury-Bankstown Tree Management Manual (Canterbury-Bankstown 2023).
Tree Management Manual: Part 8.2 Design Options to Retain Trees	Remnant canopy trees occur within the Subject Land.	The proponent has implemented the 'avoid and minimise' principle to avoid and minimise impacts on biodiversity and retain trees where possible. The proposed development has been designed to avoid and minimise indirect impacts on biodiversity values in keeping with the purposeful use of the Subject Land. The Subject Land occurs in a weed-infested patch of disturbed, urban vegetation that is surrounded by roads, other residential dwellings and urban infrastructure. The proposed development avoids the removal of remnant native vegetation that is of significant conservation value. The proposed development has been developed in consultation with a qualified Ecologist (Land Eco Consulting) and a qualified Arborist (Naturally Trees 2024), retaining the trees in the area of greatest vegetation integrity within the Subject Property. The development has been designed through five stages of review for the design layout, the layout has been designed to setback further from the north-eastern corner of the Subject Property to retain more <i>Melaleuca</i> spp. Although the proposed development involves the removal of 40 trees, the development has been designed to retain 33 trees through appropriate measures advised by a qualified Consulting Arborist (Naturally Trees 2024).
Tree Management Manual: Part 8.4 Tree Protection Zones	The proposed development has been designed to retain 33 trees (Naturally Trees 2024).	The proposed development will retain 33 trees, which will be subject to tree protection measures detailed in the <i>Arboricultural Impact Appraisal</i> (Naturally Trees 2024).
Tree Management Manual: Part 14 Tree Planting	The proposed development will remove 40 trees (Naturally Trees 2024).	In accordance with part 14.1 <i>"it is a condition of all approvals granted under the DCP that the applicant will be required to plant replacement trees at a ratio of at least three trees for every one tree removed, site conditions permitting. Where there is limited planting opportunity on the property, Council may consider equivalent offset planting on an alternative site. Council may</i>

Development Control Plan Reference	Application	Suitable Action
		<i>undertake random audits to determine compliance with replacement tree planting conditions.”</i> As the proposed development is for a Retirement Village it is not feasible to achieve 100% indigenous replacement. Although, at a minimum it is recommended that 100% indigenous plantings representative of SGTF EEC is incorporated into ‘deep soil landscaping areas’ (Boffa Roberston Group 2024). It is recommended that replacement planting within the ‘deep soil landscaping areas’ implement the 1:3 ratio replacement ratio. If the 1:3 replacement ratio is not practical within the Subject Land, the proponent should consult with Canterbury-Bankstown Council for other suitable locations of offset plantings (which is a contingency of the Tree Management Manual; Canterbury-Bankstown Council 2023). Further to this, the landscape plan will only include advanced tube stock trees with a pot size of 100L (Boffa Roberston Group (2024).
Part 3.7 Landscape	The proposed development will involve landscaping.	The proponent must retain, protect and enhance native vegetation and the natural site features by incorporating these features into the landscaping plan. It is recommended that the proponent incorporates a variety of habitat features to encourage native wildlife. These can include but limited to nectar-bearing and seed-bearing trees and shrubs, and dense understorey vegetation.
Part 13 Tree and Vegetation Preservation	The proposed development will remove mature canopy trees.	This BDAR has been prepared to assess the impacts of the proposed development on native vegetation. The removal of remnant native vegetation is for 0.33 ha of infill planted, disturbed, weed infested vegetation and will require offsetting in accordance with the NSW Biodiversity Offset Scheme. the proposed development involves the removal of 40 trees, the development has been designed to retain 33 trees through appropriate measures advised by a qualified Consulting Arborist (Naturally Trees 2024).

12.3 Commonwealth Environment Protection and Biodiversity Conservation Act 1999

No matters of National Environmental Significance were found to occur within the Subject Land.

The vegetation within the Subject Land does not qualify as Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest (listed as 'Critically Endangered') under the Commonwealth Listing advice (Commonwealth TSSC 2009). The vegetation within the Subject Land does not have an understorey with greater than 30% cover made up of native species (*Melaleuca* spp. are classified as trees and not shrubs according to the listing advice), and therefore does not qualify under any condition thresholds in the listing advice (Commonwealth TSSC 2009).

Commonwealth listed threatened species that are MNES have potential to occur in the Subject Land on occasion. Impact to habitat is limited to the clearing of approximately 0.45 ha of degraded vegetation in an urban matrix. MNES that have the potential to occur within the Subject Land include nomadic nectivorous flying-foxes such as Grey-headed Flying-fox (*Pteropus poliocephalus*), birds such as Swift Parrot (*Lathamus discolor*) and microbats such as Large-eared Pied Bat (*Chalinolobus dwyeri*) that may forage or fly over the Subject Land in search of food on occasion. These species are highly unlikely to regularly utilised or rely heavily on the Subject Land owing to its small area and its position within an urban matrix.

As such, no further assessment under the EPBC Act is deemed necessary.

12.4 State Environmental Planning Policy (Biodiversity and Conservation)

12.4.1 Chapter 2: Vegetation in Non-Rural Areas

All clearing of vegetation (native and non-native) including dying or dead vegetation that is required as habitat of native animals requires a permit granted by the relevant consent authority.

12.4.2 Chapter 4: Koala Habitat Protection

The Subject Land is not located within a Local Government Area listed in Schedule 2 of the Chapter 4: Koala Habitat Protection. Therefore, the proposed development does not need to address the provisions of this SEPP.

12.5 State Environmental Planning Policy (Resilience and Hazards) 2021

The Resilience and Hazards State Environmental Planning Policy (Chapter 2 - Coastal Management) applies to land within the 'Coastal Environment Area' and aims to promote an integrated and co-ordinated approach to land use planning in the coastal zone in a manner consistent with the objectives of the Coastal Management Act 2016.

The Subject land is not located within the mapped 'Coastal Environment Area' and within the mapped 'Coastal Use Area' therefore the proposed development does not need to address the provisions of this SEPP.

The Subject Land is not located within any mapped Littoral Rainforest, Coastal Wetlands or mapped areas in proximity to such.

12.6 Water Management Act 2000

The proposed development does not include works within 40m of a watercourse under the *Water Management Act 2000*.

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14. Appendices

Appendix A. Fauna recorded in Subject Property by Land Eco Consulting

Appendix B. BAM VIS Field Survey Forms (copied from electronic data sheet)

Appendix C. Biodiversity Credit Reports from Biodiversity Assessment Method Calculator

Appendix A. Fauna recorded in Subject Property by Land Eco Consulting

Class	Scientific Name	Common Name	BC Act Status
Aves	<i>Strepera graculina</i>	Pied Currawong	Protected
Aves	<i>Manorina melanocephala</i>	Noisy Miner	Protected Key Threatening Process
Aves	<i>Scythrops novaehollandiae</i>	Channel-billed Cuckoo	Protected
Aves	<i>Cacatua sanguinea</i>	Little Corella	Protected
Aves	<i>Corvus coronoides</i>	Australian Raven	Protected
Aves	<i>Gymnorhina tibicen</i>	Australian Magpie	Protected
Aves	<i>Cacatua galerita</i>	Sulphur-crested Cockatoo	Protected
Aves	<i>Trichoglossus moluccanus</i>	Rainbow Lorikeet	Protected
Aves	<i>Threskiornis molucca</i>	Australian White Ibis	Protected
Aves	<i>Columba livia domestica</i>	Feral Pigeon	Introduced
Mammalia	<i>Felis catus</i>	Cat	Introduced Key Threatening Process
Mammalia	<i>Chalinolobus gouldii</i>	Gould's Wattled Bat	Protected
Mammalia	<i>Ozimops ridei</i>	Eastern Free-Tailed Bat	Protected

Appendix B. BAM VIS Field Survey Forms (copied from electronic data sheet)

BAM Site - Field Survey Form						
Date:	20.11.23	Plot ID:	1	Photo #:	Plate 1	
Zone:	56H	Plot Dimensions:	Irregular	Easting:	314757	
Datum:	GDA 2020	Middle Bearing (o) at 0m:	50	Northing:	6249158	
PCT:	3320	Condition Class	Infill Planted	Ecologists:	Semonn Oleksyn and Nick Henson	
Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living.						
Growth Form	Scientific Name	Cover	Abundance	DBH	# Tree Stems Count	Number of Hollow-bearing Trees
Tree (TG)	<i>Corymbia maculata</i>	5	1	80+cm	1	
Shrub (SG)	<i>Melaleuca decora</i>	37	N/A	50-79cm	4	
Tree (TG)	<i>Callistemon viminalis</i>	2	2	30-49cm	3	
Shrub (SG)	<i>Melaleuca styphelioides</i>	9	N/A	20-29cm	5	
Tree (TG)	<i>Eucalyptus moluccana</i>	4	1	10-19cm	0	
Tree (TG)	<i>Eucalyptus longifolia</i>	3	1	5-9cm	2	
Non-native	<i>Clivia miniata</i>	10	N/A	<5cm	0	
Non-native	<i>Corymbia citriodora</i>	5	N/A			
Non-native	<i>Murraya paniculata</i>	11	N/A	Length of Logs (m)	0	
Non-native	<i>Nandina domestica</i>	0.3	2	(≥10 cm diameter, >50 cm in length)		
HTE	<i>Ehrharta erecta</i>	0.5	30			
Tree (TG)	<i>Cupaniopsis anacardioides</i>	0.1	1	BAM Attribute (1 x 1 m plots)	Litter Cover (%)	
Forb (FG)	<i>Commelina cyanea</i>	0.1	2	1	99	
HTE	<i>Olea europaea</i>	0.2	10	2	13	
Shrub (SG)	<i>Syzygium australe</i>	1.2	7	3	2	
HTE	<i>Ligustrum lucidum</i>	0.2	1	4	88	
HTE	<i>Araujia sericifera</i>	0.3	15	5	9	
Non-native	<i>Hedychium gardnerarium</i>	0.2	3	Average (#no./5)	42.2	
Shrub (SG)	<i>Bursaria spinosa</i>	0.1	1			
Non-native	<i>Plumbago europaea</i>	9	N/A	Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.		
HTE	<i>Asparagus aethiopicus</i>	0.1	2			

HTE	<i>Ochna serrulata</i>	0.1	5			
Grass & grasslike (GG)	<i>Lomandra longifolia</i>	1	10			
Shrub (SG)	<i>Leptospermum polygalifolium</i>	0.3	5			
Non-native	<i>Dietes biflora</i>	0.1	2			
Shrub (SG)	<i>Austromyrtus tenuifolia</i>	0.3	4			
Non-native	<i>Solanum nigrum</i>	0.1	1	Growth Form	Composition Data	Structure Data
Non-native	<i>Celtis sinensis</i>	0.1	5	Tree	6	14.6
Non-native	<i>Neoregelia spectabilis</i>	0.5	10	Shrub	6	47.9
Non-native	<i>Sonchus oleraceus</i>	0.1	3	Grass	1	1
HTE	<i>Stenotaphrum secundatum</i>	2	100	Forb	1	0.1
Non-native	<i>Taraxicum officinale</i>	0.1	2	Fern	0	0
Non-native	<i>Russelia equisetiformis</i>	0.2	8	Other	0	0
HTE	<i>Cestrum parqui</i>	0.1	1	H.T.E	9	3.6
HTE	<i>Tradescantia fluminensis</i>	0.1	1	Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover); Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m		
Non-native	<i>Solanum chenopodioides</i>	0.1	1	Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...		
Tree (TG)	<i>Melia azedarach</i>	0.5	1			

BAM Site - Field Survey Form

Date:	5.7.24	Plot ID:	2	Photo #:	Plate 2	Counts apply when the number of tree stems within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30..., 100, 200, 300...). For a multi-stemmed tree, only the largest living stem is included in the count/estimate. Tree stems must be living.
Zone:	56H	Plot Dimensions:	Irregular	Easting:	314787	
Datum:	GDA 2020	Middle Bearing (o) at 0m:	50	Northing:	6249113	
PCT:	3320	Condition Class	Grassland	Ecologists:	Theo Kemp and Issaac Digby	

Growth Form	Scientific Name	Cover	Abundance	DBH	# Tree Stems Count	Number of Hollow-bearing Trees
Grass & grasslike (GG)	<i>Cynodon dactylon</i>	40	N/A	80+cm	0	
HTE	<i>Cenchrus clandestinum</i>	20	N/A	50-79cm	0	
Grass & grasslike (GG)	<i>Sporobolus creber</i>	20	N/A	30-49cm	0	
Non-native	<i>Medicago polymorpha</i>	0.5	N/A	20-29cm	0	
HTE	<i>Stenotaphrum secundatum</i>	15	N/A	10-19cm	0	
Non-native	<i>Gamochaeta pensylvanica</i>	2	N/A	5-9cm	0	
				<5cm	0	
				Length of Logs (m)		0
				(≥10 cm diameter, >50 cm in length)		
				BAM Attribute (1 x 1 m plots)	Litter Cover (%)	
				1	100	
				2	100	
				3	100	
				4	100	
				5	100	
				Average (#no./5)	100	
				Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.		

				Growth Form	Composition Data	Structure Data
				Tree	0	0
				Shrub	0	0
				Grass	2	60
				Forb	0	0
				Fern	0	0
				Other	0	0
				H.T.E	2	35
				Cover: 0.1, 0.2, 0.3, ..., 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover); Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m		
				Abundance: 1, 2, 3, ..., 10, 20, 30, ... 100, 200, ..., 1000, ...		

Appendix C. Biodiversity Credit Reports from Biodiversity Assessment Method Calculator

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00048974/BAAS18059/24/00048975	Abel Tasman Village Chester Hill	05/08/2025
Assessor Name	Report Created	BAM Data version *
Kurtis Lindsay	03/12/2025	Current classification (live - default) (82)
Assessor Number	BAM Case Status	Date Finalised
BAAS18059	Finalised	03/12/2025
Assessment Revision	BOS entry trigger	Assessment Type
3	Test of significance	Part 4 Developments (Small Area)

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

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

Zone	Vegetation zone name	TEC name	Current Vegetation integrity score	Change in Vegetation integrity (loss / gain)	Area (ha)	Sensitivity to loss (Justification)	Species sensitivity to gain class	BC Act Listing status	EPBC Act listing status	Biodiversity risk weighting	Potential SAI	Ecosystem credits
Cumberland Shale Plains Woodland												
1	3320_Infill_Planted	Shale Gravel Transition Forest in the Sydney Basin Bioregion	31.6	23.8	0.25	Biodiversity Conservation Act listing status	High Sensitivity to Gain	Endangered Ecological Community	Not Listed	2.00		3

BAM Credit Summary Report

2	3320_Grassland	Shale Gravel Transition Forest in the Sydney Basin Bioregion	9.8	9.8	0.08	Biodiversity Conservation Act listing status	High Sensitivity to Gain	Endangered Ecological Community	Not Listed	2.00		0
											Subtotal	3
											Total	3

Species credits for threatened species

Vegetation zone name	Habitat condition (Vegetation Integrity)	Change in habitat condition	Area (ha)/Count (no. individuals)	Sensitivity to loss (Justification)	Sensitivity to gain (Justification)	BC Act Listing status	EPBC Act listing status	Potential SAI	Species credits

BAM Candidate Species Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00048974/BAAS18059/24/00048975	Abel Tasman Village Chester Hill	05/08/2025
Assessor Name	Report Created	BAM Data version *
Kurtis Lindsay	03/12/2025	Current classification (live - default) (82)
Assessor Number	Assessment Type	BAM Case Status
BAAS18059	Part 4 Developments (Small Area)	Finalised
Assessment Revision	BOS entry trigger	Date Finalised
3	Test of significance	03/12/2025

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List of Species Requiring Survey

Name	Presence	Survey Months
<i>Chalinolobus dwyeri</i> Large-eared Pied Bat	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☒ Nov ☒ Dec ☐ Survey month outside the specified months?
<i>Eucalyptus benthamii</i> Camden White Gum	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☒ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
<i>Micromyrtus minutiflora</i> Micromyrtus minutiflora	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☒ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

BAM Candidate Species Report

<i>Pterostylis saxicola</i> Sydney Plains Greenhood	No (surveyed) *Survey months are outside of the months specified in Bionet.	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☒ Nov ☐ Dec ☒ Survey month outside the specified months?
<i>Vespadelus troughtoni</i> Eastern Cave Bat	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☒ Nov ☒ Dec ☐ Survey month outside the specified months?

Threatened species Manually Added

Common Name	Scientific Name
Large-eared Pied Bat	Chalinolobus dwyeri
Eastern Cave Bat	Vespadelus troughtoni

Threatened species assessed as not on site

Refer to BAR for detailed justification

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

BAM Predicted Species Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00048974/BAAS18059/24/00048975	Abel Tasman Village Chester Hill	05/08/2025
Assessor Name	Report Created	BAM Data version *
Kurtis Lindsay	03/12/2025	Current classification (live - default) (82)
Assessor Number	Assessment Type	BAM Case Status
BAAS18059	Part 4 Developments (Small Area)	Finalised
Assessment Revision	BOS entry trigger	Date Finalised
3	Test of significance	03/12/2025

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

Common Name	Scientific Name	Vegetation Types(s)
Black Falcon	Falco subniger	3320-Cumberland Shale Plains Woodland
Brown Treecreeper (eastern subspecies)	Climacteris picumnus victoriae	3320-Cumberland Shale Plains Woodland
Diamond Firetail	Stagonopleura guttata	3320-Cumberland Shale Plains Woodland
Dusky Woodswallow	Artamus cyanopterus cyanopterus	3320-Cumberland Shale Plains Woodland
Eastern Coastal Free-tailed Bat	Micronomus norfolkensis	3320-Cumberland Shale Plains Woodland
Eastern Osprey	Pandion cristatus	3320-Cumberland Shale Plains Woodland
Flame Robin	Petroica phoenicea	3320-Cumberland Shale Plains Woodland
Grey-headed Flying-fox	Pteropus poliocephalus	3320-Cumberland Shale Plains Woodland
Large Bent-winged Bat	Miniopterus orianae oceanensis	3320-Cumberland Shale Plains Woodland
Little Bent-winged Bat	Miniopterus australis	3320-Cumberland Shale Plains Woodland
Little Lorikeet	Glossopsitta pusilla	3320-Cumberland Shale Plains Woodland

BAM Predicted Species Report

Regent Honeyeater	<i>Anthochaera phrygia</i>	3320-Cumberland Shale Plains Woodland
Scarlet Robin	<i>Petroica boodang</i>	3320-Cumberland Shale Plains Woodland
Speckled Warbler	<i>Chthonicola sagittata</i>	3320-Cumberland Shale Plains Woodland
Spotted-tailed Quoll	<i>Dasyurus maculatus</i>	3320-Cumberland Shale Plains Woodland
Swift Parrot	<i>Lathamus discolor</i>	3320-Cumberland Shale Plains Woodland
White-throated Needletail	<i>Hirundapus caudacutus</i>	3320-Cumberland Shale Plains Woodland

Threatened species Manually Added

None added

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

Common Name	Scientific Name	Plant Community Type(s)
Black-necked Stork	<i>Ephippiorhynchus asiaticus</i>	3320-Cumberland Shale Plains Woodland
South-eastern Glossy Black-Cockatoo	<i>Calyptorhynchus lathami lathami</i>	3320-Cumberland Shale Plains Woodland
White-bellied Sea-Eagle	<i>Haliaeetus leucogaster</i>	3320-Cumberland Shale Plains Woodland

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

Refer to BAR for detailed justification

Common Name	Scientific Name	Justification in the BAM-C
Black-necked Stork	<i>Ephippiorhynchus asiaticus</i>	Habitat constraints
South-eastern Glossy Black-Cockatoo	<i>Calyptorhynchus lathami lathami</i>	Habitat constraints
White-bellied Sea-Eagle	<i>Haliaeetus leucogaster</i>	Refer to BAR

BAM Vegetation Zones Report

Proposal Details

Assessment Id	Assessment name	BAM data last updated *
00048974/BAAS18059/24/00048975	Abel Tasman Village Chester Hill	05/08/2025
Assessor Name	Report Created	BAM Data version *
Kurtis Lindsay	03/12/2025	Current classification (live - default) (82)
Assessor Number	Assessment Type	BAM Case Status
BAAS18059	Part 4 Developments (Small Area)	Finalised
Assessment Revision	BOS entry trigger	Date Finalised
3	Test of significance	03/12/2025

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Vegetation Zones

#	Name	PCT	Condition	Area	Minimum number of plots	Management zones
1	3320_Infill_Planted	3320-Cumberland Shale Plains Woodland	Infill_Planted	0.25	1	Complete R (0.16 ha) Overhang R (0.01 ha) Understory (0.08 ha)
2	3320_Grassland	3320-Cumberland Shale Plains Woodland	Grassland	0.08	1	



BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00048974/BAAS18059/24/00048975	Abel Tasman Village Chester Hill	05/08/2025
Assessor Name	Assessor Number	BAM Data version *
Kurtis Lindsay	BAAS18059	Current classification (live - default) (82)
Proponent Names	Report Created	BAM Case Status
	03/12/2025	Finalised
Assessment Revision	BOS entry trigger	Assessment Type
3	Test of significance	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.	
03/12/2025		

Potential Serious and Irreversible Impacts

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

Additional Information for Approval

Assessment Id	Proposal Name
00048974/BAAS18059/24/00048975	Abel Tasman Village Chester Hill



BAM Biodiversity Credit Report (Like for like)

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT

No Changes

Predicted Threatened Species Not On Site

Name

Calyptrorhynchus lathami lathami / South-eastern Glossy Black-Cockatoo

Ephippiorhynchus asiaticus / Black-necked Stork

Haliaeetus leucogaster / White-bellied Sea-Eagle

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
3320-Cumberland Shale Plains Woodland	Shale Gravel Transition Forest in the Sydney Basin Bioregion	0.3	0	3	3

BAM Biodiversity Credit Report (Like for like)

3320-Cumberland Shale Plains Woodland	Like-for-like credit retirement options					
	Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
	Shale Gravel Transition Forest in the Sydney Basin Bioregion This includes PCT's: 3320, 3448	-	3320_Infill_Plan ted	No	3	Cumberland, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Shale Gravel Transition Forest in the Sydney Basin Bioregion This includes PCT's: 3320, 3448	-	3320_Grasslan d	No	0	Cumberland, 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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