

A stylized topographic map graphic in a light green color, featuring concentric contour lines that represent hills and valleys. It is positioned on the left side of the page, partially overlapping the text area.

2155 Sutton Road, Sutton

Flora and Fauna Assessment

RSF Land Projects Pty Limited

Document Tracking

Project Name:	2155 Sutton Road, Sutton
Project Number:	25CAN10944
Project Manager:	Kylie Lopes

Version	Prepared by	Reviewed by	Approved by	Status	Date
1	Kylie Lopes	David Coombes	David Coombes	Draft	04/07/2025

This report should be cited as ‘Eco Logical Australia 2025. 2155 Sutton Road, Sutton. Flora and Fauna Assessment, Prepared for RSF Land Projects Pty Limited.’

Acknowledgements

This document has been prepared by Eco Logical Australia Pty Ltd with support from Chase Development Management.

Disclaimer

This document may only be used for the purpose for which it was commissioned and in accordance with the contract between Eco Logical Australia Pty Ltd and RSF Land Projects Pty Ltd . The scope of services was defined in consultation with RSF Land Projects Pty Ltd and Chase Development Management, by time and budgetary constraints imposed by the client, and the availability of reports and other data on the subject area. Changes to available information, legislation and schedules are made on an ongoing basis and readers should obtain up-to-date information. Eco Logical Australia Pty Ltd accepts no liability or responsibility whatsoever for or in respect of any use of or reliance upon this report and its supporting material by any third party. Information provided is not intended to be a substitute for site specific assessment or legal advice in relation to any matter. Unauthorised use of this report in any form is prohibited.

Abbreviations

Abbreviation	Description
APZ	Asset Protection Zone
BC Act	<i>NSW Biodiversity Conservation Act 2016</i>
BOS	Biodiversity Offsets Scheme
BioNet	BioNet Atlas of NSW Wildlife
BS Act	<i>Biosecurity Act 2015</i>
BV	Biodiversity Values
CEEC	Critically Endangered Ecological Community
Commonwealth DCCEEW	Commonwealth Department of Climate Change, Energy, the Environment and Water
DA	Development Application
DBH	Diameter at Breast Height
DCCEEW	NSW Department of Climate Change, Energy, the Environment and Water
DNG	Derived Natural Grassland
ELA	EcoLogical Australia
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EP&A Act	<i>NSW Environmental Planning and Assessment Act 1979</i>
FFA	Flora and Fauna Assessment
FM Act	<i>Fisheries Management Act 1994</i>
HBT	hollow-bearing tree
LEP	Local Environmental Plan
LGA	Local Government Area
MNES	Matters of National Environmental Significance
OSSM	On Site Sewer Management disposal areas
PCT	Plant Community Type
PMST	Protected Matters Search Tool
SEPP	State Environmental Planning Policy
SVTM	State Vegetation Type Map
TEC	Threatened ecological community
WM Act	<i>Water Management Act 2000</i>

Contents

1. Introduction	1
1.1. Biodiversity Offsets Scheme.....	1
1.2. Project description.....	2
1.3. Subject site, study area and locality	2
1.4. Disturbances	7
1.5. Potential direct and indirect impacts	8
2. Legislative Context	9
3. Methods	11
3.1. Database and literature review	11
3.2. Flora survey.....	11
3.2.1. Community identification and floristic audit.....	11
3.3. Fauna habitat surveys.....	12
3.4. Survey limitations	12
4. Results	13
4.1. Listed flora and fauna species database results	13
4.2. Flora.....	13
4.2.1. Previously mapped vegetation communities	13
4.2.2. Identified vegetation communities.....	13
4.2.3. Threatened ecological communities.....	17
4.2.4. Flora species.....	17
4.3. Fauna.....	20
4.3.1. Fauna habitats.....	20
4.3.2. Fauna species	21
5. Impact Assessment	25
5.1. Vegetation.....	25
5.2. Threatened ecological communities	25
5.3. Threatened species	25
5.4. Conclusion of BC Act Test of Significance.....	26
5.5. Conclusion of EPBC Act MNES Assessment.....	27
5.6. State Environmental Planning Policy (Biodiversity and Conservation) 2021.....	27
6. Recommendations	28
7. Conclusion	30
8. References	31

List of Figures

Figure 1: Location of the proposed works	3
Figure 2: Proposed modified lot design	4
Figure 3: Proposed project layout	5
Figure 4: Subject site and study area	6
Figure 5: Previously mapped habitat and vegetation values (SVTM)	18
Figure 6: Vegetation communities within the subject land	19
Figure 7: Fauna habitat- HBT and waterways.....	23

Figure 9: BioNet threatened species records (5 km).....	24
---	----

List of Tables

Table 1: Legislative context.....	9
Table 2: Areas of vegetation to be impacted.....	25
Table 3: Flora species identified within the study area.....	34
Table 4: Fauna species identified in the study area	35
Table 5: Test of Significance (BC Act) for threatened Microbats.....	62
Table 6: Test of Significance (BC Act) for threatened birds	64
Table 7: Test of Significance (BC Act) for threatened woodland birds.....	67
Table 8: Assessment of Significance for the Gang-gang Cockatoo.....	70
Table 9: Assessment of Significance for the Hooded Robin.....	71
Table 10: Assessment of Significance for the Superb Parrot	73
Table 11: Assessment of Significance for the Diamond Firetail.....	74
Table 12: Assessment of Matters of National Environmental Significance (MNES)	76

List of Appendices

Appendix A Biodiversity Values and Land Zone mapping
Appendix B Flora and fauna species recorded in the study area
Appendix C Likelihood of Occurrence Assessments and BioNet threatened species records
Appendix D Test of Significance for BC Act listed entities
Appendix E Assessment of Significance for EPBC Act listed species
Appendix F Matters of National Environmental Significance (MNES)

1. Introduction

Eco Logical Australia Pty Ltd (ELA) was engaged by Chase Development Management, on behalf of RSF Land Projects Pty Limited, to prepare a Flora and Fauna Assessment (FFA) to support a modification to development application (DA) DA210293 for a proposed 21 lot residential subdivision at 2155 Sutton Road, Sutton (Lot 1 DP 32236), hereafter referred to as the 'subject land' (Figure 1).

The northern portion of the subject land was rezoned to R2 Low Density Residential in 2020, and a DA (DA 210293) was approved on 23 March 2023, primarily for the creation of a 17-lot residential subdivision in the R2 zone, a large residual lot in the RU1 Primary Production zone, and the creation of the future bypass corridor.

The current modification proposal involves changes to the lot layout, provision of an indicative development envelope on proposed Lot 20, and refinements to driveway access from Majura Lane and Guise Street. The proposal is described further in Section 1.2.

The subject land is currently utilised for horse agistment, cattle grazing, and polo training and matches. A range of infrastructure is present, including a single residence, equestrian polo field, farm sheds, fencing and a bitumen driveway. An existing powerline easement crosses the area in the south-west of the subject land, and an ephemeral creek line runs from north to south.

The subject land is wholly located within the Murrumbidgee Catchment in the South East Highlands Bioregion and is zoned RU1 Primary Production and R2 Low Density Residential under the Yass Valley Local Environment Plan (LEP) (Yass Valley Council 2013) (Appendix A). A small area in the south of the subject land is covered by the Terrestrial Biodiversity layer in the Yass Valley LEP, this area is outside of the proposed development footprint (Figure 1).

This report builds on the previous FFA (ELA 2020) prepared for the original DA and assess the ecological impacts of the modified proposal on threatened species and ecological communities pursuant to the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act), Section 7.3 of the NSW *Biodiversity Conservation Act 2016* (BC Act), the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and to provide recommendations for avoidance or mitigation of impacts.

1.1. Biodiversity Offsets Scheme

The changes proposed to the lot layout within the approved development footprint will not increase or change the impacts previously assessed for the original DA. The environmental values are comparable and largely consistent with those assessed for the original DA.

The modification to the proposal will not trigger the Biodiversity Offsets Scheme (BOS) as the native vegetation clearing threshold for the property (0.25 ha) is not exceeded; no areas mapped as Biodiversity Values (BV) (DPE 2025, Appendix A) will be affected, and no significant impacts are likely to any threatened entities.

1.2. Project description

The proposed development involves the below (Figure 2 and Figure 3).

- The creation of 19 residential lots (proposed Lots 1 – 19, typical size ~0.5 ha, combined area 11.76 ha), including main access road from Majura Lane, perimeter right of way, Asset Protection Zones (APZs) and On-Site Sewer Management (OSSM) disposal areas, all of which are contained within the previously approved R2 zoned development footprint
- Creation of two semi-rural lots:
 - Lot 20 (13.16 ha) with proposed dwelling envelope, OSSM area and access
 - Lot 21 (48.40 ha) which contains an existing dwelling
- Driveway access to some lots from Majura Lane and Guise Street in the north.

The proposed Sutton Village bypass road easement (30 m width) is planned to pass through the subject land. It is assumed that this will be subject to future assessment and approvals, and is not part of the current proposal subject to the approved or modified DA. Therefore, impacts associated with the construction and operation of this bypass road have not been assessed in this FFA. It is understood that the proposed bypass road will form the boundary between proposed Lots 1 -20 (to the north) and Lot 21 (to the south) and will require a fenced boundary.

1.3. Subject site, study area and locality

The **subject land** includes the land within the property boundaries to the fence line for Lot 1 DP 32236.

The **subject site** for the purposes of this report comprises of:

- Previously approved development footprint: the area for proposed Lots 1-19
- Modification development footprint: driveway access off Majura Lane and Guise Street (for proposed Lots 1-19); and the proposed building envelope, driveway and OSSM area in proposed Lot 20

Proposed Lot 21 is expected to remain in its current state and is not subjected to changes to its land use and therefore will not be assessed in this FFA.

The **study area** includes all areas of the subject land located north of the future bypass road and the southern road verge of Majura Lane and Guise Street (Figure 4).

The **locality** for the purposes of this report is the area of land within 10 km of the study area.

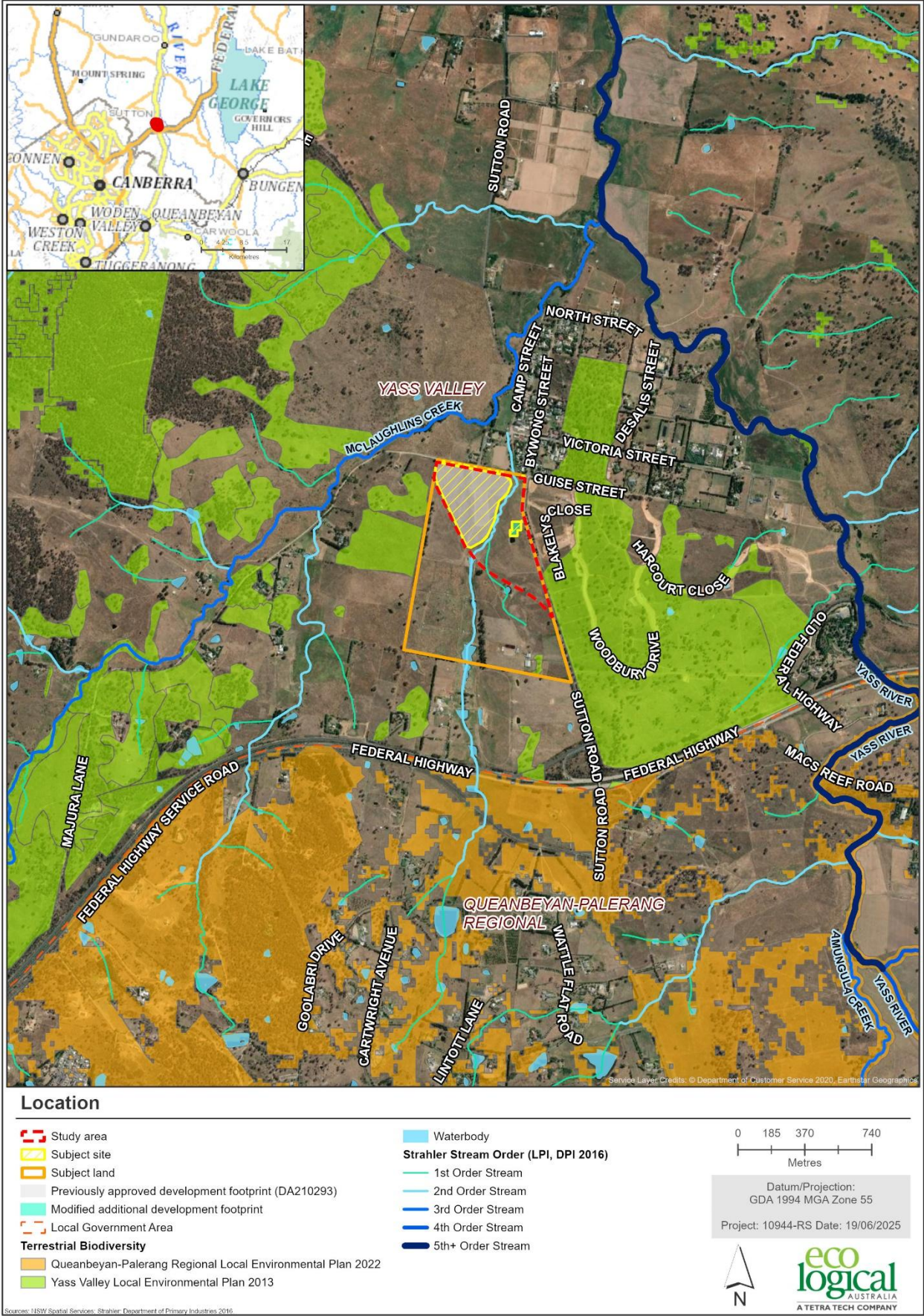


Figure 1: Location of the proposed works



Figure 2: Proposed modified lot design

Note that Lot 20 building envelope not shown and Lot 20 OSSM area is indicative only.

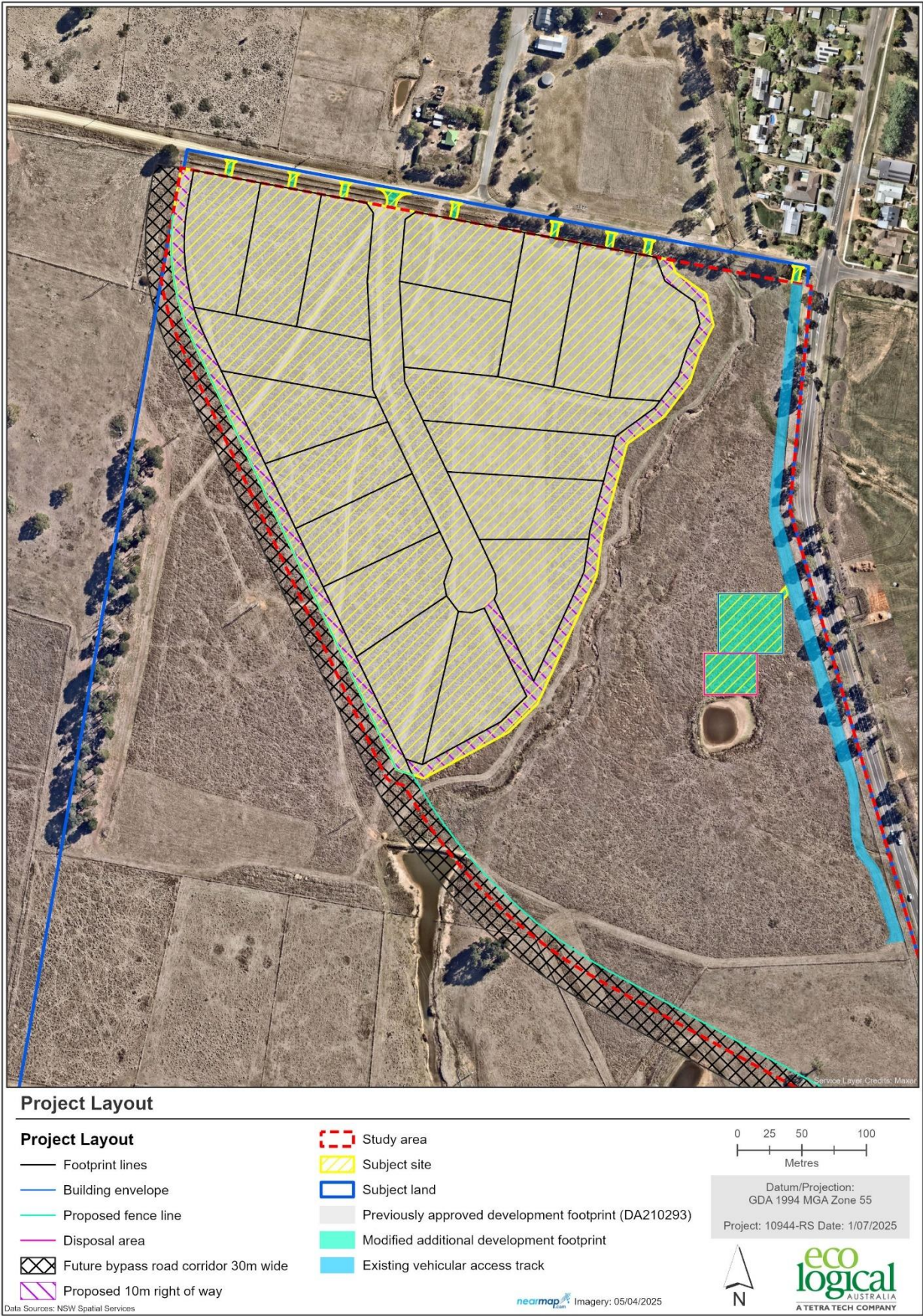


Figure 3: Proposed project layout

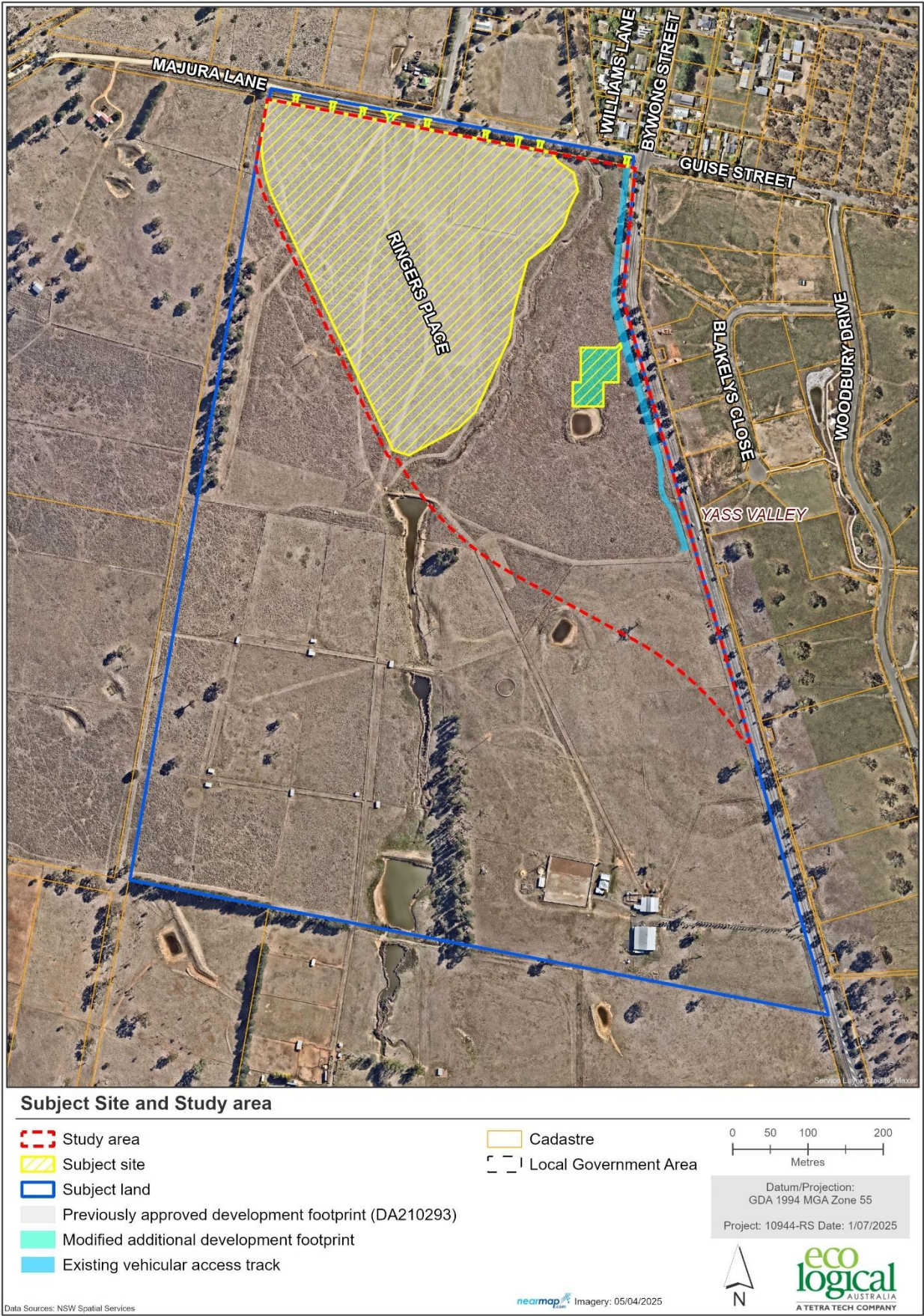


Figure 4: Subject site and study area

1.4. Disturbances

The subject land is located on the outskirts of the locality of Sutton, NSW. It has been heavily modified by past land use for livestock grazing (cattle and horse agistment) and currently contains a dwelling in the southeast with sheds and a bitumen driveway, a powerline easement, multiple fenced paddocks, and farm sheds to support horse agistment (Photo 1).

The majority of the subject land is primarily slashed and grazed grass, with vehicle tracks (Photo 2) and contains only isolated individual native paddock trees in the southern portion. Some small amount of native vegetation occurs along the eastern property fence line in the form of both remanent trees and planted natives.

The subject land is located on the southwest corner of Sutton NSW and is bordered by Sutton Road along the east boundary. The Federal Highway occurs approximately 500 m to the south of the subject land. The surrounding land is primarily cleared and contains very little connectivity by way of forest, woodland or tree canopy. Through the subject land canopy connectivity is limited to isolated paddock trees and small patches of forest. The creek line provides an ephemeral connection by waterway from north to south, however this is intermittent and unvegetated, so is of limited connectivity value (refer to Figure 1).



Photo 1: Existing powerline easement, paddock fencing and farm sheds on the southern areas of the subject land



Photo 2: Heavy grazing from livestock, paddock fencing and vehicle tracks looking southwest

1.5. Potential direct and indirect impacts

The following direct impacts on flora and fauna are anticipated from the proposal:

- The removal of approximately 0.06 ha of native vegetation and associated habitats within the approved development footprint
- The removal of approximately 0.02 ha of additional native vegetation and associated habitats for the modified footprint
- The removal of approximately 12.03 ha of exotic pasture vegetation (approved and modified footprint).

The following indirect impacts have the potential to be associated with this proposal:

- Minor changes to hydrology through altered run off, sedimentation and erosion patterns during construction
- Introduction of new weed species through increased traffic and machinery
- Soil and vegetation disturbance
- Noise, sediment and vibration disturbance to native fauna in adjacent habitat.

2. Legislative Context

Table 1: Legislative context

Name	Relevance to the project
Commonwealth	
<i>Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)</i>	<p>The EPBC Act protects Matters of National Environmental Significance (MNES), such as threatened species and ecological communities, migratory species (protected under international agreements), and National Heritage places (among others). Any actions that will or are likely to have a significant impact on MNES require referral and approval from the Commonwealth DCCEEW. Significant impacts are defined by the Commonwealth (reference http://www.environment.gov.au/epbc/guidelines-policies.html) for MNES.</p> <p>The study area contains potential habitat for a number of EPBC Act listed species. These are assessed in Appendix E and it was determined that no significant impact will occur as a result of the proposed works.</p>
State	
<i>Environmental Planning and Assessment Act 1979 (EP&A Act)</i>	<p>The EP&A Act is the principal planning legislation for NSW. It provides a framework for the overall environmental planning and assessment of development proposals.</p> <p>The proposed development requires consent under the Yass Valley Local Environmental Plan (LEP) 2013 and is to be assessed under Part 4 of the EP&A Act.</p>
<i>Biodiversity Conservation Act 2016 (BC Act)</i>	<p>The BC Act includes the assessment requirements to determine whether a proposed development (Part 4 of the EP&A Act) is likely to significantly affect threatened species or ecological communities, or their habitats under section 7.3 (Test of Significance), and whether the Biodiversity Offsets Scheme (BOS) will be triggered.</p> <p>The triggers to enter the BOS include:</p> <ul style="list-style-type: none"> • Clearing of native vegetation above the area threshold permitted for the minimum lot size (for the study area, 0.25 ha of native vegetation is the clearing threshold) • Affecting land that is mapped as having high biodiversity value, as defined by the <i>Biodiversity Conservation Regulation 2017</i>, on the Biodiversity Values (BV) map • If the development is determined to have a significant impact on any threatened flora, fauna or ecological communities through the application of s7.3 of the Act. There is potential for 14 threatened species to occur within the study area. Subsequently a five-part test of significance under the BC Act guidelines for these species was undertaken (Appendix D). It concluded that a significant impact to these species was unlikely to occur. <p>The proposed works will not trigger the BOS as the area of impacted native vegetation is less than 0.25 ha, the subject site is not mapped on the BV Map (Appendix A) and the works are unlikely to have a significant impact on threatened entities (Appendix D).</p>
<i>Biosecurity Act 2015 (BS Act)</i>	<p>The <i>Biosecurity Act 2015</i> (BS Act) provides a framework for the prevention, elimination and minimisation of biosecurity risks posed by biosecurity matter, dealing with biosecurity matter, carriers and potential carriers, and other activities that involve biosecurity matter, carriers or potential carriers. While the Act provides for all biosecurity risks, implementation of the Act for weeds is supported by Regional Strategic Weed Management Plans developed for each region in NSW.</p> <p>The proposed works will disturb a minimal amount (0.08 ha) of native vegetation and will involve earthworks that have the potential to allow for weed species to increase. Mitigation measures are outlined in Section 6 to reduce the risk of weeds and pathogens on site.</p>
<i>Water Management Act 2000 (WM Act)</i>	<p>The <i>Water Management Act 2000</i> (WM Act) is a legislation that regulates the use and management of water resources in New South Wales. The objects of this Act are to provide for the sustainable and integrated management of the water sources of the State for the benefit of both present and future generations and, in particular; to apply the principles of ecologically sustainable development and to integrate the management of water sources with the management of other aspects of the environment, including the land, its soil, its native vegetation and its native fauna.</p> <p>There is a second order creek line in the study area which will be protected by a 20 m riparian buffer (40 m buffer for the OSSM areas).</p>

Name	Relevance to the project
Fisheries Management Act 1994 (FM Act)	<p>The primary Act governing the management of fish and their habitat in NSW is the <i>Fisheries Management Act 1994</i> (FM Act), which aims to conserve, develop and share the fishery resources of the State. To meet the Acts objectives, Part 7 of the FM Act outlines legislative provisions to protect fish habitat and Part 7A outlines provisions to conserve threatened species of fish and marine vegetation and their habitat, this includes the mapping of Key Fish Habitat, Marine sanctuary and Marine protected areas.</p> <p>There is no Key Fish Habitat mapped within the study area or subject land.</p>
Environmental Planning Instruments	
State Environmental Planning Policy (Biodiversity and Conservation) 2021	<p>The <i>State Environmental Planning Policy (Biodiversity and Conservation) 2021</i> consolidated and repealed a number of SEPPs. Chapters 3 and 4 of this SEPP carry over the effect of the repealed <i>SEPP (Koala Habitat Protection) 2020</i> and <i>SEPP (Koala Habitat Protection) 2021</i>, which aim to identify, conserve and manage Koala habitat. The development control provisions of the SEPP apply to development applications relating to land within a LGA listed in Schedule 2.</p> <p>The subject site is within the Yass Valley LGA which is listed in Schedule 2 and therefore this SEPP applies. Chapter 3 applies to the land zoned as RU1- Primary production, and Chapter 4 applies to the land zoned as R2 – Low Density Residential.</p> <p>An assessment with regards to this SEPP is provided in Section 5.6.</p>
Yass Valley Local Environmental Plan 2013 (LEP)	<p>The proposed development is within land that is currently zoned as RU1 – Primary production and R2 Low Density Residential.</p> <p>The subject land is impacted by the Terrestrial Biodiversity layer of the Yass Valley LEP: This layer applies to a small area in the south of the subject land, however there is no Terrestrial Biodiversity mapping within the study area (Figure 1).</p>

3. Methods

The methods used in the preparation of this FFA are described in the following sections.

3.1. Database and literature review

A review of the available databases pertaining to the ecological and environmental features of the study area was conducted to identify known biodiversity values, including records of threatened species, populations and ecological communities. Databases that were reviewed included:

- BioNet (Atlas of NSW Wildlife) database search (5 km) for threatened species and populations listed under the BC Act (NSW DCCEEW 2025a) (Accessed May 2025)
- EPBC Act Protected Matters Search Tool (PMST) (5 km) for threatened and migratory species, populations and threatened ecological communities (TECs) listed under the EPBC Act (DCCEEW 2025) (Accessed May 2025)
- Biodiversity Values Map (DPE 2025) (Accessed May 2025)
- The NSW State Vegetation Type Map (SVTM NSW DCCEEW 2025b), plus any additional relevant aerial mapping, vegetation mapping and soil mapping to assess the extent of native vegetation, including mapped Threatened Ecological Communities (TECs) listed under the BC Act and EPBC Act (Accessed May 2025)
- NSW Planning Portal (NSW DCCEEW 2025c) (Accessed May 2025)
- Yass Valley Local Environmental Plan (LEP) 2013
- Review of State Environment Planning Policies (SEPPs), including the Biodiversity and Conservation SEPP 2021 and any other relevant SEPPs applicable to the subject site.
- Eco Logical Australia 2016. Lot 5 DP 838497 Sutton Road, Sutton. Summary Report – Spring Survey 2016
- Eco Logical Australia 2020. Flora and Fauna Assessment, Proposed Subdivision, 2155 Sutton Road, Sutton.

Threatened species, populations and communities identified from both BioNet and the PMST searches were combined to produce a likelihood of occurrence table, which assesses the potential of identified threatened entities to occur in the study area (Appendix C). This assessment guided the impact assessment.

3.2. Flora survey

A site survey of the study area was conducted on 27 May 2025 by ELA ecologists Matthew Dale and Emily Belton for a period of approximately four hours. Weather conditions during the surveys were clear and all aspects of the survey methodologies were achieved.

3.2.1. Community identification and floristic audit

The botanical survey involved traversing the full extent of the study area and a search of any identified high value habitat. The following tasks were undertaken:

- Random Meander flora inventory (Cropper 1993).

- Searches for specific, non-cryptic threatened flora species in appropriate habitats using the Random Meander technique.

These methods were used to gather the data necessary to describe the vegetation communities with reference to the classifications of Plant Community Types (PCTs). General observations were made of the wider area.

3.3. Fauna habitat surveys

Field investigations for fauna habitats were conducted within the study area in conjunction with the flora surveys on the 27 May 2025. This involved searches for habitat or resources relevant to threatened fauna species which have the potential to occur within the study area. This included potential feed trees and other foraging resources, and any evidence of foraging activity, water sources, hollow-bearing trees and other sheltering resources. An opportunistic fauna survey was undertaken, focussing on the detection of threatened fauna species, by direct and indirect means.

3.4. Survey limitations

The results of biodiversity assessments can be optimised by conducting investigations over a long period to compensate for the effects of unfavourable weather, seasonal changes and climatic variation. In general, the longer the survey the more species detected. Results can also be improved by using a wide range of techniques, since some species are more likely to be detected by a particular method. However, surveys and assessment are subject to constraints that determine the amount of time allocated, the methods used and the timing of the work. The biodiversity values detected during the site survey are a guide to those present but are by no means definitive. However, the techniques used in this investigation are considered adequate to gather the data necessary to assess the impacts of the proposal on the flora and fauna species and vegetation communities within the study area.

Areas of the subject land beyond the study area (i.e. most of proposed Lot 21) were not comprehensively surveyed as these will not be subject to impacts as a result of the proposal.

4. Results

4.1. Listed flora and fauna species database results

The BioNet Atlas and PMST searches returned a total of 41 threatened or migratory fauna species and 17 threatened flora species as occurring, or having the potential to occur, within a 10 km radius of the study area. BioNet Atlas records show a total of 21 fauna species and two flora species occurring within 5 km of the study area (Figure 8).

A consolidated list of the threatened and migratory species listed under the BC Act and EPBC Act, which are predicted to occur in the locality is provided in the Likelihood Table in Appendix C.

4.2. Flora

4.2.1. Previously mapped vegetation communities

The majority of the vegetation within the subject land is not mapped as any classified PCT, with a small area within the southern extent mapped as PCT 3376 Southern Tableland Grassy Box Woodland and areas adjacent along the eastern boundary mapped as PCT 3747 Southern Tableland Western Hills Scribbly Gum Forest (NSW DCCEEW 2025b) (Figure 5). PCT 3376 is associated with the TECs *White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions* (CEEC BC Act) and *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland* (CEEC EPBC Act), where conditions and identification criteria are met.

4.2.2. Identified vegetation communities

The subject land is heavily modified from long term use for grazing of livestock and more recent use (~10 years) for horse agistment and sports. The vegetation is heavily modified and very little native cover persists. Some individual native paddock trees are scattered through the subject land with rows of exotic pine plantings.

Three vegetation communities were identified and described by ELA within the subject land. PCT 3747 Southern Tableland Western Hills Scribbly Gum Forest occurs in one small, isolated patch in the north-western corner, and along the road verges to the north along Majura Lane, Guise Street and East on Sutton Road in degraded condition. The road verges are a mix of mature, possibly planted trees and partially native ground cover. The remaining two vegetation communities are exotic pasture and exotic pine plantings that do not correspond to a native vegetation community or PCT.

The distribution of these three vegetation communities within and adjacent to the subject land is shown in Figure 6.

4.2.2.1. Vegetation type 1: Exotic Pasture

Exotic Pasture dominates across the subject land (Photo 3). It consists of a ground layer dominated by the perennial exotic pasture species *Phalaris aquatica* (Phalaris) and *Paspalum dilatatum* (Paspalum), in association with a range of other exotic graminoid and forb species including *Bromus hordeaceus* (Soft Brome), *Cynodon dactylon* (Couch), *Hypochaeris radicata* (Catsear) and *Trifolium subterraneum*

(Subterranean Clover). Native grass species including *Austrostipa bigeniculata*, *Eragrostis brownii* (Brown's Lovegrass) and *Panicum effusum* (Hairy Panic) are scattered throughout, however never in high cover or abundance.

Eucalyptus mannifera subsp. *mannifera* (Brittle Gum) and *Eucalyptus melliodora* (Yellow Box) trees are present as scattered mature paddock trees throughout the southern half of the subject land; some of these have been fenced off to protect from stock (Photo 4). This, and the mapped extent of *E. melliodora* dominated grassy woodland in the property across Sutton Road (NSW DCCEEW 2025b, ELA 2016), indicates that much of the area mapped as exotic pasture in the southern half of the subject land would have once been equivalent to PCT 3376 Southern Tableland Grassy Box Woodland.

A total of 25.5 ha of Exotic Pasture is present within the study area, 12.03 ha of which is within the subject site (11.62 ha in the approved footprint, 0.41 ha in the modified footprint). There are no equivalent PCTs or TECs for this vegetation type.



Photo 3: Exotic pasture vegetation in the study area facing east



Photo 4: Fenced *E. melliodora* (Yellow Box) paddock tree in the southern portion of the subject land

Vegetation type 2: Pine Plantings

Vegetation type 2 consists of small block or linear plantings of exotic *Pinus radiata* (Radiata Pine). Due to the dense needle litter, there is limited ground cover vegetation underneath these plantings. Where present, it is predominantly exotic pasture species as described in vegetation type 1 above.

A total of 1.77 ha of Pine Planting is present within the subject land, none of which is contained within the study area. There are no equivalent PCTs or TECs for this vegetation type.



Photo 5: Pine planting clump near the centre of the subject land

4.2.2.2. **Vegetation type 3: PCT 3747 Southern Tableland Western Hills Scribbly Gum Forest - Degraded condition (including DNG)**

Vegetation community 3 is confined to a small remnant in an isolated patch in the north-western corner of the subject land, and along the road verges to the north along Majura Lane and Guise Street, and to the East along Sutton Road. The distribution largely corresponds to areas beyond the subject land along fence lines that have been subject to slashing (and potentially historical pasture improvement and native tree planting) and one patch within the subject land.

Vegetation community 3 is considered to be PCT 3747 Southern Tableland Western Hills Scribbly Gum Forest, as indicated by the presence of *Eucalyptus mannifera* (Brittle Gum) in the adjacent road reserve and surrounding landscape. Due to the disturbances, absence of a shrub layer or subcanopy, and large number of exotic groundcover species observed in this community, it is considered to be in a degraded condition (Photo 6).

The vegetation patch in the north-western corner of the study area is a small grassland characterised by the native perennial species *A. bigeniculata*, *Rytidosperma racemosum* var. *racemosum* and *E. brownii*. However, the native groundcover is degraded: it has limited native forb diversity and an abundance (but not dominance) of exotic pasture species, predominantly *Phalaris aquatica*. This patch is considered to be a derived native grassland (DNG) form of PCT 3747 (Photo 7).

A total of 0.16 ha of PCT 3747 occurs within the study area, and 0.08 ha within the subject site (0.06 ha in the approved footprint, 0.02 ha in the modified footprint).



Photo 6: PCT 3747 within the Sutton Road verge facing north.



Photo 7: Rocky area with native grasses (PCT 3747 DNG) in the north-western corner of the study area

4.2.3. Threatened ecological communities

Desktop surveys identified PCT 3376 Southern Tableland Grassy Box Woodland as occurring within 500 m of the subject land (within the adjacent property to the east across Sutton Road). This PCT is associated with the threatened ecological community (TEC) *White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions* (BC Act) and the *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland* (EPBC Act).

During the survey no characteristics of these TECs were identified outside of the presence of a few isolated *E. melliodora* paddock trees which will not be impacted by the proposal. It is likely that these communities would have been present across much of southern portion of the subject land prior to pastoralism, however, the ground cover around the isolated paddock trees is too degraded to meet the condition requirements for identification of PCT 3376 nor the listing as the above BC Act and EPBC Act listed TECs. No TECs were identified during the survey.

4.2.4. Flora species

Twenty-four (24) flora species were identified within the study area, including 16 native and 24 exotic species (Appendix B). Of the exotic species identified, seven are considered to be 'high threat weeds' in NSW. These included *Acetosella vulgaris* (Sheep Sorrel), *Crataegus monogyna* (Hawthorn), *Eragrostis curvula* (African Lovegrass), *Hypericum perforatum* (St. John's Wort), *Paspalum dilatatum* (Paspalum), *Rosa rubiginosa* (Sweet Briar), and *Rubus fruticosus* spp. *agg* (Blackberry). Native flora included some hardy native grasses and forbs as well as some isolated trees. This species list is not an exhaustive list of all species within the site but rather an identification of species characteristic of the study area.

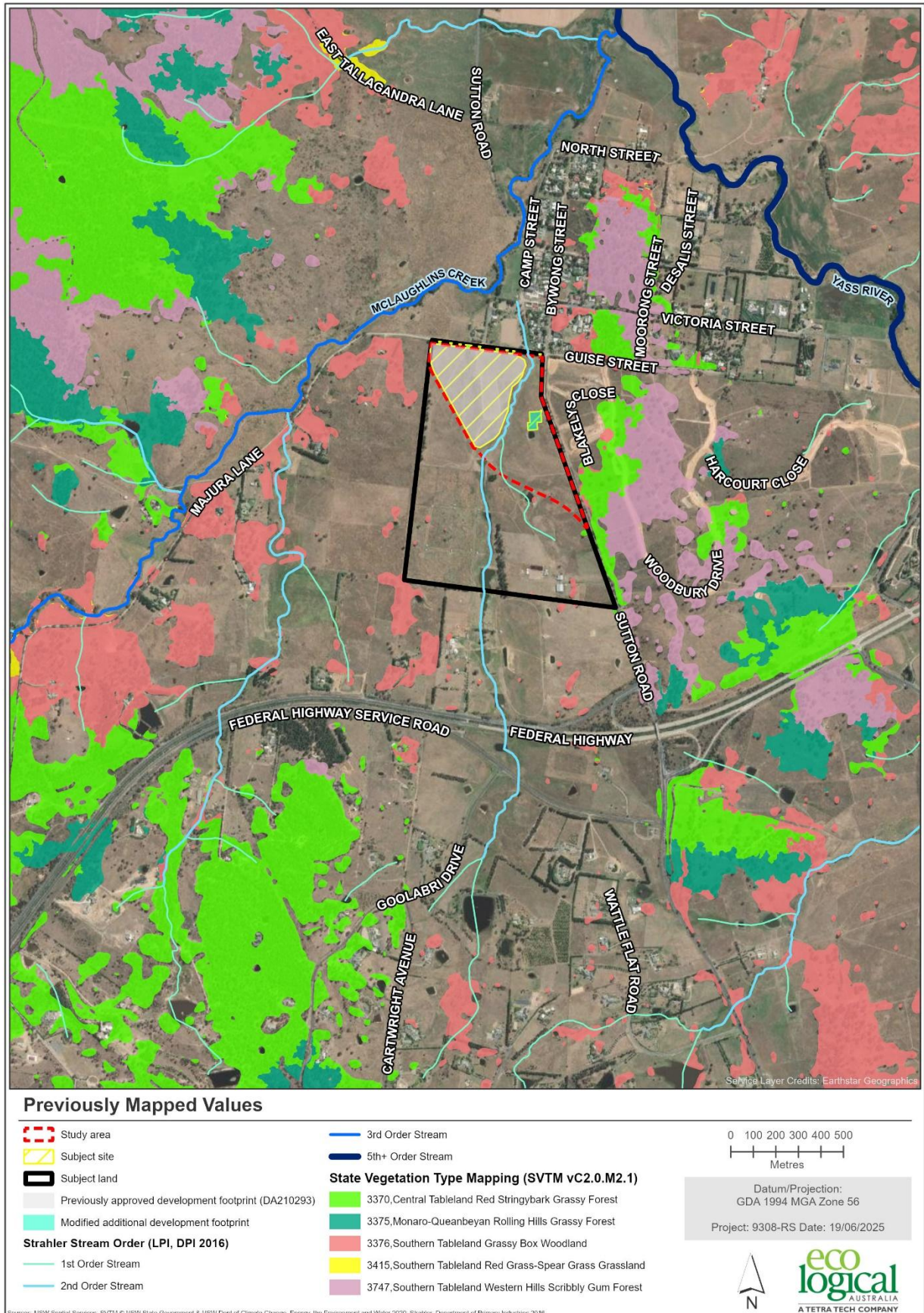


Figure 5: Previously mapped habitat and vegetation values (SVTM)

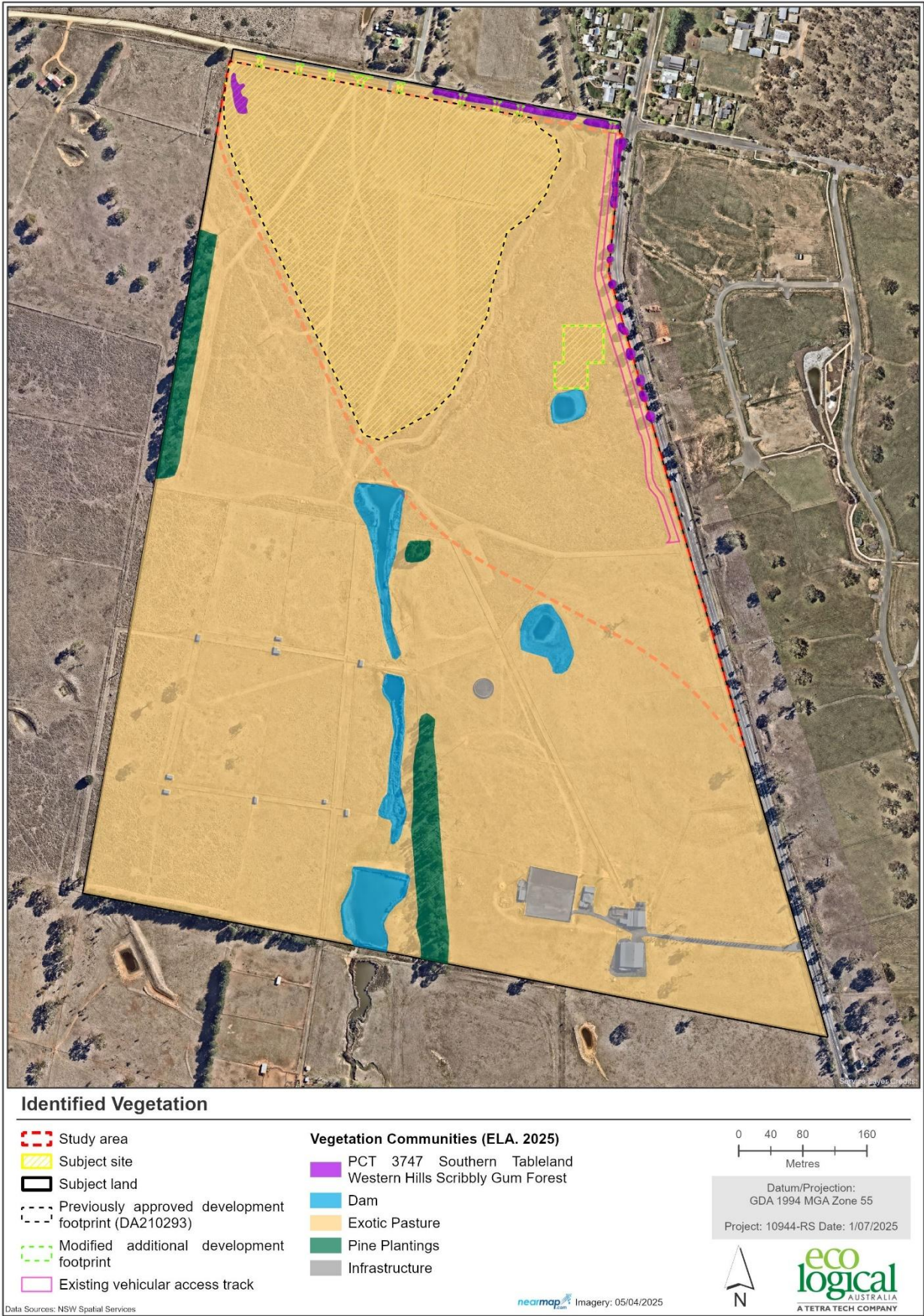


Figure 6: Vegetation communities within the subject land

4.3. Fauna

4.3.1. Fauna habitats

The fauna habitats present in the subject land are those generally associated with farmland (native and exotic pasture, and paddock trees) and waterbodies (including aquatic vegetation) within the locality. These habitats are unlikely to support a diversity of native fauna given:

- The relative lack of key habitat resources (large woody debris, hollow-bearing trees, remnant woodlands and vegetation structural diversity)
- The highly cleared and disturbed vegetation, subject to ongoing agricultural use
- Exposure to feral predators which prefer open habitats, i.e. foxes and cats.

The most significant habitat components are the hollow-bearing trees as these may provide important breeding habitat for a range of hollow-dependent fauna. Four hollow-bearing trees (HBTs) were recorded in the southern half of the subject land, one of which occurs inside the study area, within 10 m of the proposed bypass alignment and subdivision lot boundary, this tree should not require removal but will be very close to any required fencing on the southern edge on the study area. These HBTs comprise living *E. melliodora* or stags (dead trees), and may provide potential denning, roosting or nesting habitat for a range of bird, arboreal mammal and microchiropteran bat species that are known from the locality and utilise agriculturally modified woodlands and habitats. The HBTs contain a total of 14 hollows. 2 x small hollows (<5 cm), 8 x small to medium hollows (5 – 15 cm) and 4 x large hollows (20 - <30 cm), which are potentially suitable for a range of hollow-dependant species such as microbats, cockatoos, parrots. The location of these HBTs is identified in Figure 7. Photo 9 and Photo 8 depict two of these HBTs. No stick nests or large raptor nests were observed.

One patch of outcropping (deeply embedded) rock was observed in the north-west corner of the subject land (Photo 7). However, this is not considered to be the partially embedded rock type that supports *Aprasia parapulchella* (Pink-tailed Worm Lizard).

The primarily exotic and heavily grazed pasture is unlikely to provide suitable habitat for *Synemon plana* (Golden Sun Moth) as it lacks preferred vegetation types and key habitat components such as a dominance of native *Austrodanthonia* spp. (Wallaby Grasses). The species is also known to occur in areas with high levels of exotic *Nassella neesiana* (Chilean Needlegrass) (DAWE 2021), although this exotic grass was not recorded in the subject land. The Golden Sun Moth has high number of records in the surrounding landscape (Figure 8), from areas of predominantly native vegetation that are in better condition than the degraded and primarily exotic pasture of the study area, including to the east across Sutton Road. The primary habitat in the neighbouring property to the east was identified as 'Red Stringybark - Scribbly Gum - Red-anthered Wallaby Grass tall grass-shrub forest' and 'Yellow Box and Apple Box tall grassy woodland', which covered the majority of the property at the time of assessment (ELA 2016).

While the majority of drainage lines within the subject land are ephemeral, two permanent dams were observed along the 2nd order drainage line towards the south of the subject land. These were fringed with occasional dense stands of *Typha* sp. with some *Phragmites australis*, and provide potential for aquatic fauna (i.e. frogs and waterfowl) which tolerate agricultural ecosystems, however, the majority of the waters edge is degraded from stock use (Figure 7, Photo 10). A 20 m riparian buffer has been applied (Figure 7) to the creek line which will further reduce impacts to this habitat.



Photo 9: Paddock tree containing multiple small branch hollows and a large trunk hollow



Photo 8: *E. melliodora* containing a large trunk hollow and smaller branch hollows.



Photo 10: Dam with a small amount of aquatic vegetation. Dam edges are mostly degraded from stock use.

4.3.2. Fauna species

A limited range of common bird species were detected during the survey and are listed in Appendix B. Some highly mobile threatened birds could forage or disperse in the study area on occasions, there are some marginal foraging resources present for some threatened species within the study area.

Seventeen (17) fauna species were recorded opportunistically during the site inspection, consisting of twelve (12) native birds, one native mammal and one native frog species. One threatened species *Petroica phoenicea* (Flame Robin) was recorded by ELA staff in the subject land in 2017 (ELA 2020). This observed individual was not within the subject site and was located adjacent to the southern pine plantings.

The majority of native birds recorded during the site inspection were larger common bird species such as *Cracticus tibicen* (Australian Magpie), *Corvus coronoides* (Australian Raven) and *Cacatua galerita* (Sulphur-crested Cockatoo), as well as common water birds that are known to utilise dams, including *Ardea pacifica* (White-necked Heron) and *Chenonetta jubata* (Australian Wood Duck). This is likely due to the highly cleared vegetation types and relative lack of key habitat resources such as tree and shrub canopies or large woody debris that are required by many of the smaller bird species. A range of livestock species, including horse and cattle, were also observed within the subject land. A list of all fauna species observed within the subject land during the site inspection is presented in Appendix B.

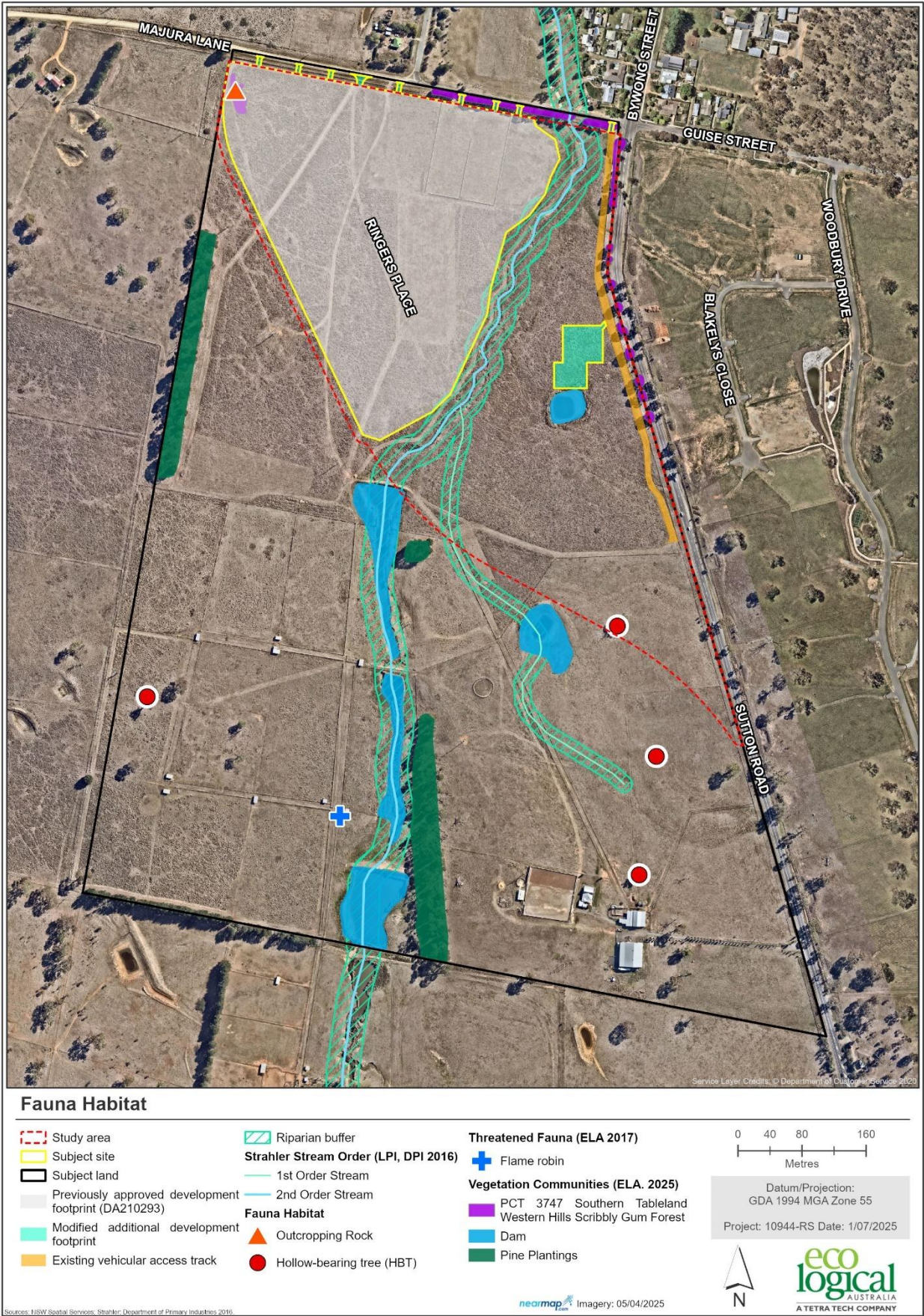


Figure 7: Fauna habitat- HBT and waterways

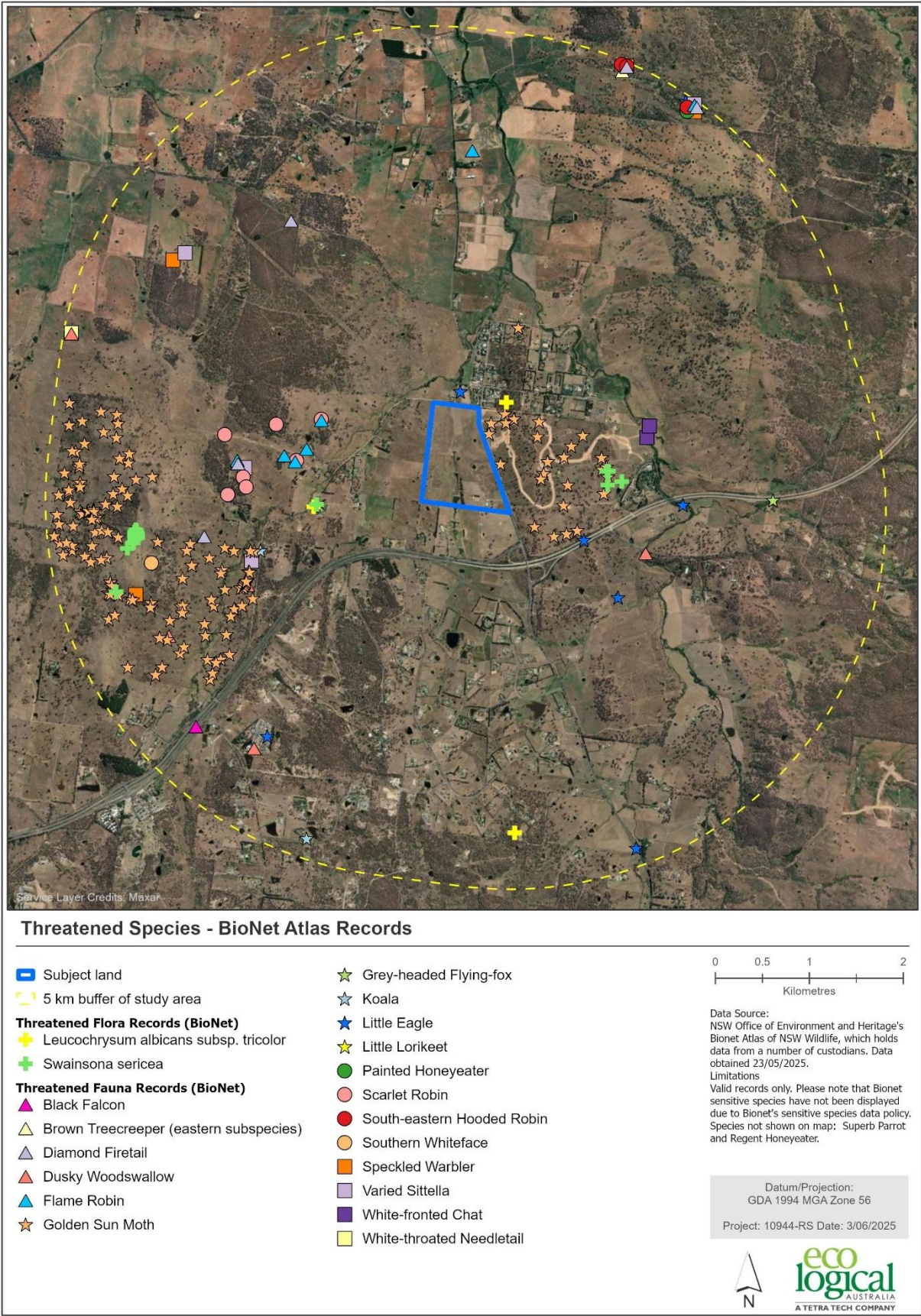


Figure 8: BioNet threatened species records (5 km)

5. Impact Assessment

5.1. Vegetation

The proposal will result in a direct impact to approximately 12.11 ha of vegetation, 12.03 ha of which is exotic and 0.08 ha of which is degraded PCT 3747 (0.02 ha within the added modification footprint).

Impacts to native vegetation will involve direct loss (clearing) of native ground cover, associated with dwelling construction and associated infrastructure (e.g. fencing, septic systems). A summary of the area of each vegetation community to be directly impacted by the proposal is presented in Table 2. No trees are expected to be impacted by the proposal. Mature trees along the verge of Sutton Road are slightly overhanging canopy only and will not be impacted by the proposal. This PCT (3747) along the northern boundary will be impacted by the proposed driveways, however this will impact ground vegetation only and the driveways will be aligned to avoid the trees.

Up to 25.5 ha of exotic pasture vegetation and 0.36 ha of PCT 3747 may be indirectly impacted by construction noise, dust and machinery presence primarily along the riparian buffer, however this is expected to be short lived, and no permanent impacts are anticipated. Recommendations to further reduce impacts to surrounding vegetation and habitats are outlined in Section 6.

Table 2: Areas of vegetation to be impacted

Subject site (direct impacts)		
Vegetation type	Area approved footprint (ha)	Area modified footprint (ha)
PCT 3747 (degraded)	0.06	0.02
Exotic Pasture	11.62	0.41
Total area	11.68	0.43

5.2. Threatened ecological communities

There are no TECs identified within, or adjacent to, the study area. There will be no impacts to any TECs as a result of the proposed works.

5.3. Threatened species

A range of threatened flora and fauna species have been recorded within 10 km of the study area (see Appendix C). The study area contains a limited range of habitats for threatened species in the form of exotic pasture grasses and some native grass species, scattered paddock trees, hollows and dams, which provide potential foraging and roosting resources for threatened microbats and birds. The proposal (including both the approved and modified footprint) will remove a small amount of resources in the form of exotic pasture (12.03 ha) and degraded PCT 3747 (0.08 ha), however, it will not limit or prevent access to the woodland adjoining the subject land nor result in the removal of any trees or hollows. In consideration of this the proposal is unlikely to have an impact on these highly mobile bird or bat species, and this is assessed further in Appendix D and Appendix E.

Canopy connectivity will not be significantly reduced beyond its current condition and will not reduce the ability for bats or birds to utilise resources or traverse through the site to access surrounding forest

areas. Aquatic and riparian connectivity along creek lines will be maintained by applying buffers to these habitats.

No threatened flora species were found within the study area, although suitable habitat for *Leucochrysum albicans* subsp. *tricolor* (Hoary Sunray) occurs within the road verge south of Guise Street. Targeted surveys during the flowering / survey period (October – December) have not been undertaken. The proposed impacts to this habitat from driveways are relatively minor, and are not likely to result in a significant impact to the species even if it is present. However, a targeted survey for the species is recommended during the October – December flowering period as outlined in Section 6.

5.4. Conclusion of BC Act Test of Significance

If a species, population or ecological community listed under Schedules 1 or 2 of the BC Act is likely to be impacted, the factors set out to establish if there is likely to be a significant impact on that species, population, ecological community or habitat, must be assessed. Section 7.3 of the BC Act sets out five factors that must be addressed as part of a Test of Significance (OEH 2018).

No threatened flora or fauna were identified in the study area during field surveys. The study area contains some vegetation and structural elements that could provide suitable habitat for some fauna species. Therefore, a Test of Significance under Section 7.3 of the BC Act was undertaken for the following threatened species (Appendix D):

- *Falsistrellus tasmaniensis* (Eastern False Pipistrelle)
- *Miniopterus schreibersii oceanensis* (Large Bent-winged Bat)
- *Myotis macropus* (Southern Myotis)
- *Saccolaimus flaviventris* (Yellow-bellied Sheath-tail-bat)
- *Callocephalon fimbriatum* (Gang-gang Cockatoo)
- *Hieraaetus morphnoides* (Little Eagle)
- *Polytelis swainsonii* (Superb Parrot)
- *Artamus cyanopterus cyanopterus* (Dusky Woodswallow)
- *Daphoenositta chrysoptera* (Varied Sittella)
- *Glossopsitta pusilla* (Little Lorikeet)
- *Melanodryas cucullata cucullata* (Hooded Robin)
- *Petroica boodang* (Scarlet Robin)
- *Petroica phoenicea* (Flame Robin)
- *Stagonopleura guttata* (Diamond Firetail)

Based on this assessment, it is considered unlikely that the proposal would significantly impact any of these threatened fauna species.

Further recommendations are provided in Section 6 with regards to targeted surveys and assessment for *Leucochrysum albicans* subsp. *tricolor* (Hoary Sunray).

5.5. Conclusion of EPBC Act MNES Assessment

The EPBC Act establishes a process for assessing the environmental impact of activities and developments where a Matter of National Environmental Significance (MNES) may be affected. Under the Act, any action which “has, will have, or is likely to have a significant impact on a MNES is defined as a controlled action and requires approval from the Commonwealth DCCEEW” (DoE 2013).

The process includes the application of Significant Impact Criteria for listed MNES that will be affected as a result of the proposed action. Impact assessment guidelines outline a number of criteria to provide assistance in conducting the assessment and help decide whether a referral to the Commonwealth is recommended.

No threatened flora or fauna were identified in the study area during field surveys. The study area contains some vegetation that could provide suitable habitat for some flora and fauna species. Therefore, an assessment of MNES under the Commonwealth EPBC Act was undertaken for the proposed development (Appendix E and Appendix F) for the following EPBC listed species:

- *Callocephalon fimbriatum* (Gang-gang Cockatoo)- Endangered
- *Melanodryas cucullata cucullata* (Hooded Robin) - Endangered
- *Polytelis swainsonii* (Superb Parrot)- Vulnerable
- *Stagonopleura guttata* (Diamond Firetail) – Vulnerable

Based on this assessment, it is considered very unlikely that the proposal would significantly impact any threatened species or other MNES.

Further recommendations are provided in Section 6 with regards to *Leucochrysum albicans* subsp. *tricolor* (Hoary Sunray).

5.6. State Environmental Planning Policy (Biodiversity and Conservation) 2021

The State Environmental Planning Policy (Biodiversity and Conservation) 2021 Chapter 3 Koala Habitat Protection 2020 and Chapter 4 Koala Habitat Protection 2021, apply to development applications relating to land within a LGA listed in Schedule 2. The subject site is within the Yass Valley LGA which is listed on Schedule 2 and therefore this SEPP applies.

Chapter 3 Koala Habitat Protection 2020 applies to the land zoned as RU1- Primary Production. The area is not considered to constitute Potential Koala Habitat under the SEPP as it contains no Koala feed tree species listed in Schedule 1 of the SEPP. No further assessment is required under Chapter 3 of the SEPP.

Chapter 4 Koala Habitat Protection 2021 applies to land zoned as R2 – Low Density Residential, however no Koala use tree species, listed on Schedule 4 of the SEPP, occur within the R2 zoned land.

The study area does not contain suitable Koala habitat under the SEPP, and the proposed development is highly unlikely to impact Koalas or Koala habitat.

6. Recommendations

To minimise the potential ecological impacts on the subject site and improve environmental outcomes, the following mitigation measures have been provided. These mitigation measures should form part of the conditions of consent.

Vegetation and habitat management

- Maintain the fencing around the hollow-bearing tree in Lot 20 to ensure protection from on-going pastoral land uses.
- No HBTs are to be removed. Clearly demarcate (with bunting/fencing) the *E. melliodora* HBT located immediately adjacent to the proposed Lot 21 northern boundary to avoid accidental damage.
- Access driveways to proposed Lots 2,3, 4 and 20 are to be located to avoid the removal of native trees.
- Landscaping within proposed Lots 1-20 should utilise native or non-invasive plant species.
- If dewatering of dams is required, a qualified ecologist should be engaged to relocate any fish or other aquatic fauna into other permanent waterbodies within the subject land.
- Impacts of machinery and vehicle movement, material delivery and storage and waste management should be limited to the impact footprint specified in this report (the subject site).

Water and sediment management

- Appropriate sediment control measures should be implemented and retained in place until exposed areas of soil are stabilised.
- Implement measures to prevent tracking of soils / sediments from work site to roadways, footpaths and drainage lines as a result of work vehicle / machinery movement.
- Work will not take place during or after heavy rain when doing so is likely to cause soil erosion or soil structural damage.

Leucochrysum albicans subsp. *tricolor* (Hoary Sunray)

- A pre-clearance survey is to be undertaken by an appropriately experienced person (Ecologist, Botanist) within the road reserve of Guise Street during the October-December flowering / survey season for the species (Sinclair 2010).
- Flowering should be confirmed at a known reference site before the survey is performed.
- The survey must be undertaken prior to the commencement of any works within the road reserve.
- If the species is **not detected**, it can be considered unlikely to occur in the study area and unlikely to be impacted by the proposed development.
- If the species is **detected**, Council is to be informed within 7 days and the following steps are recommended:
 - Locations of any individuals are to be mapped and marked on the ground

- Numbers of individuals are to be recorded, and broader surveys may be necessary to better understand the local population
- Lot access and any other proposed works in the road reserve will be designed to avoid impacts Hoary Sunray individuals and habitat
- A Vegetation Management Plan may be required to guide habitat management actions in the road reserve
- Assessments of significance pursuant to the BC Act and EPBC Act will be prepared by a suitably qualified person
- Council must be satisfied that all reasonable steps have been taken to avoid and minimise impacts to the species and that a significant impact under the BC Act and EPBC Act is unlikely.

7. Conclusion

This report assesses the potential flora and fauna impacts of the proposed 21 lot subdivision of 2155 Sutton Road, Sutton NSW (Lot 1 DP 32236).

The study area has been heavily modified by historical clearing and grazing and no trees are expected to be impacted by the development. The vegetation within the study area is predominantly exotic pasture, with limited areas of degraded native vegetation (PCT 3747), and hence has low conservation value. No threatened ecological communities occur within the study area and no threatened species were recorded in the study area.

The vegetation to be removed for the proposal is primarily exotic pasture (12.03 ha), with only a small amount of native vegetation (0.08 ha of PCT 3747) directly impacted. The vegetation to be affected provides some foraging, roosting and limited breeding resources for fauna and potentially a small number of threatened bats and woodland birds.

Following the application of the Test of Significance under Section 7.3 of the BC Act, and in accordance with the relevant assessment guidelines, it is concluded that the proposal is unlikely to have a significant effect on threatened species, populations or endangered ecological communities or their habitats.

The degraded area affected does not contain important habitats and the proposal is not likely to have any significant impact on threatened species or other Matters of National Environmental Significance under the Commonwealth EPBC Act.

A targeted survey, and potentially further assessment, is recommended for *Leucochrysum albicans* subsp. *tricolor* (Hoary Sunray) within areas of suitable habitat along the Guise Street easement, as outlined in Section 6 above.

Under the State Environmental Planning Policy (Biodiversity and Conservation) 2021, the study area does not constitute Potential Koala Habitat under Chapter 3 Koala habitat protection 2020, or suitable Koala habitat under Chapter 4 Koala habitat protection 2021. The proposed development is unlikely to impact any local population of Koala nor interfere with their conservation in the region.

The proposal does not trigger the Biodiversity Offsets Scheme (BOS) under the BC Act as the native vegetation clearing threshold for the property (0.25 ha) is not exceeded by the modified design, no areas mapped as Biodiversity Values will be affected; and a significant impact to threatened entities is unlikely.

The subject land has a small area in the southern section that is mapped under the Terrestrial Biodiversity layer of the Yass Valley LEP. This area is outside of the study area and will not be impacted by the proposed development.

8. References

- Baker-Gabb, D. 2011. National Recovery Plan for the Superb Parrot *Polytelis swainsonii*. Department of Sustainability and Environment, Melbourne.
- Cropper, S.C. 1993. Management of Endangered Plants, CSIRO Publishing, Melbourne.
- Department of Agriculture, Water and the Environment (DAWE). 2021. Conservation Advice for *Synemon plana* (Golden Sun Moth), Canberra.
- Department of Climate Change, Energy, the Environment and Water (Commonwealth) (DCCEEW). 2023a. Conservation Advice for *Melanodryas cucullata cucullata* (hooded robin (south-eastern)). Australian Commonwealth Government.
- Department of Climate Change, Energy, the Environment and Water (Commonwealth) (DCCEEW). 2023b. Conservation Advice for *Stagonopleura guttata* (Diamond Firetail). Australian Commonwealth Government.
- Department of Climate Change, Energy, the Environment and Water (Commonwealth) (DCCEEW). 2025. Protected Matters Search Tool. Available at <http://www.environment.gov.au/webgis-framework/apps/pmst/pmst-coordinate.jsf>
- Department of Climate Change, Energy, the Environment and Water (State) (NSW DCCEEW). 2025a. BioNet Atlas of NSW Wildlife. Available at <http://www.bionet.nsw.gov.au/>
- Department of Climate Change, Energy, the Environment and Water (State) (NSW DCCEEW) 2025b. NSW State Vegetation Type Map. State Government of NSW. Available at <https://datasets.seed.nsw.gov.au/dataset/nsw-state-vegetation-type-map>.
- Department of Climate Change, Energy, the Environment and Water (State) (NSW DCCEEW) 2025c. NSW Planning Portal Spatial Viewer 'E-planner'. 2024. Available at <https://www.planningportal.nsw.gov.au/spatialviewer>
- Department of Climate Change, Energy, the Environment and Water (State) (NSW DCCEEW). 2025d. Commonwealth Species Profile and Threats Database. State Government of NSW.
- Department of Climate Change, Energy, the Environment and Water (State) (NSW DCCEEW). 2025e. NSW Threatened Biodiversity Profiles. State Government of NSW.
- Department of Planning and Environment (DPE). 2025. Biodiversity Values Map. Available at <https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=BOSETMap>
- Department of the Environment (DoE). 2013. Matters of National Significance Significant impact guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999. Australian Government, Canberra.
- Eco Logical Australia (ELA). 2016. Lot 5 DP 838497 Sutton Road, Sutton. Summary Report – Spring Survey 2016. Prepared for Tony Carey Consulting.
- Eco Logical Australia (ELA). 2020. Flora and Fauna Assessment, Proposed Subdivision, 2155 Sutton Road.
- NSW Scientific Committee. 2008. Gang-gang Cockatoo *Callocephalon fimbriatum*. Review of current information in NSW. December 2008. Unpublished report arising from the Review of the Schedules of the Threatened Species Conservation Act 1995. NSW Scientific Committee, Hurstville.

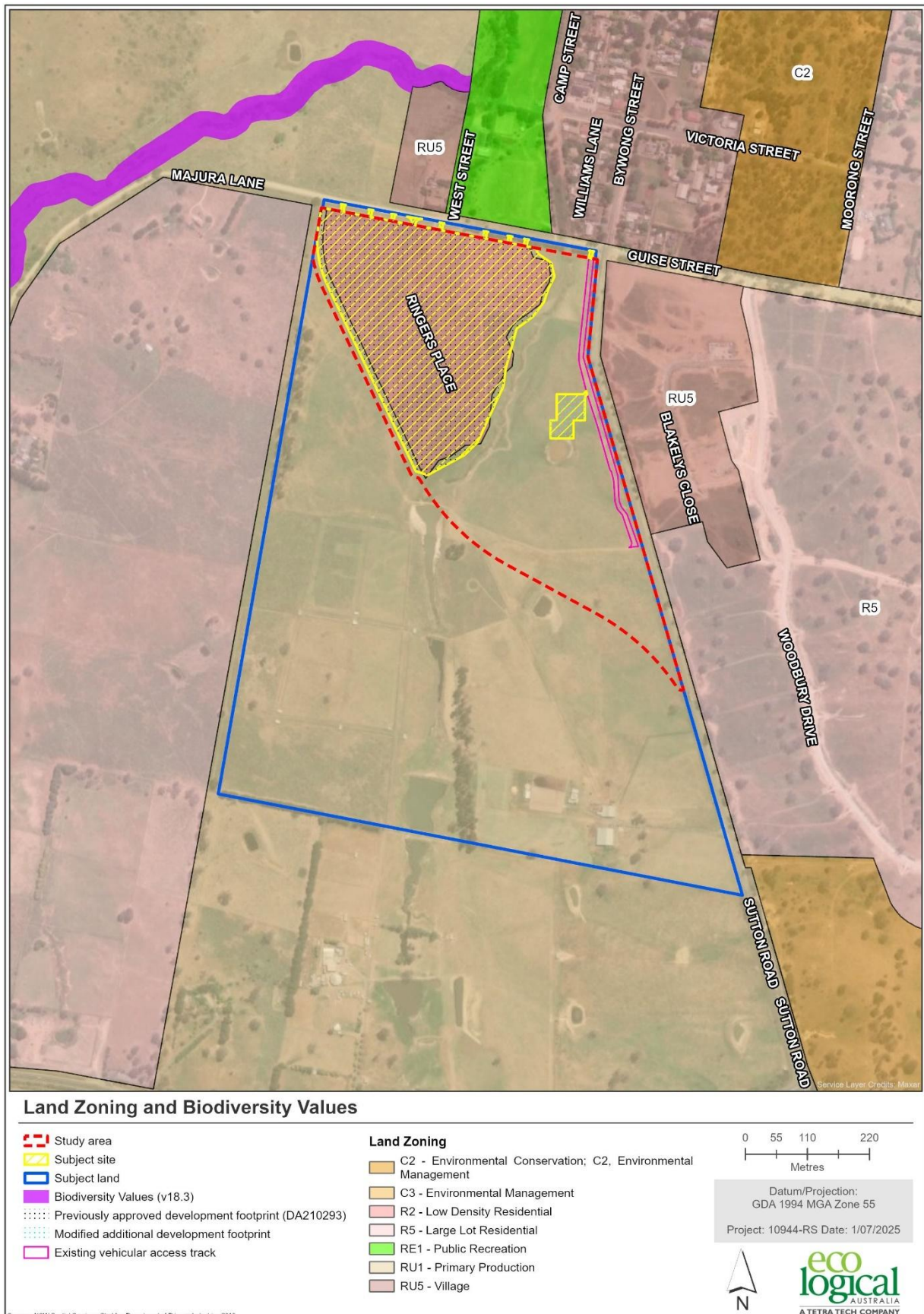
Office of Environment and Heritage (OEH). 2018. Threatened Species Test of Significance Guidelines. Office of Environment and Heritage. Sydney.

Office of Environment and Heritage (OEH). 2022. Save our Species Program. Available at <https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/saving-our-species-program>

Sinclair, S. J. 2010. National Recovery Plan for the Hoary Sunray *Leucochrysum albicans* var. *tricolor*. Department of Sustainability and Environment, Melbourne.

Yass Valley Council. 2013. Yass Valley Council Local Environment Plan 2013.

Appendix A Biodiversity Values and Land Zone mapping



Appendix B Flora and fauna species recorded in the study area

Table 3: Flora species identified within the study area

Flora species		
Scientific name	Common name	Native/Exotic
Native		
<i>Acacia baileyana</i>	Cootamundra wattle	Native
<i>Austrostipa bigeniculata</i>	-	Native
<i>Austrostipa scabra</i>	Speargrass	Native
<i>Carex appressa</i>	Tall Sedge	Native
<i>Cyperus</i> spp.	Nut Grass	Native
<i>Eragrostis brownii</i>	Brown's Lovegrass	Native
<i>Erodium crinitum</i>	Native Crowfoot	Native
<i>Eucalyptus mannifera</i> subsp. <i>mannifera</i>	Brittle Gum	Native
<i>Eucalyptus melliodora</i>	Yellow Box	Native
<i>Euphorbia drummondii</i>	Caustic Weed	Native
<i>Juncus</i> sp.	-	Native
<i>Lomandra bracteata</i>	-	Native
<i>Panicum effusum</i>	Hairy Panic	Native
<i>Rumex brownii</i>	Swamp Dock	Native
<i>Rytidosperma racemosum</i> var. <i>racemosum</i>	-	Native
<i>Typha</i> sp.	Bulrush	Native
Exotic		
<i>Acetosella vulgaris</i>	Sheep's sorrel	Exotic
<i>Amanita muscaria</i>	Fly Agaric	Exotic
<i>Avena fatua</i>	Wild oat	Exotic
<i>Bromus hordeaceus</i>	Soft Brome	Exotic
<i>Chondrilla juncea</i>	Skeleton weed	Exotic
<i>Cirsium vulgare</i>	Spear Thistle	Exotic
<i>Conyza</i> sp.	Fleabane	Exotic
<i>Crataegus monogyna</i>	Hawthorn	Exotic
<i>Cynodon dactylon</i>	Couch	Exotic
<i>Eragrostis curvula</i>	African Lovegrass	Exotic
<i>Hypericum perforatum</i>	Perforate St John's-wort	Exotic
<i>Hypochaeris radicata</i>	Catsear	Exotic
<i>Malva parviflora</i>	Small-flowered Mallow	Exotic
<i>Paspalum dilatatum</i>	Paspalum	Exotic
<i>Phalaris aquatica</i>	Phalaris	Exotic

Flora species		
<i>Pinus radiata</i>	Radiata Pine	Exotic
<i>Portulaca</i> sp.	Pig weed	Exotic
<i>Plantago lanceolata</i>	Plantain	Exotic
<i>Rosa rubiginosa</i>	Sweet briar	Exotic
<i>Rubus fruticosus</i> sp. agg.	Blackberry	Exotic
<i>Solanum nigrum</i>	Black nightshade	Exotic
<i>Sorghum leiocladum</i>	Wild Sorghum	Exotic
<i>Trifolium repens</i>	White Clover	Exotic
<i>Trifolium subterraneum</i>	Subterranean Clover	Exotic

Table 4: Fauna species identified in the study area

Fauna species	
Scientific name	Common name
Birds	
<i>Ardea pacifica</i>	White-necked Heron
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo
<i>Chenonetta jubata</i>	Australian Wood Duck
<i>Corvus coronoides</i>	Australian Raven
<i>Cracticus tibicen</i>	Australian Magpie
<i>Egretta novaehollandiae</i>	White-faced Heron
<i>Eolophus roseicapilla</i>	Galah
<i>Grallina cyanoleuca</i>	Magpie-lark
<i>Ocyphaps lophotes</i>	Crested Pigeon
<i>Phalacrocorax sulcirostris</i>	Little Black Cormorant
<i>Phalacrocorax varius</i>	Australian Pied Cormorant
<i>Rhipidura leucophrys</i>	Willie Wagtail
Amphibians	
<i>Crinia signifera</i>	Common Eastern Froglet
Mammals	
<i>Equus ferus caballus</i> *	Horse
<i>Macropus giganteus</i>	Eastern Grey Kangaroo
<i>Oryctolagus cuniculus</i> *	European Rabbits
<i>Vulpes vulpes</i> *	Red Fox (scats)

* - exotic

Appendix C Likelihood of Occurrence Assessments and BioNet threatened species records

The table below lists the threatened ecological communities or species known or considered likely to occur within the study area based on previous surveys, Atlas, EPBC Act Protected Matters Search, Biodiversity certification credit calculator tool and/or expert opinion. An assessment of likelihood of occurrence was made for threatened or migratory species/communities identified from the database search. Additional species have been added where the subject site is considered to provide potential habitat. This assessment was based on database or other records, presence or absence of suitable habitat, features of the proposal site, results of the field survey, and professional judgement. Some migratory, marine and aquatic species identified from the Commonwealth database search have been excluded from the assessment due to lack of habitat. The terms for likelihood of occurrence are defined below.

known/yes- the species is known to occur within suitable habitat within the study area.

likely- a medium to high probability that a species occupies or uses habitat within the study area.

potential - suitable habitat for a species occurs within the study area, but there is insufficient information to categorise the species as likely to occur, or unlikely to occur.

unlikely - a very low to low probability that a species occupies or uses habitat within the study area.

no - habitat within the study area and in the immediate vicinity is unsuitable for the species, or, in the case of plants, the species was not located during searches of the study area.

The records column refers to the number of records occurring within 10 km of the development site, as provided by the NSW Wildlife Atlas (BioNet) database search (NSW DCCEEW 2025a). Information provided in the 'habitat associations' column has primarily been extracted (and modified) from the Commonwealth Species Profile and Threats Database (DCCEEW 2024d), NSW Threatened Biodiversity Profiles (NSW DCCEEW 2025e). Comments about the 'known or predicted' species distributions refer to the information provided on the NSW online Threatened Biodiversity Profiles. The following abbreviations are used:

CE = Critically Endangered species, population or ecological community.

E = Endangered species, population or ecological community.

V = Vulnerable species, population or ecological community.

M = Migratory

Threatened Ecological Communities

Community Name	BC Act Status	EPBC Act Status	Description	Likelihood of occurrence	Comments
Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion	CE	-	Monaro Tablelands Cool Temperate Grassy Woodland is a woodland to low open woodland community. It is characterised by a sparse to very sparse tree (woodland to open woodland) layer dominated by <i>Eucalyptus pauciflora</i> (Snow Gum) either as a single species or with any of <i>Acacia melanoxylon</i> (Blackwood), <i>E. rubida</i> (Candlebark), <i>E. stellulata</i> (Black Sallee) and/or <i>E. viminalis</i> (Ribbon Gum) as co-dominants. Other tree species may occur within the community, although very infrequently and always as canopy sub-dominants.	No	No canopy species characteristic of this TEC are present within the study area or subject land.
Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions	E	-	Montane Peatlands and Swamps comprises a dense, open or sparse layer of shrubs with soft-leaved sedges, grasses and forbs. It is the only type of wetland that may contain more than trace amounts of <i>Sphagnum</i> spp., the hummock peat-forming mosses. Small trees may be present as scattered emergents or absent. The Montane Peatlands community is associated with accumulated peaty or organic-mineral sediments on poorly drained flats in the headwaters of streams. It occurs on undulating tablelands and plateaux, above 400-500 m elevation, generally in catchments with basic volcanic or fine-grained sedimentary substrates or, occasionally, granite.	No	No suitable swamp or bog habitat present within the study area or subject land. Additionally, no flora heavily associated with this TEC was identified. Not recorded within 5 km of the subject land.
Natural Temperate Grassland of the South Eastern Highlands	-	CE	Natural Temperate Grassland is a natural grassland community dominated by a range of perennial grass species and, in highly intact sites, containing a large range of herbaceous species in many plant families, including daisies, peas, lilies, orchids and plants in many other families, all collectively known as forbs, or "wildflowers". The community is often treeless, though trees of a range of	Unlikely	This community was not identified within the study area. No flora heavily associated with this TEC was identified.

Community Name	BC Act Status	EPBC Act Status	Description	Likelihood of occurrence	Comments
			species may occur in low densities, either as isolated individuals or in clumps. Seasonally wet areas within a site may also contain a range of wetland flora species, including rushes, sedges and a variety of wetland specialist forbs. A limited range of shrub species may occur at some sites, but these too occur in low densities.		
Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions	E	-	Tableland Basalt Forest is dominated by an open eucalypt canopy of variable composition. <i>E. viminalis</i> , <i>E. radiata</i> , <i>E. dalrympleana</i> subsp. <i>dalrympleana</i> and <i>E. pauciflora</i> may occur in the community in pure stands or in varying combinations. The community typically has an open canopy of eucalypts with sparse mid-story shrubs (e.g. <i>A. melanoxylon</i> and <i>A. dealbata</i>) and understory shrubs (e.g. <i>Rubus parvifolius</i>) and a dense groundcover of herbs and grasses, although disturbed stands may lack either or both of the woody strata.	No	No canopy species characteristic of this TEC are present within the study area or subject land. Not recorded within 5 km of the subject land.
Werriwa Tablelands Cool Temperate Grassy Woodland in the South Eastern Highlands and South East Corner Bioregions	CE	-	Werriwa Tablelands Cool Temperate Grassy Woodland ranges in structure from woodland to low open woodland. It is characterised by a sparse to very sparse (woodland to open woodland) tree layer dominated by <i>E. pauciflora</i> (Snowgum) either in single species stands or with <i>E. rubida</i> (Candlebark) as a co-dominant. Other tree species have been recorded within the community, although very infrequently and always as canopy sub-dominants.	No	This community was not identified within the study area. Additionally, no flora heavily associated with this TEC was identified. This TEC was not identified to exist within 5 km of the subject land.

Community Name	BC Act Status	EPBC Act Status	Description	Likelihood of occurrence	Comments
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and	CE	-	An open woodland community (sometimes occurring as a forest formation), in which the most obvious species are one or more of the following: White Box <i>Eucalyptus albens</i> , Yellow Box <i>E. melliodora</i> and Blakely's Red Gum <i>E. blakelyi</i> . Intact sites contain a high diversity of plant species, including the main tree species, additional tree species, some shrub species, several climbing plant species, many grasses and a very high diversity of herbs.	Unlikely	This TEC was recorded within 5 km of the subject land and is known from the locality. This community was not identified within the study area due to the absence of characteristic ground cover species and intact woodland areas. Although <i>E. melliodora</i> were identified in the subject land, they are isolated paddock trees with little native ground cover present.
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	-	CE	White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland comprises an aggregation of Grassy Woodlands occurring on the tablelands and western slopes of the Great Diving Range from the Darling Downs in southern Queensland south to central Victoria. In NSW, the community corresponds broadly with Western Slopes Grassy Woodlands, Southern Tableland Grassy Woodlands and New England Grassy Woodlands classes.	Unlikely	This TEC was recorded within 5 km of the subject land and is known from the locality. This community was not identified within the study area due to the absence of characteristic ground cover species and intact woodland areas. Although <i>E. melliodora</i> were identified in the subject land, they are isolated paddock trees with little native ground cover present.

Flora

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Records (10 km)	Likelihood of occurrence	Comments
<i>Ammobium craspedioides</i>	Yass Daisy	V	V	Found from near Crookwell on the Southern Tablelands to near Wagga Wagga on the Southwestern Slopes. Most populations are in the Yass region.	Found in moist or dry forest communities, Box-Gum Woodland and secondary grassland derived from clearing of these communities. Grows in association with a large range of eucalypts (<i>Eucalyptus blakelyi</i> , <i>E. bridgesiana</i> , <i>E. dives</i> , <i>E. goniocalyx</i> , <i>E. macrorhyncha</i> , <i>E. mannifera</i> , <i>E. melliodora</i> , <i>E. polyanthemus</i> , <i>E. rubida</i>).	0	Unlikely	Marginally suitable habitat present in very small amounts. Heavily modified and dominated by exotic pasture grasses. No local records. Not detected during surveys.
<i>Amphibromus fluitans</i>	Floating Swamp Wallaby-grass	V	V	It has been recorded recently in lagoons beside the Murray River near Cooks Lagoon (Shire of Greater Hume), Mungabarina Reserve, East Albury, at Ettamogah, Thurgoona (Charles Sturt University Campus), near Narranderra, and also further west along the Murray River (near Mathoura) and in Victoria. There is a recent record of this species near Laggan in Upper Lachlan Shire.	Grows mostly in permanent swamps. The species needs wetlands which are at least moderately fertile and which have some bare ground, conditions which are produced by seasonally-fluctuating water levels. Habitats in south-western NSW include swamp margins in mud, dam and tank beds in hard clay and in semi-dry mud of lagoons with <i>Potamogeton</i> and <i>Chamaeraphis</i> species.	0	No	No suitable habitat within the study area and no local records.
<i>Caladenia actensis</i>	Canberra Spider Orchid	CE (ACT)	CE	known from two extant populations totalling approximately 250 plants with an area of occupancy of approximately five hectares on the lower western slope of Mt	It grows in the transitional zone between woodland and forest, with grasses and small shrubs, often amongst rocks. As with other caladenias, this orchid requires a	0	No	No suitable habitat within the study area and outside known population distribution.

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Records (10 km)	Likelihood of occurrence	Comments
				Ainslie (approximately 30 plants) and Mt Majura (approximately 220 plants), in the Canberra Nature Park.	mycorrhizal association, in this case with the fungus <i>Sebacina vermifera</i> .			
<i>Calotis glandulosa</i>	Mauve Burr-daisy	V	V	Locally it is known from the Moonbah area.	This species appears to be a colonizer of bare patches and occurs, often on roadsides, in the subalpine habitats of the Australian Alps. The species is also known from montane grasslands dominated by <i>Poa</i> species, Natural Temperate Grassland dominated by Kangaroo Grass, and Snow Gum Woodlands in the Monaro and Shoalhaven regions.	0	No	No suitable habitat, outside known distribution and no local records.
<i>Dodonea procumbens</i>	Trailing Hop-bush	V	V	Creeping Hop-bush is found in the dry areas of the Monaro, between Michelago and Dalgety. Here it occurs mostly in Natural Temperate Grassland or Snow Gum <i>Eucalyptus pauciflora</i> Woodland.	Occupying Natural Temperate Grassland or fringing eucalypt woodland of Snow Gum (<i>E. pauciflora</i>). The species prefers open bare patches where little competition is present.	0	No	No suitable habitat, outside known distribution and no local records.
<i>Eucalyptus aggregata</i>	Black Gum	V	V	Black Gum is found in the NSW Central and Southern Tablelands, with small, isolated populations in Victoria and the ACT. In NSW it occurs in the Southeastern Highlands Bioregion and on the western fringe of the Sydney Basin Bioregion.	Grows on alluvial soils, on cold, poorly-drained flats and hollows adjacent to creeks and small rivers. Often grows with other cold-adapted eucalypts, such as Snow Gum or White Sallee (<i>E. pauciflora</i>), Manna or Ribbon Gum (<i>E. viminalis</i>), Candlebark (<i>E. rubida</i>),	0	No	Not identified on site. No local records of this species.

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Records (10 km)	Likelihood of occurrence	Comments
					Black Sallee (<i>E. stellulata</i>) and Swamp Gum (<i>E. ovata</i>) Black Gum. Usually occurs in an open woodland formation with a grassy ground layer dominated either by River Tussock (<i>Poa labillardierei</i>) or Kangaroo Grass (<i>Themeda australis</i>), but with few shrubs. Also occurs as isolated paddock trees in modified native or exotic pastures.			
<i>Lepidium aschersonii</i>	Spiny Peppercress	V	V	Not widespread, occurring in the marginal central-western slopes and north-western plains regions of NSW (and potentially the southwestern plains). Also known from the West Wyalong in the south of the State.	Found on ridges of gilgai clays dominated by <i>Acacia harpophylla</i> , <i>Casuarina cristata</i> , <i>Allocasuarina luehmanii</i> (Bulloak) and <i>Eucalyptus macrocarpa</i> (Inland Grey Box).	0	No	No suitable habitat and no local records for this species.
<i>Lepidium ginninderrense</i>	Ginninderra Peppercress	CE (ACT)	CE	The Ginninderra Peppercress is not known to occur outside the ACT. It has a very restricted distribution occurring only in the north-west corner of the Belconnen Naval Transmission Station in the suburb of Lawson in the Australian Capital Territory. The current extent of occurrence and area of occupancy is 0.0027km ² .	Restricted to natural temperate grassland on the flood plain of Ginninderra Creek in the ACT.	0	No	No suitable habitat, outside known distribution and no local records.
<i>Lepidium hyssopifolium</i>	Basalt Pepper-cress	E	E	In NSW, there is a small population near Bathurst, one	The species was known to have occurred in both woodland with a	0	Unlikely	Small amount of Grassland present which is marginally suitable for the species. The

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Records (10 km)	Likelihood of occurrence	Comments
				population at Bungendore, and one near Crookwell.	grassy understorey and in grassland.			species was not detected within the study area and there are no local records.
<i>Leucochrysum albicans</i> subsp. <i>tricolor</i>	Hoary Sunray	E	E	Endemic to south-eastern Australia, where it is currently known from three geographically separate areas in Tasmania, Victoria and south-eastern NSW and ACT. In NSW it currently occurs on the Southern Tablelands adjacent areas in an area roughly bounded by Albury, Bega and Goulburn, with a few scattered localities known from beyond this region.	Occurs in a wide variety of grassland, woodland and forest habitats, generally on relatively heavy soils. Can occur in modified habitats such as semi-urban areas and roadsides. Highly dependent on the presence of bare ground for germination. In some areas, disturbance is required for successful establishment.	5	Possible	Some possible habitat present within the road reserve north of the subject land, which is mapped as a degraded form of PCT 3747. This species is associated with PCT 3747, known from the locality and can occur within disturbed areas such as road reserves. Targeted spring surveys are recommended in Section 6.
<i>Pomaderris pallida</i>	Pale Pomaderris	V	V	Pale Pomaderris has been recorded from near Kydra Trig (north-west of Nimmitabel), Tinderry Nature Reserve, the Queanbeyan River (near Queanbeyan), the Shoalhaven River (between Bungonia and Warri), the Murrumbidgee River west of the ACT and in Kosciuszko National Park. It is also found along the Murrumbidgee River in the ACT and has been recently recorded in eastern Victoria.	This species usually grows in shrub communities surrounded by Brittle Gum and Red Stringybark or <i>Callitris</i> spp. woodland.	0	Unlikely	Brittle gum present in the subject land and in adjacent properties however none in the study area. No shrub layer present making habitat unsuitable. No local records.

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Records (10 km)	Likelihood of occurrence	Comments
<i>Prasophyllum petilum</i>	Tarengo Leek Orchid	E	E	Four sites in NSW: at Boorowa, Captains Flat, Ilford and Delegate. Also experimentally introduced at Bowning Cemetery NSW.	Found in Temperate Grassland at the Boorowa and Delegate sites. Also grows in grassy woodland in association with River Tussock <i>Poa labillardieri</i> , Black Gum <i>E. aggregata</i> and tea-trees <i>Leptospermum</i> spp. near Queanbeyan and within the grassy ground layer dominated by Kangaroo Grass under Box-Gum Woodland at Ilford (and Hall, ACT).	0	Unlikely	No suitable habitat within the study area and no local records of this species.
<i>Rutidosia leptorhynchoides</i>	Button Wrinklewort	E	E	Local populations at Goulburn, the Canberra - Queanbeyan area, Bredbo, north of Captains Flat and Michelago. Other populations occur in Victoria.	Occurs in Box-Gum Woodland, secondary grassland derived from Box-Gum Woodland or in Natural Temperate Grassland; and often in the ecotone between the two communities. Grows on soils that are usually shallow, stony red-brown clay loams; tends to occupy areas where there is relatively less competition from herbaceous species.	0	Unlikely	No suitable habitat within the study area, which is heavily modified and dominated by pasture grasses. No local records.
<i>Senecio macrocarpus</i>	Large-fruit Fireweed	-	V	One population has been discovered near Gundaroo, NSW with other populations found in more abundance in Yorke Peninsula western SA and across to Victoria between Wimmera and Melbourne.	NSW populations occur in partly cleared dry forests and box-gum woodlands which transition to Brittle Gum Forest with a relatively undisturbed understorey of native grasses, forbs and subshrubs.	0	No	No suitable habitat was present within the study area, no local records.

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Records (10 km)	Likelihood of occurrence	Comments
<i>Swainsona recta</i>	Small Purple-pea	E	E	Queanbeyan and Wellington-Mudgee areas. Historically also recorded at Carcoar, Culcairn and Wagga Wagga.	Grassland, open woodland and open forests dominated by <i>E. blakelyi</i> , <i>E. melliodora</i> (Yellow Box), <i>E. rubida</i> (Candlebark Gum) and <i>E. goniocalyx</i> (Long-leaf Box).	0	No	No suitable habitat was present within the study area, no local records.
<i>Swainsona sericea</i>	Silky Swainson-pea	V	-	Recorded from the Northern Tablelands to the Southern Tablelands and further inland on the slopes and plains. There is one isolated record from the far north-west of NSW. Its stronghold is on the Monaro.	Found in Box-Gum Woodland in the Southern Tablelands and Southwest Slopes.	22	Unlikely	Some marginal habitat present, however it is heavily modified and grazed. The grassland present is dominated by exotic pasture grasses. Numerous records occur nearby in higher quality woodland.
<i>Thesium australe</i>	Austral Toadflax	V	V	Grows at high elevations between 1,300-1,800 m above sea level in open shrubland and snow-gum woodland. It grows in open areas and along little used tracks in rocky soil next to plants such as Snow gums and Shaggy-pea shrubs.	Occurs at high altitude sites in heathland and woodland. Prefers open areas in rocky soil, is often an early coloniser of disturbed areas.	0	No.	No suitable habitat present and no local records.

Fauna

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Records (10 km)	Likelihood of occurrence	Comments
AMPHIBIA								
<i>Litoria aurea</i>	Green and Golden Bell Frog	E	V	Since 1990 there have been approximately 50 recorded locations in NSW, most of which are small, coastal, or near coastal populations. These locations occur over the species' former range, however they are widely separated and isolated. Large populations in NSW are located around the metropolitan areas of Sydney, Shoalhaven and mid north coast (one an island population). There is only one known population on the NSW Southern Tablelands.	Amongst emergent aquatic or riparian vegetation and amongst vegetation, fallen timber adjacent to and within 500m of breeding habitat, including grassland, cropland and modified pastures. Inhabits marshes, dams and stream-sides, particularly those containing bullrushes (<i>Typha</i> spp.) or spikerushes (<i>Eleocharis</i> spp.).	1	Unlikely	Marginally suitable habitat present in the study area in the form of farm dams, however, only one local record of this species from 1976.
<i>Litoria castanea</i>	Yellow-spotted Tree Frog	CE	CE	This species occurred in two separate highland ranges: on the New England Tableland, and on the southern and central tablelands from Bathurst to Bombala.	Requires large permanent ponds or slow-moving streams with ponds. Adult frogs will move through grassy banks and requiring aquatic vegetation to lay eggs.	0	No	Some marginally suitable habitat present in the form of farm dams, however no local records and outside of known distribution.
<i>Litoria raniformis</i>	Southern Bell Frog	E	V	In NSW the species was once distributed along the Murray and Murrumbidgee Rivers and their tributaries, the southern slopes of the Monaro district and the central southern tablelands as far north as Tarana, near Bathurst. Currently, the species is known to exist in isolated	Usually found in or around permanent or ephemeral Black Box/Lignum/Nitre Goosefoot swamps, Lignum/Typha swamps and River Red Gum swamps or billabongs along floodplains and river valleys. They are also found in irrigated rice crops, particularly where there is no available natural habitat. During the	0	No	No suitable habitat within the study area and no local records.

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Records (10 km)	Likelihood of occurrence	Comments
				populations in the Coleambally Irrigation Area, the Lowbidgee floodplain and around Lake Victoria. A large population is also present in the Murray Irrigation Area.	breeding season animals are found floating amongst aquatic vegetation (especially cumbungi or Common Reeds) within or at the edge of slow-moving streams, marshes, lagoons, lakes, farm dams and rice crops. Outside the breeding season animals disperse away from the water and take shelter beneath ground debris such as fallen timber and bark, rocks, grass clumps and in deep soil cracks.			

AVES

<i>Anthochaera phrygia</i>	Regent Honeyeater	CE	CE	Inland slopes of south-east Australia, and less frequently in coastal areas. In NSW, most records are from the North-West Plains, North-West and South-West Slopes, Northern Tablelands, Central Tablelands and Southern Tablelands regions.	The species inhabits dry open forest and woodland, particularly Box-Ironbark woodland, and riparian forests of River Sheoak. Regent Honeyeaters inhabit woodlands that support a significantly high abundance and species richness of bird species. These woodlands have significantly large numbers of mature trees, high canopy cover and abundance of mistletoes.	3	Unlikely	No suitable woodland habitat was present within the study area, only 3 local records.
----------------------------	-------------------	----	----	--	--	---	----------	---

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Records (10 km)	Likelihood of occurrence	Comments
<i>Aphelocephala leucopsis</i>	Southern Whiteface	V	V	occur across most of mainland Australia south of the tropics, from the north-eastern edge of the Western Australian wheatbelt, east to the Great Dividing Range	Live in a wide range of open woodlands and shrublands where there is an understorey of grasses or shrubs, or both. These areas are usually in habitats dominated by acacias or eucalypts on ranges, foothills and lowlands, and plains. Southern whiteface forage almost exclusively on the ground, favouring habitat with low tree densities and an herbaceous understorey litter cover.	9	Unlikely	No woodland habitat within the study area and local records are from 1986 - 1989. Ground cover is dominated by exotic pasture grasses.
<i>Apus pacificus</i>	Fork-tailed Swift	-	M	Recorded in all regions of NSW; aerial forages over a wide range of habitat types.	Riparian woodland, swamps, low scrub, heathland, saltmarsh, grassland, Spinifex sandplains, open farmland and inland and coastal sand-dunes.	0	Potential	Potential for aerial foraging above the study area only.
<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	V	-	Widespread in eastern, southern and southwestern Australia. The species occurs throughout most of New South Wales, but is sparsely scattered in, or largely absent from, much of the upper western region.	Primarily inhabit dry, open eucalypt forests and woodlands, including mallee associations, with an open or sparse understorey of eucalypt saplings, acacias and other shrubs, and groundcover of grasses or sedges and fallen woody debris. It has also been recorded in shrublands, heathlands and very occasionally in moist forest or rainforest. Also found in farmland,	13	Potential	Suitable habitat in the study area and numerous nearby records.

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Records (10 km)	Likelihood of occurrence	Comments
					usually at the edges of forest or woodland.			
<i>Botaurus poiciloptilus</i>	Australasian Bittern	V	E	Australasian Bitterns are widespread but uncommon over south-eastern Australia. In NSW they may be found over most of the state except for the far north-west.	Terrestrial wetlands with tall dense vegetation, occasionally estuarine habitats. Reedbeds, swamps, streams, estuaries. Favours permanent freshwater wetlands with tall, dense vegetation, particularly bullrushes (<i>Typha</i> spp.) and spike rushes (<i>Eleocharis</i> spp.)	0	No	No suitable habitat in the study area and no local records of this species.
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	-	V	Summer migrant. Widespread in most regions of NSW, especially in coastal areas, but sparse in the south-central Western Plain and east Lower Western Regions.	Shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation.	0	No	No suitable habitat in the study area and no local records of this species.
<i>Calidris ferruginea</i>	Curlew Sandpiper	E	CE	Occurs along the entire coast of NSW, and sometimes in freshwater wetlands in the Murray-Darling Basin.	Littoral and estuarine habitats, including intertidal mudflats, non-tidal swamps, lakes and lagoons on the coast and sometimes inland.	0	No	No suitable habitat in the study area and no local records of this species.
<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo	E	E	In NSW, distributed from the south-east coast to the Hunter region, and inland to the Central Tablelands and south-west slopes. Isolated records known from as far north as Coffs Harbour and as far west as Mudgee.	Tall mountain forests and woodlands in summer; in winter, may occur at lower altitudes in open eucalypt forests and woodlands, and urban areas.	1	Potential	Only one local record from 1981, however potential to forage in the area while passing through.

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Records (10 km)	Likelihood of occurrence	Comments
<i>Calyptorhynchus lathamii lathamii</i>	South-eastern Glossy Black-Cockatoo	V	V	In NSW, widespread along coast and inland to the southern tablelands and central western plains, with a small population in the Riverina.	Open forest and woodlands of the coast and the Great Dividing Range where stands of sheoak occur.	0	Unlikely	No suitable breeding or foraging habitat within the study area and no local records.
<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (eastern subspecies)	V	V	From eastern through central NSW, west to Corowa, Wagga Wagga, Temora, Forbes, Dubbo and Inverell.	Eucalypt woodlands and dry open forest.	25	Unlikely	No suitable forested habitat within the study area. many local records however, this species does not inhabit open pastureland.
<i>Daphoenositta chrysoptera</i>	Varied Sittella	V	-	Distribution includes most of mainland Australia except deserts and open grasslands.	Prefers eucalypt forests and woodlands with rough-barked species, or mature smooth-barked gums with dead branches, mallee and Acacia woodland. Feeds on arthropods from bark, dead branches, or small branches and twigs.	3	Potential	Marginal habitat in the study area. some local records as recent as 2024.
<i>Epthianura albifrons</i>	White-fronted Chat	V	-	The White-fronted Chat is found across the southern half of Australia, from southernmost Queensland to southern Tasmania, and across to Western Australia as far north as Carnarvon.	Found mostly in temperate to arid climates and very rarely sub-tropical areas, it occupies foothills and lowlands up to 1000 m above sea level. In NSW, it occurs mostly in the southern half of the state, in damp open habitats along the coast, and near waterways in the western part of the state. Along the coastline, it is found predominantly in	2	Unlikely	Marginally suitable habitat present however, unlikely to occur here as only 2 local records (2019) from approx. 3km west along the river.

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Records (10 km)	Likelihood of occurrence	Comments
					saltmarsh vegetation but also in open grasslands and sometimes in low shrubs bordering wetland areas.			
<i>Falco hypoleucos</i>	Grey Falcon	V	V	The Grey Falcon is sparsely distributed in NSW, chiefly throughout the Murray-Darling Basin, with the occasional vagrant east of the Great Dividing Range. The breeding range has contracted since the 1950s with most breeding now confined to arid parts of the range.	Usually restricted to shrubland, grassland and wooded watercourses of arid and semi-arid regions, although it is occasionally found in open woodlands near the coast. Also occurs near wetlands where surface water attracts prey. utilises old nests of other birds of prey and ravens, usually high in a living eucalypt near water or a watercourse;	0	Unlikely	No preferred hunting habitat and no local records.
<i>Gallinago hardwickii</i>	Latham's Snipe, Japanese Snipe	V	V	Latham's Snipe is a non-breeding migrant to the southeast of Australia including Tasmania, passing through the north and New Guinea on passage. Latham's Snipe breed in Japan and on the east Asian mainland.	Occurs in freshwater wetlands on or near the coast, generally among dense cover. They are found in any vegetation around wetlands, in sedges, grasses, lignum, reeds and rushes and also in saltmarsh and creek edges on migration. They also use crops and pasture.	0	No	No suitable habitat and no local records.
<i>Grantiella picta</i>	Painted Honeyeater	V	V	Widely distributed in NSW, predominantly on the inland side of the Great Dividing Range but avoiding arid areas.	Boree, Brigalow and Box-Gum Woodlands and Box-Ironbark Forests.	1	Unlikely	No suitable forested/ woodland habitat in the study area and only one local record from 2006.

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Records (10 km)	Likelihood of occurrence	Comments
<i>Hieraaetus morphnoides</i>	Little Eagle	V	-	The Little Eagle is found throughout the Australian mainland excepting the most densely forested parts of the Dividing Range escarpment. It occurs as a single population throughout NSW	Utilises open eucalypt, sheoak and acacia forest, woodland or open woodland. Uses tall trees for nesting, with a large stick nest being built. Lays eggs in spring, and young fledge in early summer. Preys on birds, reptiles and mammals, and occasionally feeds on large insects or carrion.	8	Potential	Marginal foraging habitat present, no breeding habitat.
<i>Hirundapus caudacutus</i>	White-throated Needletail	V	V/M	All coastal regions of NSW, inland to the western slopes and inland plains of the Great Divide.	Occur most often over open forest and rainforest, as well as heathland, and remnant vegetation in farmland.	0	Potential	Potential for aerial foraging above the study area only.
<i>Lathamus discolor</i>	Swift Parrot	E	CE	Migrates from Tasmania to mainland in Autumn-Winter. In NSW, the species mostly occurs on the coast and southwest slopes.	On the mainland they occur in areas where eucalypts are flowering profusely or where there is abundant lerp.	0	Unlikely	No suitable foraging habitat within the study area, and no local records.
<i>Melanodryas cucullata cucullata</i>	South-eastern Hooded Robin	E	E	Found throughout much of inland NSW, with the exception of the extreme north-west, where it is replaced by subspecies <i>picata</i> .	Prefers lightly wooded country, usually open eucalypt woodland, acacia scrub and mallee, often in or near clearings or open areas. Requires structurally diverse habitats featuring mature eucalypts, saplings, some small shrubs and a ground layer of moderately tall native grasses.	32	Potential	Suitable habitat diversity between the study area and adjacent woodland habitat. Many local records within 5 km of the study area.
<i>Motacilla flava</i>	Yellow Wagtail	-	M	Regular summer migrant to mostly coastal Australia. In NSW recorded	Swamp margins, sewage ponds, saltmarshes, playing fields, airfields, ploughed land, lawns.	0	Unlikely	No suitable habitat and no local records

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Records (10 km)	Likelihood of occurrence	Comments
				Sydney to Newcastle, the Hawkesbury and inland in the Bogan LGA.				of this migratory species.
<i>Neophema chrysostoma</i>	Blue-winged Parrot	V	V	Breed on mainland Australia south of the Great Dividing Range. During the non-breeding period, from autumn to early spring, birds are recorded from northern Victoria, eastern South Australia, south-western Queensland and western New South Wales, with some birds reaching south-eastern New South Wales and eastern Victoria, particularly on the southern migration.	Inhabit a range of habitats from coastal, sub-coastal and inland areas, through to semi-arid zones. They tend to favour grasslands and grassy woodlands and are often found near wetlands both near the coast and in semi-arid zones.	0	Unlikely	Marginally suitable habitat within and adjacent to the study area however no local records.
<i>Parvipsitta pusilla</i>	Little Lorikeet	V		The Little Lorikeet is distributed widely across the coastal and Great Divide regions of eastern Australia from Cape York to South Australia. NSW provides a large portion of the species' core habitat, with lorikeets found westward as far as Dubbo and Albury.	Forages primarily in the canopy of open Eucalyptus forest and woodland, yet also finds food in Angophora, Melaleuca and other tree species. Riparian habitats are particularly used, due to higher soil fertility and hence greater productivity. Isolated flowering trees in open country, e.g. paddocks, roadside remnants and urban trees also help sustain viable populations of the species. Nests in proximity to feeding areas, if possible, most typically selecting hollows in the limb or trunk of smooth-barked Eucalypts. Entrance is small (3 cm) and usually high above the ground (2–15 m).	1	Potential	Suitable foraging trees and hollows within the subject land.

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Records (10 km)	Likelihood of occurrence	Comments
<i>Petroica boodang</i>	Scarlet Robin	V		The Scarlet Robin is found from southeast Queensland to South Australia and also in Tasmania and southwest Western Australia. In NSW, it occurs from the coast to the inland slopes.	The Scarlet Robin lives in dry eucalypt forests and woodlands. The understorey is usually open and grassy with few scattered shrubs. This species lives in both mature and regrowth vegetation. It occasionally occurs in mallee or wet forest communities, or in wetlands and tea-tree swamps. Scarlet Robin habitat usually contains abundant logs and fallen timber.	32	Likely	Many local records within 5 km of the study area and suitable habitat present.
<i>Petroica phoenicea</i>	Flame Robin	V		The Flame Robin is endemic to southeastern Australia, and ranges from near the Queensland border to southeast South Australia and also in Tasmania. In NSW, it breeds in upland areas and in winter, many birds move to the inland slopes and plains.	Prefers clearings or areas with open understoreys, often with a ground layer of the breeding habitat is dominated by native grasses and the shrub layer may be either sparse or dense.	8	Yes	Detected in the subject land by ELA in 2017 (ELA 2020) Several local records and suitable habitat present.
<i>Polytelis swainsonii</i>	Superb Parrot	V	V	Found throughout eastern inland NSW. On the South-western Slopes their core breeding area is roughly bounded by Cowra and Yass in the east, and Grenfell, Cootamundra and Coolac in the west. Birds breeding in this region are mainly absent during winter, when they migrate north to the region of the upper Namoi and Gwydir Rivers.	Box-gum woodland, Box-Cypress-pine and Boree Woodlands and River Red Gum Forest. In the Riverina superb parrots' nest in the hollows of large trees (dead or alive) mainly in tall riparian River Red Gum Forest or woodland. On the Southwest Slopes and Southern Tablelands nest trees can be in open Box-Gum woodland or isolated living or dead paddock trees.	34	Likely	Suitable breeding hollows present and many local records.

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Records (10 km)	Likelihood of occurrence	Comments
<i>Pycnoptilus floccosus</i>	Pilotbird	V	V	Pilotbirds are endemic to south-east Australia. Upland Pilotbirds occur above 600 m in the Brindabella Ranges in the Australian Capital Territory, and in the Snowy Mountains in New South Wales and north-east Victoria	Pilotbirds are strictly terrestrial, living on the ground in dense forests with heavy undergrowth, foraging primarily for insects on damp ground or among leaf-litter. Pilotbirds have been associated with Superb Lyrebirds (<i>Menura novaehollandiae</i>), foraging in their wake as they scratch the forest floor.	0	No	No suitable habitat and no local records.
<i>Pyrholaemus sagittatus</i>	Speckled Warbler	V		The Speckled Warbler has a patchy distribution throughout south-eastern Queensland, the eastern half of NSW and into Victoria, as far west as the Grampians. The species is most frequently reported from the hills and tablelands of the Great Dividing Range, and rarely from the coast.	The Speckled Warbler lives in a wide range of Eucalyptus dominated communities that have a grassy understorey, often on rocky ridges or in gullies. Typical habitat would include scattered native tussock grasses, a sparse shrub layer, some eucalypt regrowth and an open canopy.	52	Unlikely	No suitable habitat in the study area. Large number of records however, majority are pre-1989, only 3 records occur between 2006 -2022.
<i>Rostratula australis</i>	Australian Painted Snipe	E	E	In NSW most records are from the Murray-Darling Basin. Other recent records include wetlands on the Hawkesbury River and the Clarence and lower Hunter Valleys.	Swamps, dams and nearby marshy areas.	0	Unlikely	Suitable dams in the study area however no local records and outside of known distribution.
<i>Stagonopleura guttata</i>	Diamond Firetail	V	V	Widely distributed in NSW, mainly recorded in the Northern, Central and Southern Tablelands, the Northern, Central and Southwestern Slopes and the Northwest Plains and Riverina, and less commonly found in coastal areas and further inland.	Grassy eucalypt woodlands, open forest, mallee, Natural Temperate Grassland, secondary derived grassland, riparian areas and lightly wooded farmland.	21	Potential	Marginally suitable habitat occurs in the study area. Large number of local records, most recent being 2024.

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Records (10 km)	Likelihood of occurrence	Comments
INSECTA								
<i>Keyacris scurra</i>	Key's Matchstick Grasshopper	E	E	Key's Matchstick grasshopper was originally distributed from Victoria to Orange (NSW) across the wheat/sheep belt, typically recorded in native grasslands and grassy woodland	Typically found in native grasslands and grassy woodlands but it has also been recorded in other vegetation associations usually containing a native grass understory (especially kangaroo grass <i>Themeda triandra</i>) and known food plants (particularly Asteraceae).	0	Unlikely	Heavily modified grassland is present which does not provide preferred habitat for the species. Given the predominantly exotic grassland present, lack records and the site disturbance history, the species is unlikely to occur.
<i>Synemon plana</i>	Golden Sun Moth	V	V	NSW populations are found in the area between Queanbeyan, Gunning, Young and Tumut.	Occurs in Natural Temperate Grasslands and grassy Box-Gum Woodlands in which ground layer is dominated by wallaby grasses <i>Austrodanthonia</i> spp. Grasslands dominated by Wallaby grasses are typically low and open.	156	Unlikely	Despite the high number of records in adjacent areas, there is unlikely habitat for this species in the study area as the grassland is heavily modified, predominantly exotic and frequently grazed. Key grass species are not present or not dominant.

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Records (10 km)	Likelihood of occurrence	Comments
MAMMALIA								
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	E	E	Found mainly in areas with extensive cliffs and caves, from Rockhampton in Queensland south to Bungonia in the NSW Southern Highlands. It is generally rare with a very patchy distribution in NSW. There are scattered records from the New England Tablelands and North West Slopes.	The Large-eared Pied Bat has been recorded in a variety of habitats, including dry sclerophyll forests, woodland, sub-alpine woodland, edges of rainforests and wet sclerophyll forests. This species roosts in caves, rock overhangs and disused mine shafts and as such is usually associated with rock outcrops and cliff faces. Found in well-timbered areas containing gullies.	0	No	No suitable habitat within or nearby (caves, rocky outcrops etc) and no local records.
<i>Dasyurus maculatus maculatus</i>	Spot-tailed Quoll		E	Found in eastern NSW, eastern Victoria, south-east and north-eastern Queensland, and Tasmania.	Has been recorded in rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline. This species uses hollow-bearing trees, fallen logs, other animal burrows, small caves and rock outcrops as den sites.	0	No	No suitable habitat is present within the study area, no local records.
<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	V	-	South-east coast and ranges of Australia, from southern Qld to Victoria and Tasmania. In NSW, records extend to the western slopes of the Great Dividing Range.	Prefers tall (greater than 20m) moist habitats, however, is known to utilise habitat in dry sclerophyll forests.	0	Potential	The species may roost in the hollow-bearing trees present.

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Records (10 km)	Likelihood of occurrence	Comments
<i>Miniopterus orianae oceanensis</i>	Large Bent-winged Bat	V		Large Bent-winged-bats occur along the east and north-west coasts of Australia.	Associated with a range of habitats such as rainforest, wet and dry sclerophyll forest, monsoon forest, open woodland, paperbark forests and open grassland. It forages above and below the tree canopy on small insects. Will utilise caves, old mines, and stormwater channels, under bridges and occasionally buildings for shelter.	2	Potential	The species may forage within the subject land from time to time and may roost in the hollow-bearing trees present.
<i>Myotis macropus</i>	Southern Myotis	V	-	Found in a coastal band in eastern Australia, rarely more than 100 km inland except along major rivers. This species was recorded by ELA (2016) in a property immediately over Sutton Road, adjacent to a dam.	Generally roosts in groups of 10-15 close to water, in caves, hollow-bearing trees, mine shafts, buildings and dense foliage.	0	Potential	The hollow-bearing trees and dams provide potential habitat for this species.
<i>Petaurus australis australis</i>	Yellow-bellied Glider (south-eastern)	V	V	The Yellow-bellied Glider is found along the eastern coast to the western slopes of the Great Dividing Range, from southern Queensland to Victoria.	This species is restricted to tall mature forests, preferring productive tall open sclerophyll forests with a mosaic of tree species including some that flower in winter. Large hollows within mature trees are required for shelter, nesting and breeding. The study area does not provide suitable habitat for this species.	0	No	No suitable habitat for this species and no local records.
<i>Phascolarctos cinereus</i>	Koala	E	E	In New South Wales, koala populations are found on the central and north coasts, southern highlands, southern and northern tablelands, Blue Mountains, southern coastal forests, with some smaller	Eucalypt woodlands and forests.	2	Unlikely	Only 2 local records (2000 and 2023) and very few suitable Eucalypt species in the subject land.

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Records (10 km)	Likelihood of occurrence	Comments
				populations on the plains west of the Great Dividing Range.				
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	V	Along the eastern coast of Australia, from Bundaberg in Qld to Melbourne in Victoria.	Subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths, and swamps as well as urban gardens and cultivated fruit crops.	1	Unlikely	Very little to no foraging or roosting habitat for this species.
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheathtail-bat	V	-	Wide ranging species found across northern and eastern Australia. This species was positively identified by ELA (2016) in ridgetop dry sclerophyll forest habitat in a property immediately across Sutton Road.	Roosts in tree hollows and buildings; in treeless areas, can occupy mammal burrows. Forages in most habitats across its range, including treeless areas.	0	Potential	The subject land supports foraging and potential roosting habitat for this species.
REPTILIA								
<i>Aprasia parapulchella</i>	Pink-tailed Worm-lizard	V	V	Primarily known from the Central and Southern Tablelands and the South Western Slopes, with a confirmed outlier record on the Hay Plains north of Hay. There is a concentration of populations in the Canberra/Queanbeyan Region. Other populations have been recorded near Cooma, Yass, Bathurst, Albury and West Wyalong. This species is also found in the Australian Capital Territory.	Inhabits sloping, open woodland areas with predominantly native grassy ground layers, particularly those dominated by Kangaroo Grass (<i>Themeda australis</i>). Commonly found beneath small, partially-embedded rocks and appear to spend considerable time in burrows below these rocks; the burrows have been constructed by and are often still inhabited by small black ants and termites.	0	Unlikely	Deeply embedded rock in the study area does not provide suitable habitat and highly modified grassland and rural use further suggests unsuitable habitat. No local records.

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution	Habitat	Records (10 km)	Likelihood of occurrence	Comments
<i>Delma impar</i>	Striped Legless Lizard	V	V	Occurs in the Southern Tablelands, the Southwest Slopes and Upper Hunter. Populations are known in the Goulburn, Yass, Queanbeyan, Cooma, Muswellbrook and Tumut areas. Also occurs in the ACT, Victoria and south-eastern South Australia.	Found mainly in Natural Temperate Grassland but has also been captured in grasslands that have a high exotic component. Also found in secondary grassland near Natural Temperate Grassland and occasionally in open Box-Gum Woodland. Habitat is where grassland is dominated by perennial, tussock-forming grasses such as <i>T. australis</i> , spear-grasses (<i>Austrostipa</i> spp.). Sometimes present in modified grasslands with a significant content of exotic grasses.	0	Unlikely	Marginally suitable habitat for this species in the study area, however no local records.
<i>Tympanocryptis lineata</i>	Canberra Grassland Earless Dragon	CE	CE	Historically, the Grassland Earless Dragon ranged from Bathurst to Cooma, including the ACT region. The only populations now known are in the ACT and adjacent NSW at Queanbeyan, and on the Monaro Basalt Plains between Cooma and south-west of Nimmitabel.	Restricted to a small number of Natural Temperate Grassland sites dominated by wallaby grasses (<i>Nothodanthonia</i> spp.), spear grasses (<i>Austrostipa</i> spp.), Poa Tussock (<i>Poa sieberiana</i>), Red Grass (<i>Bothriochloa macra</i>), and occasionally Kangaroo Grass (<i>Themeda australis</i>). Within its habitat, apparently prefers areas with a more open structure, characterised by small patches of bare ground between the grasses and herbs. In addition to tussocks, partially embedded surface rocks, and spider and insect holes are used for shelter. These are important micro-habitat elements within the grassland habitat. Rocks and arthropod holes provide important thermal refuges during temperature extremes.	0	Unlikely	Some embedded rock found in the study area however no suitable native grassland habitat for this species. No local records.

Appendix D Test of Significance for BC Act listed entities

The 'Test of significance' (5-part test) is applied to species, populations and ecological communities listed on Schedules 1 and 2 of the BC Act and Schedules 4, 4A and 5 of the FM Act. The assessment sets out 5 factors, which when considered, allow proponents to undertake a qualitative analysis of the likely impacts of an action and to determine whether a significant impact is likely. All factors must be considered, and an overall conclusion made based on all factors in combination.

Information about species/ communities has been primarily obtained from the OEH save our species profiles (OEH 2022), relevant 'Approved conservation advice' reports (DCCEEW 2023a; DCCEEW 2023b), National recovery plans (Baker-Gabb 2011), and 'NSW Scientific Committee Review of Current Information' Reports (NSW Scientific Committee 2008) where an approved conservation advice report has not been developed.

The 'Test of significance' (5-part test) has been applied to the following entities:

Microbats

- *Falsistrellus tasmaniensis* (Eastern False Pipistrelle)
- *Miniopterus schreibersii oceanensis* (Large Bent-winged Bat)
- *Myotis macropus* (Southern Myotis)
- *Saccolaimus flaviventris* (Yellow-bellied Sheath-tail-bat)

Birds

- *Callocephalon fimbriatum* (Gang-gang Cockatoo)
- *Hieraaetus morphnoides* (Little Eagle)
- *Polytelis swainsonii* (Superb Parrot)
- *Glossopsitta pusilla* (Little Lorikeet)

Woodland Birds

- *Artamus cyanopterus cyanopterus* (Dusky Woodswallow)
- *Daphoenositta chrysoptera* (Varied Sittella)
- *Melanodryas cucullata cucullata* (Hooded Robin)
- *Petroica boodang* (Scarlet Robin)
- *Petroica phoenicea* (Flame Robin)
- *Stagonopleura guttata* (Diamond Firetail)

Microbats

Eastern False Pipistrelle, Large Bent-winged Bat, Southern Myotis and Yellow-bellied Sheathtail-bat

The **Eastern False Pipistrelle** is a relatively large microchiropteran bat, weighing up to 28 grams. It is found on the south-east coast and ranged of Australia, from Queensland to Victoria and Tasmania. It prefers moist habitats, with trees taller than 20 m, and generally roosts in tree hollows but has also been found under loose tree bark or in buildings. It forages on beetles, moths and other insects above or just below the tree canopy.

The **Large Bent-winged Bat** is thought to roost primarily in culverts, caves, pipes and other similar structures and breeds in substantial cave structures, however it has also been recorded to roost in tree hollows. It forages in open forest to woodland.

The **Southern Myotis** generally roosts in structures such as caves, hollow-bearing trees, and storm water channels near water. It forages over streams and pools, catching insects and small fish.

The **Yellow-bellied Sheathtail-bat** roosts in tree hollows and buildings. The species forages across a wide range of habitats, including treeless areas.

Table 5: Test of Significance (BC Act) for threatened Microbats

BC Act	Question	Response
a)	In the case of a threatened species: whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction	<p>A key stage in the species' life cycle is breeding, which takes place in late spring to early summer (as early as November for the Southern Myotis, and as late as March for the Yellow-bellied Sheathtail-bat). The main roosting and breeding habitat for the Large Bent-winged Bat is caves and similar structures, while the Eastern False Pipistrelle, Southern Myotis and Yellow-bellied Sheathtail-bat breed in the roosting structures mentioned above, including HBTs.</p> <p>The open grassland within the study area provides marginal foraging habitat for these microbat species. In addition, the pools and farm dams on the property provide potential foraging habitat for the Southern Myotis. The hollow-bearing trees may provide roosting habitat for the Southern Myotis and Yellow-bellied Sheathtail-bat. However, no trees will be removed as part of the proposal.</p> <p>No caves, culverts or other potential maternity roosting structures for the Large Bent-winged Bat are present within the study area.</p> <p>Given the limited extent of native vegetation removal (0.08 ha), the fact that the majority of vegetation to be removed is exotic pasture, and that no potential roosting habitat will be removed: the proposed action is unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.</p>
b) i	In the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:	Not applicable.

BC Act	Question	Response
	Is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or	
b) ii	In the case of an endangered ecological community or critically endangered ecological community: Whether the proposed activity or activity is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction.	Not applicable.
c) i	In relation to the habitat of a threatened species or ecological community: The extent to which habitat is likely to be removed or modified as a result of the proposed activity or activity	The potential habitat to be modified consists of up to 12.03 ha of exotic pasture and 0.08 ha of PCT 3747. The proposed action will not directly impact preferred or high-quality foraging or roosting habitat for these species, as no open forest or woodland canopy or potential roosting structures are to be cleared
c) ii	In relation to the habitat of a threatened species or ecological community: Whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed activity or activity	The proposed action will not fragment an area of potential foraging or roosting habitat for this species, as no open forest or woodland canopy is to be cleared, and due to the highly mobile nature of these species (no barriers to movement will be created).
c) iii	In relation to the habitat of a threatened species or ecological community: The importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality.	The potential habitat to be modified consists of up to 12.03 ha of exotic pasture and 0.08 ha of PCT 3747. However, the 0.08 ha of PCT 3747 is highly fragmented, degraded and located at the margins of the subject land, adjacent to existing roads and surrounded by exotic pasture. This ground cover vegetation is not considered important habitat for these species.
d)	Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly).	No areas of outstanding biodiversity value occur in the study area.
e)	Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.	The proposed action will result in the clearing of 0.08 ha of degraded PCT 3747. This broadly meets the definition of the Key Threatening Process (KTP) 'Clearing of native vegetation'. However, the limited extent of clearing, low quality of potential habitat to be affected, and the fact it is unlikely to be allowed to regenerate under permissible land uses means that it is not considered a significant impact.

BC Act	Question	Response
Conclusion	Is there likely to be a significant impact?	No the action proposed is not considered likely to have a significant impact on the Eastern False Pipistrelle, Large Bent-winged Bat, Southern Myotis or Yellow-bellied Sheath-tail-bat.

Birds

Gang-gang Cockatoo, Little Eagle, Superb Parrot and Little Lorikeet

The **Gang-gang Cockatoo** is distributed from southern Victoria through south and central-east NSW. In summer it occupies tall montane forests and woodlands, however it may also occur in sub-alpine Snow Gum woodland and occasionally temperate rainforests. In winter, the species occurs at lower altitudes in drier, more open eucalypt forests, particularly box-ironbark assemblages. They favour old-growth forests and woodlands for nesting; nests occur in hollows of 10 cm diameter or greater, at least 9 m above the ground.

The **Little Eagle** is found throughout mainland Australia, with the exception of the most densely forested parts of the Great Dividing Range escarpment. It occupies open eucalypt forest and woodland, nesting in tall living trees within a remnant patch where it builds a large stick nest in winter.

The **Superb Parrot** is found throughout eastern inland NSW, with core breeding habitat bounded by Cowra and Yass in the east. Birds breeding within this area migrate north during winter. The species inhabits Box Gum woodland (amongst other habitat types), and nests in hollow-bearing trees (including paddock trees).

The **Little Lorikeet** is associated with eucalypt forest and woodland, foraging on nectar and pollen in the canopy. It favours more fertile sites such as riparian areas. This species can also forage in flowering trees in open country, such as paddock trees. It nests from May to September in proximity to feeding areas, and roosts in the treetops.

Table 6: Test of Significance (BC Act) for threatened birds

BC Act	Question	Response
a)	In the case of a threatened species: whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction	<p>A key stage in the life cycle of these species is breeding. The Gang-gang Cockatoo favours old-growth forests and woodlands for nesting; nests occur in hollows of 10 cm diameter or greater, at least 9 m above the ground. As described above, the Little Eagle nests during winter, building a large stick nest in tall trees within remnant native vegetation. The Superb Parrot breeds between September and January, nesting in box gum woodland or paddock trees (on the tablelands and south-west slopes), the little lorikeet can utilise smaller hollows and is known to use paddock trees.</p> <p>No habitat suitable for Gang-gang Cockatoo or Little Eagle nest sites is present within the study area. Paddock trees contain hollows suitable for Superb Parrot and Little Lorikeet nesting, however these will be retained and do not occur close to proposed dwellings.</p> <p>As such, the action proposed is unlikely to have an adverse effect on the life cycle of these species such as a viable local population is likely to be placed at risk of extinction.</p>
b) i	In the case of an endangered ecological community or critically	Not applicable.

BC Act	Question	Response
	<p>endangered ecological community, whether the proposed development or activity:</p> <p>Is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or</p>	
b) ii	<p>In the case of an endangered ecological community or critically endangered ecological community:</p> <p>Whether the proposed development or activity is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction.</p>	Not applicable.
c) i	<p>In relation to the habitat of a threatened species or ecological community:</p> <p>The extent to which habitat is likely to be removed or modified as a result of the proposed activity or activity</p>	The potential habitat to be modified consists of up to 12.03 ha of exotic pasture and 0.08 ha of PCT 3747. These species may move throughout this area however this habitat does not contain breeding habitat and only contains marginal foraging habitat. The proposal will impact upon native and exotic grasslands and ground cover which are unlikely to support important foraging habitat for any of these species.
c) ii	<p>In relation to the habitat of a threatened species or ecological community:</p> <p>Whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed activity or activity</p>	The habitat to be affected is already within a highly fragmented landscape, the very small amount of marginal habitat to be removed will not increase this fragmentation beyond its current state. The proposed activity will not hinder access to resources in the landscape.
c) iii	<p>In relation to the habitat of a threatened species or ecological community:</p> <p>The importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality.</p>	No potential nesting habitat or important foraging habitat will be removed for any of these species. This, combined with their highly mobile nature and the presence of higher quality, larger patches of remnant woodland and open forest within the surrounding landscape, means that the habitat to be affected is unlikely to be important to the long-term survival of these species in the locality.
d)	Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly).	No areas of outstanding biodiversity value occur in the study area.
e)	Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.	The proposed action will result in the clearing of 0.08 ha of degraded PCT 3747. This broadly meets the definition of the Key Threatening Process (KTP) 'Clearing of native vegetation'. However, the limited extent of clearing, low quality of potential habitat to be affected, and the fact it is unlikely to be allowed to regenerate under permissible land uses means that it is not considered a significant impact.
Conclusion	Is there likely to be a significant impact?	No, the proposal is not considered likely to have a significant impact on the Gang-gang Cockatoo, Little Eagle, Superb Parrot or Little Lorikeet.

Woodland Birds

Dusky Woodswallow, Varied Sittella, Hooded Robin, Scarlet Robin, Flame Robin and Diamond Firetail

This **Dusky Woodswallow** is widespread from the coast to inland NSW, including the western slopes of the Great Dividing Range. It prefers woodlands and dry open sclerophyll eucalypt forests, generally with a sparse shrub understorey and a ground cover consisting of grasses, sedges or open ground with woody debris. They are also found in farmland or roadside remnants. It feeds primarily on invertebrates, and occasionally on nectar, fruit and seeds (OEH 2022).

The **Diamond Firetail** can be found in grassy eucalypt woodlands, including Box-Gum Woodlands. This species can also be found in open forest, mallee, riparian vegetation, and grasslands. This species is often seen in flocks of between five to forty birds. It is a ground feeder, feeding on ripe and partly ripe grass, herb seeds, green leaves, and on insects. It nests in dense shrubs or in tree canopy (DCCEEW 2023b).

The **Varied Sittella** distribution includes most of mainland Australia except deserts and open grasslands. It prefers eucalypt forests and woodlands with rough-barked species, or mature smooth-barked gums with dead branches, mallee and *Acacia* spp. woodland and feeds on arthropods from bark, dead branches, or small branches and twigs. It nests in a small cup built onto a branch or peeling bark (OEH 2022).

The **Hooded Robin** is associated with a wide range of eucalypt woodlands, shrubland and open forests. In temperate woodlands, the species favours open areas adjoining large woodland blocks, with areas of dead timber and sparse shrub cover. The Hooded Robin home ranges are relatively large, averaging 18 ha for birds from the New England Tableland (DCCEEW 2023a).

During autumn and winter the **Scarlet Robin** migrates from higher altitudes to the eastern edges of the inland plains. They inhabit dry eucalypt forests and woodlands with an open grassy understorey with few scattered shrubs. Abundant logs and fallen timber are important components of its habitat (OEH 2022).

The **Flame Robin** breeds in upland tall moist eucalypt forests and woodlands, often on ridges and slopes, in NSW. The Flame Robin prefers woodland edge clearings or areas with open understorey and grassy ground layer for nesting. It will often occur in recently burnt areas. Abundant logs and fallen timber are important components of its habitat. Many birds move to the inland slopes and plains in winter, or to drier more open habitats in the lowlands (OEH 2022).

Table 7: Test of Significance (BC Act) for threatened woodland birds

BC Act	Question	Response
a)	In the case of a threatened species: whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction	The vegetation within the study area provides potential foraging habitat for these species, with the paddock trees providing marginal potential breeding habitat for the Dusky Woodswallow, Diamond Firetail, Varied Sittella and Hooded Robin. However, the vegetation to be removed (12.03 ha exotic pasture and 0.08 ha PCT 3747) does not support potential breeding habitat for these species as they all nest in shrub or tree canopies, or structures such as large woody debris/hollow stumps or rock/built ledges. Furthermore, the wider subject land should largely retain its current values post-development. The relatively small area and highly degraded condition of the vegetation to be removed/modified, and the availability of higher quality foraging and breeding habitat in the broader landscape, means that the action proposed is unlikely to result in a local

BC Act	Question	Response
		<p>population of any of these species being placed at risk of extinction.</p> <p>As such, the action proposed is unlikely to affect breeding, or the life cycle, of these species such that a viable local population is likely to be placed at risk of extinction.</p>
b) i	<p>In the case of an endangered ecological community or critically endangered ecological community, whether the proposed activity or activity:</p> <p>Is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or</p>	Not applicable.
b) ii	<p>In the case of an endangered ecological community or critically endangered ecological community:</p> <p>Whether the proposed activity or activity is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction.</p>	Not applicable.
c) i	<p>In relation to the habitat of a threatened species or ecological community:</p> <p>The extent to which habitat is likely to be removed or modified as a result of the proposed activity or activity</p>	<p>The potential habitat to be modified consists of up to 12.03 ha of exotic pasture and 0.08 ha of PCT 3747. This may support marginal foraging habitat for ground foraging species (Flame Robin, Scarlet Robin, Diamond Firetail and to a lesser extent Dusky Woodswallow). However, this habitat is highly degraded vegetation that is already subject to agricultural activities (grazing, slashing and pasture improvement) and is not considered important habitat for these species.</p> <p>Some of the species are highly mobile, while others may be limited by large gaps between remnants. Given current open space, these birds are likely to have similar potential to occur on the subject land post-development.</p>
c) ii	<p>In relation to the habitat of a threatened species or ecological community:</p> <p>Whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed activity or activity</p>	<p>The habitat to be affected already occurs in a highly fragmented landscape and the very small amount of marginal habitat to be removed will not increase this fragmentation beyond its current state. The proposed activity will not hinder access to resources in the wider landscape.</p>
c) iii	<p>In relation to the habitat of a threatened species or ecological community:</p> <p>The importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality.</p>	<p>Given the large extent of similar grassland habitat in the locality (immediately adjoining the study area), the known occurrence of higher quality native grassland and grassy woodland habitat in the broader landscape, the action proposed is not considered likely to affect habitat important for the long-term survival of the species in the locality.</p>
d)	Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding	No areas of outstanding biodiversity value occur in the study area.

BC Act	Question	Response
	biodiversity value (either directly or indirectly).	
e)	Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.	The proposed action will result in the clearing of 0.08 ha of degraded PCT 3747. This broadly meets the definition of the Key Threatening Process (KTP) 'Clearing of native vegetation'. However, the limited extent of clearing, low quality of potential habitat to be affected, and the fact it is unlikely to be allowed to regenerate under permissible land uses means that is not considered a significant impact.
Conclusion	Is there likely to be a significant impact?	No, the proposed works are unlikely to have a significant impact on these threatened woodland bird species.

Appendix E Assessment of Significance for EPBC Act listed species

The EPBC Act establishes a process for assessing the environmental impact of activities and developments where Matters of National Environmental Significance (MNES) may be affected. Under the Act, any action which 'has, will have, or is likely to have a significant impact on a matter of MNES' is defined as a controlled action, and requires approval from the DEECCW.

The process includes undertaking an Assessment of Significance for listed threatened species and ecological communities that represent a matter of MNES that will be affected as a result of the proposed action. Significant impact guidelines that outline several criteria have been developed by the Commonwealth of Australia (DoE 2013), to provide assistance in conducting the Assessment and help decide whether or not a referral to the Commonwealth is required.

Information about species ecology has been primarily obtained from 'Approved conservation advice' reports (DCCEEW 2023a; DCCEEW 2023b), National recovery plans (Baker-Gabb 2011) and the 'Save our species program' (OEH 2022).

The following MNES that are subject to an impact assessment under the EPBC Act are:

- *Callocephalon fimbriatum* (Gang-gang Cockatoo)- Endangered
- *Melanodryas cucullata cucullata* (Hooded Robin) - Endangered
- *Polytelis swainsonii* (Superb Parrot)- Vulnerable
- *Stagonopleura guttata* (Diamond Firetail) – Vulnerable

Gang-gang Cockatoo

Table 8: Assessment of Significance for the Gang-gang Cockatoo

Criterion	Question	Response
An action is likely to have a significant impact on an endangered species if there is a real chance or possibility that it will:		
1)	Lead to a long-term decrease in the size of a population of a species	The proposed action will not remove any breeding habitat for this species (hollow bearing trees), nor remove any foraging resources (seeds and fruits of trees and large shrubs). Therefore, the action will not result in the reduction of this specie's population.
2)	Reduce the area of occupancy of a species	The area of occupancy of the Gang-gang Cockatoo is estimated to be 18,000 km ² . The proposed action would impact 12.03 ha of exotic grass and 0.08 ha of degraded PCT 3747 understorey, none of which comprises suitable habitat for this species. The habitat to be removed is likely to be ground cover only and will not impact any trees. The proposed action will not prevent the species from accessing surrounding resources nor prevent their movement through the landscape. Therefore, the proposed action will not reduce the area of occupancy of this species.
3)	Fragment an existing population into two or more populations	The proposed action will not result in the fragmentation of habitat for this species, due to the currently extensively cleared nature of the subject land and the highly mobile nature of this species.
4)	Adversely affect habitat critical to the survival of a species	Critical habitat for this species primarily comprises nesting sites in hollow-bearing trees. No hollow-bearing trees or eucalypt canopy species will be removed as a result of this proposal. Furthermore, more extensive patches of potential foraging and breeding habitat exist within the broader landscape that will not be affected by the proposed action.
5)	Disrupt the breeding cycle of a population	No breeding resources will be impacted by the proposal. No hollows will be removed nor access to them hindered, the study area is already

Criterion	Question	Response
		heavily modified, and this condition will not be changed. The proposed action therefore is unlikely to affect the breeding cycle of the Gang-gang Cockatoo.
6)	Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The marginal foraging habitat within the subject land is not considered critical to the survival of this species due to its isolated and very small amount (paddock trees). Paddock trees with hollows can form important nesting sites, however all hollow-bearing trees will be retained. The proposed action would remove 12.03 ha of exotic vegetation (grasses) and 0.08 ha of degraded PCT 3747. It is highly unlikely that the extent of this habitat removal would cause the species to decline because suitable habitat is available within the locality and the suitable resources within the subject land will be retained.
7)	Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	The proposal will not result in the establishment or additional spread of a new invasive species that is harmful to the Gang-gang Cockatoo.
8)	Introduce disease that may cause the species to decline, or	The proposed action will not introduce disease that will impact Gang-gang Cockatoos. This species is susceptible to Psittacine cirovirus disease (PCD) which is spread between birds of the same and differing species, particularly when feeding in flocks. Gang-gang Cockatoos are unlikely to forage in this way and prefer to feed in small family groups. The proposed action will not increase the transmission or incidence of PCD in the region.
9)	Interfere with the recovery of the species.	Considering the above factors, and the limited extent and nature of clearing and disturbance to potential habitat: the proposed action is unlikely to interfere with the recovery of the Gang-gang Cockatoo.
Conclusion	Is there likely to be a significant impact?	No. The proposed action is unlikely to have a significant impact on the Gang-gang Cockatoo.

Hooded Robin

Table 9: Assessment of Significance for the Hooded Robin

Criterion	Question	Response
An action is likely to have a significant impact on an endangered species if there is a real chance or possibility that it will:		
1)	Lead to a long-term decrease in the size of a population of a species	The proposed action would remove 0.08 ha of degraded PCT 3747 and 12.03 ha of exotic pasture that comprise a small amount of potential foraging for this species. The species is unlikely to rely on these resources in the study area due to its heavily modified nature (grazing) and lack of breeding resources. There is no mid-canopy present, a few scattered mature paddock trees make up the only limited nesting resources and these will be retained. Under these conditions the proposed action is unlikely to lead to a decrease in a population of the species.
2)	Reduce the area of occupancy of a species	The area of occupancy of the Hooded Robin is estimated to be 30,000 km ² . The proposed action would impact up to 0.08 ha of marginal foraging for this species within a heavily modified context, and so breeding resources will be impacted. The area to be impacted is small in size and will not prevent the species from accessing surrounding resources nor prevent their movement through the landscape. Under these conditions the proposed action is highly unlikely to reduce the area of occupancy of the Hooded Robin.

Criterion	Question	Response
3)	Fragment an existing population into two or more populations	The area of habitat to be impacted is small and will not isolate or fragment potential habitat for this species. The limited breeding resources will be retained. The proposed action will not result in the fragmentation of habitat for this species, due to the currently extensively cleared nature of the subject land and the highly mobile nature of this species.
4)	Adversely affect habitat critical to the survival of a species	<p>Habitat critical to the survival of the Hooded Robin includes areas of:</p> <ul style="list-style-type: none"> • dry eucalypt and acacia woodlands and shrublands remnants with an open understorey, • some grassy areas and a complex ground layer, often in or near clearings or open areas; • structurally diverse habitats featuring: mature eucalypts, saplings, some small shrubs and a • ground layer of moderately tall native grasses; • standing dead or live trees and tree stumps are also essential for nesting, roosting and foraging; <p>The proposed action will remove 0.08 ha of marginal habitat for this species that does not meet the criteria for critical habitat due to past disturbance and modification. The limited potential breeding resources (trees) will be retained. Therefore, the proposed action will not affect habitat critical to the survival of the Diamond Firetail.</p>
5)	Disrupt the breeding cycle of a population	The proposed action would not disrupt the breeding cycle of the Hooded Robin as the species was not observed within the study area during surveys and is unlikely to breed there at other times due to the level of disturbance and limited breeding resources. Extensive areas of better-quality habitat exist within the locality. The proposed action therefore is unlikely to affect the breeding cycle of the Hooded Robin.
6)	Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposed action would remove 0.08 ha of modified grassland habitat. Breeding resources (trees) within the subject land will be retained and access to higher quality foraging and breeding resources in the locality will not be reduced. It is unlikely that the extent of this habitat removal would cause the species to decline because suitable habitat is available within the locality and the majority of resources within the subject land will be retained.
7)	result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	The proposed action is unlikely to result in an increase of invasive species that are harmful to the Hooded Robin, such as invasive exotic weeds (particularly grasses) beyond the current condition.
8)	Introduce disease that may cause the species to decline, or	The proposed action will not introduce disease that will impact the Hooded Robin.
9)	Interfere with the recovery of the species.	The proposed action would remove a small amount of marginal habitat for this species, however this would not interfere with the recovery of the species as no critical habitat will be impacted and the potential breeding resources in the subject land will be retained.
Conclusion	Is there likely to be a significant impact?	No. The proposed action is unlikely to have a significant impact on the Hooded Robin.

Superb Parrot

Table 10: Assessment of Significance for the Superb Parrot

Criterion	Question	Response
An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:		
1)	Lead to a long-term decrease in the size of an important population of a species	The proposed action will not result in the loss of any breeding habitat (i.e. hollow-bearing trees) for this species, and minimal loss of potential foraging habitat (12.03 ha of exotic grasses and 0.08 ha of PCT 3747).
2)	Reduce the area of occupancy of an important population	No important populations of this species have been identified within the subject lands. Furthermore, the proposed action will result in the loss of up to 12.11 ha of highly modified, marginal foraging habitat for this species, which is not considered likely to substantially reduce its area of occupation.
3)	Fragment an existing important population into two or more populations	The proposed action will not result in the fragmentation of habitat for this species, due to the currently extensively cleared nature of the subject land and the highly mobile nature of this species.
4)	Adversely affect habitat critical to the survival of a species	Critical habitat for this species primarily comprises nesting sites in hollow-bearing trees. No hollow-bearing trees or eucalypt canopy species will be removed as a result of this proposal. Furthermore, more extensive patches of potential foraging habitat exist within the broader landscape that will not be directly affected by the proposed action.
5)	Disrupt the breeding cycle of an important population	No potential breeding sites will be affected by the proposed action, nor will access to higher quality resources in the surrounding landscape be limited.
6)	Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The marginal foraging habitat within the subject land is not considered critical to the survival of this species, and only a very small amount will be removed (12.03 ha exotic pasture and 0.08 ha of PCT 3747). Paddock trees with hollows can form important nesting sites, however all hollow-bearing trees will be retained.
7)	Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	The proposal will not result in the establishment or additional spread of an invasive species that is harmful to the Superb Parrot.
8)	Introduce disease that may cause the species to decline, or	The proposed action will not introduce disease that will impact the Superb Parrot. This species is susceptible to Psittacine cirovirus disease (PCD) which is spread between birds of the same and differing species, particularly when feeding in flocks. The proposed action will not increase the transmission or incidence of PCD in the region.
9)	Interfere substantially with the recovery of the species.	Considering the above factors, and the limited extent and nature of clearing and disturbance to potential foraging habitat: the proposed action is unlikely to substantially interfere with the recovery of the Superb Parrot.
Conclusion	Is there likely to be a significant impact?	No. The proposed action is unlikely to have a significant impact on the Superb Parrot.

Diamond Firetail

Table 11: Assessment of Significance for the Diamond Firetail

Criterion	Question	Response
An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:		
1)	Lead to a long-term decrease in the size of an important population of a species	<p>The proposed action would remove 12.03 ha of predominantly exotic grassland habitat that provides marginal foraging resources for this species, and 0.08 ha of degraded PCT 3747 groundcover. The species was not detected during surveys but is known from the locality. There are no breeding resources within the subject land for this species (no shrub layer or mid-canopy, no raptor nests).</p> <p>There are higher-quality areas of habitat in the locality within adjacent woodland and grassland that will not be impacted by the proposed works. Under these circumstances the removal of this small section of habitat would not lead to the long-term decrease in the size of an important population of the Diamond Firetail.</p>
2)	Reduce the area of occupancy of an important population	<p>The area of occupancy of the Diamond Firetail is estimated to be 25,000 km². The proposed action would affect 12.11 ha of predominantly exotic vegetation that contains marginal foraging habitat for the species. The area to be impacted will not prevent the species from accessing surrounding resources nor prevent movement through the landscape.</p>
3)	Fragment an existing important population into two or more populations	<p>The area to be impacted contains marginal habitat and will not isolate or fragment a population of this species. The habitat to be impacted is mostly exotic pasture (12.03 ha) and 0.08 ha of degraded PCT 3747. Under these conditions it is highly unlikely that the proposed action will result in the fragmenting of an existing population of the Diamond Firetail.</p>
4)	Adversely affect habitat critical to the survival of a species	<p>Habitat critical to the survival of the diamond firetail includes areas of:</p> <ul style="list-style-type: none"> • Eucalypt, acacia or casuarina woodlands, open forests and other lightly timbered habitats. • low tree density, few large logs, and little litter cover but high grass cover for foraging, roosting and breeding. • Drooping she-oak (<i>Allocasuarina verticillata</i>) within the Mt Lofty Ranges. <p>The proposed action will remove 12.11 ha of marginal and predominantly exotic habitat for this species that does not meet the criteria for critical habitat due to past disturbance and modification. Only 0.08 ha is PCT 3747 and there are no suitable breeding resources in the subject site. Therefore, the proposed action will not affect habitat critical to the survival of the Diamond Firetail.</p>
5)	Disrupt the breeding cycle of an important population	<p>The proposed action would not disrupt the breeding cycle of the Diamond Firetail as the species was not observed within the study area during surveys and is unlikely to breed there at other times due to the level of disturbance and absence of required breeding resources. Areas of better-quality habitat exist within the locality, and access to these resources will not be limited or hindered. The proposed action therefore is unlikely to affect the breeding cycle of the Diamond Firetail.</p>
6)	Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	<p>The proposed action would remove 12.11 ha of marginal foraging habitat for this species; 12.03 ha of which is exotic and 0.08 ha is degraded native habitat. There are no woodland or breeding resources within the subject site. It is unlikely that the extent of this habitat removal would cause the species to decline because suitable habitat is available within the locality and the action will not impact breeding habitat.</p>
7)	Result in invasive species that are harmful to a vulnerable species becoming established in	<p>The proposed action is unlikely to result in an increase of invasive species that are harmful to the Diamond Firetail, such as invasive exotic weeds (particularly grasses) beyond the current condition.</p>

Criterion	Question	Response
	the vulnerable species' habitat	
8)	Introduce disease that may cause the species to decline, or	The proposed action will not introduce disease that will impact the Diamond Firetail.
9)	Interfere substantially with the recovery of the species.	The proposed action would remove a relatively small amount of marginal habitat for this species, however this would not interfere with the recovery of the species as no critical habitat will be impacted and the vast majority of potential habitat in the subject land will be retained.
Conclusion	Is there likely to be a significant impact?	No. The proposed action is unlikely to have a significant impact on the Diamond Firetail.

Appendix F Matters of National Environmental Significance (MNES)

The EPBC Act Administrative Guidelines on Significance set out ‘Significant Impact Criteria’ that are to be used to assist in determining whether a proposed action is likely to have a significant impact on MNES. A ‘significant impact’ is an impact which is important, notable, or of consequence, having regard to its context or intensity. Whether or not an action is likely to have a significant impact depends upon the sensitivity, value, and quality of the environment, which is impacted, and upon the intensity, duration, magnitude and geographic extent of the impacts. MNES listed under the EPBC Act include:

- listed threatened species and ecological communities
- listed migratory species
- Wetlands of International Importance
- The Commonwealth marine environment
- World Heritage properties
- National Heritage places
- nuclear actions
- Great Barrier Reef
- a water resource, in relation to coal seam gas development and large coal mining development.

Table 12: Assessment of Matters of National Environmental Significance (MNES)

Matters to be addressed	Impact (Commonwealth legislation)
(a) any environmental impact on a World Heritage Property;	NA: The proposed action does not impact on a World Heritage Property.
(b) any environmental impact on Wetlands of International Importance;	NA: The proposed action will not affect any part of a Ramsar Wetland.
(c) any impact on Commonwealth Listed Endangered or Critically Endangered Species or Communities	The study area contains habitat that is marginally suitable for the Endangered <i>Callocephalon fimbriatum</i> (Gang-gang Cockatoo) and <i>Melanodryas cucullata cucullata</i> (Hooded Robin). The impacts to these species have been assessed in Appendix E. The proposed action is unlikely to significantly impact these species.
(d) any impact on Commonwealth Listed Vulnerable Species;	The study area contains habitat that is marginally suitable for the Vulnerable <i>Polytelis swainsonii</i> (Superb Parrot) and <i>Stagonopleura guttata</i> (Diamond Firetail). The impacts to these species have been assessed in Appendix E. The proposed action is unlikely to significantly impact these species.
(e) any environmental impact on Commonwealth Listed Migratory Species;	No migratory species are likely to occur within the study area. The migratory listed <i>Apus pacificus</i> (Fork-tailed Swift) and <i>Hirundapus caudacutus</i> (White-throated Needletail) may briefly overfly or forage above the study area as part of extensive migratory movements, but would not shelter in the study area due to lack of habitat, and do not breed in Australia. The proposed action would not adversely impact these or other migratory species.
(f) does any part of the Proposal involve a Nuclear Action;	NA: the proposed action does not involve a Nuclear Action.

Matters to be addressed	Impact (Commonwealth legislation)
(g) any environmental impact on a Commonwealth Marine Area;	NA: the proposed action will not impact on a Commonwealth Marine Area.
(h) In addition, any direct or indirect impact on Commonwealth lands	NA: the proposed action will not directly or indirectly impact on Commonwealth land.

