APPENDIX H

FLORA & FAUNA ASSESSMENT

LODGE
ENVIRONMENTAL

Date: 4 March 2025
Project Code: LE1911

FLORA & FAUNA ASSESSMENT

2 REDDALL STREET YASS

PREPARED FOR
DIVERSE PROJECT SOLUTIONS

lodge environmental

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2 Reddall Street, Yass – Flora and Fauna Assessment

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Prepared by:	
Lissabelle Giuliano *Ecologist*	Lodge Environmental Pty Ltd ABN 85 631 988 148 Scientific Licence SL102041 Animal Research Authority – Flora and Fauna Survey Mobile: 0473 517 761 Email: info@lodgeenviro.com.au
Reviewed by:	
Max de Beer *Senior Ecologist* *BAM Accredited Assessor (BAAS24022)*	

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1.0 INTRODUCTION

Lodge Environmental Pty Ltd was commissioned by Rachel Doberer of Diverse Project Solutions to prepare this Flora and Fauna Assessment (FFA) to accompany a Development Application for a 10-lot subdivision at 2 Reddall Street, Yass 2582 (herein referred to as the **Study Area**).

This report describes the native vegetation, any threatened species, populations and communities and associated habitat features which were recorded or are predicted to occur within the Study Area. The information documented in this report has been obtained through desktop data searches and field survey, with the inclusion of relevant legislative context, methods and recommendations. This report will assist in informing a DA associated with the proposal.

1.1 OBJECTIVES

This report presents an assessment of possible impacts associated with the proposal at the Study Area and is based on a field investigation, a literature review of previous studies undertaken in the region, the consultation of relevant databases and a consideration of the objectives of Section 4 of the EP&A Act, the State BC Act, the Commonwealth EPBC Act and any relevant State Environmental Planning Policies (SEPP).

The environmental impacts of the development have been assessed via the Test of Significance pursuant to Section 7.3 BC Act 2016, the Matters of National Environmental Significance (MNES) under the EPBC Act, and the relevant clauses within the Yass Valley Local Environmental Plan 2013 (YVLEP) and the Yass Valley Comprehensive Development Control Plan 2023 (YVDCP). The direct and indirect ongoing impacts of the development are addressed in this FFA.

1.2 SITE DESCRIPTION

The Study Area encompasses Lot 4 in Deposited Plan (DP) 255064 (**Figure 1**), with vehicle access via Reddall Street. Covering approximately 10.92 ha, the Study Area contains one existing residential dwelling with associated infrastructure, including a driveway and sheds. The vegetation within the Study Area predominately consists of cleared exotic pasture, with scattered native and exotic trees, which all appear to be planted. Two dams are present, one near the western border and another partially inside the north-eastern border. Neighbouring land consists of similarly cleared land with scattered trees.

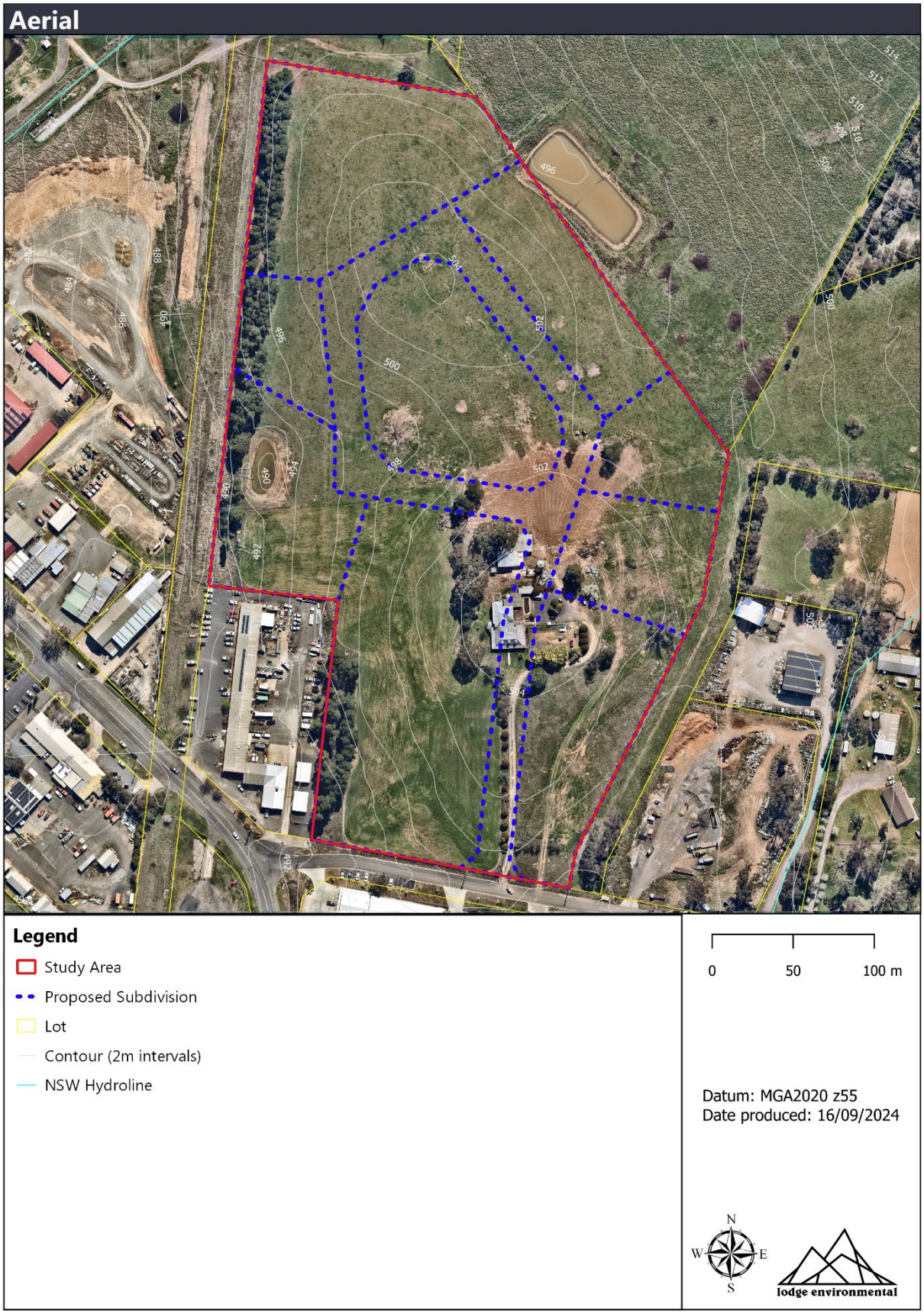

Figure 1: Aerial of the Study Area

2.0 LEGISLATIVE CONTEXT

2.1 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

The NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) is the principal planning legislation for the state, providing a framework for the overall environmental planning, and development assessment process. Various legislative instruments, such as the NSW *Biodiversity Conservation Act 2016* (BC Act), NSW *Water Management Act 2000* (WM Act) and NSW *Rural Fires Act 2007* (RF Act) are integrated with the EP&A Act and have been reviewed below where relevant.

2.2 BIODIVERSITY CONSERVATION ACT 2016

The NSW *Biodiversity Conservation Act 2016* (BC Act) aims to slow the decline of threatened species, populations and communities listed under the Act. The BC Act is integrated with the EP&A Act and requires consideration of whether a development (Part 4 of the EP&A Act) is likely to significantly affect threatened species, populations and ecological communities or their habitat.

The schedules of the BC Act lists species, populations and communities as endangered or vulnerable. All developments, land use changes or activities need to be assessed to determine if they will have an unacceptable impact on species, populations or communities listed on these schedules.

The potential impact of a proposed development on any threatened species, populations or communities is assessed through application of an Assessment of Significance (AoS) under Section 7.3 of the BC Act at the development application stage. If the impacts on the area are found to be 'significant', a Biodiversity Development Assessment Report (BDAR) would be required as would concurrence from the Chief Executive of the NSW Office of Environment & Heritage (OEH) including application of the Biodiversity Assessment Methodology (BAM) and entering into the Biodiversity Offset Scheme (BOS). A BDAR would also be deemed necessary if any proposed development were to involve clearance of vegetation mapped on the State Biodiversity Values Map (BVM) or involve native vegetation clearance above the threshold tables within the BC Act (**Table 1**). The threshold for the proposed subdivision is based on the smallest proposed lot size.

Table 1: Offset scheme thresholds – native vegetation clearance area criteria

Minimum lot size associated with the property	Threshold for clearing, above which the BAM and offsets scheme applies
Less than 1 ha	**0.25 ha or more**
1 ha, and less than 40 ha	0.5 ha or more
40 ha, and less than 1,000 ha	1 ha or more
1,000 ha or greater	2 ha or more

2.3 ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) aims to protect and encourage the recovery of threatened species, populations and communities listed under the Act. Under this Act an action will require approval from the Minister for the Environment if the action has, will have, or is likely to have, a significant impact on a Matters of National Environmental Significance (MNES). MNES include listed threatened species and ecological communities, migratory species and wetlands of international importance protected under international agreements. Where applicable, the assessment criteria relevant to this Act must be drawn upon to determine whether there would be a significant impact on these species and hence whether referral to the Federal Environmental Minister is required.

2.4 LOCAL PLANNING INSTRUMENTS

2.4.1 Yass Valley Local Environment Plan 2013

The Yass Valley Local Environment Plan 2013 (LEP) is the principal planning instrument for the YV LGA. The LEP sets out the planning framework and establishes the requirements for the use and development of land in the LGA. The LEP provides broad direction regarding what types of development are permitted within specific land use zones.

2.4.1.1 Relevant Local Provisions

The Study Area is partially covered by the YVLEP 2013 Clause 6.3 Terrestrial Biodiversity. The objectives of this clause are to maintain terrestrial biodiversity by–

(a) protecting native fauna and flora, and

(b) protecting the ecological processes necessary for their continued existence, and

(c) encouraging the conservation and recovery of native fauna and flora and their habitats.

Small areas of the Study Area in the east and west are covered by this clause (**Figure 2**).

2.4.2 Yass Valley Comprehensive Development Control Plan 2023

The Yass Valley Comprehensive Development Control Plan 2023 (DCP) aims to make detailed local provisions for all land within the LGA. The purpose of this Plan is to give effect to the aims and objectives of YVLEP 2013 and to guide and facilitate permissible development accordingly. This Plan outlines Council's standards for new development and seeks to achieve the objectives of the land use zones as prescribed in YVLEP 2013.

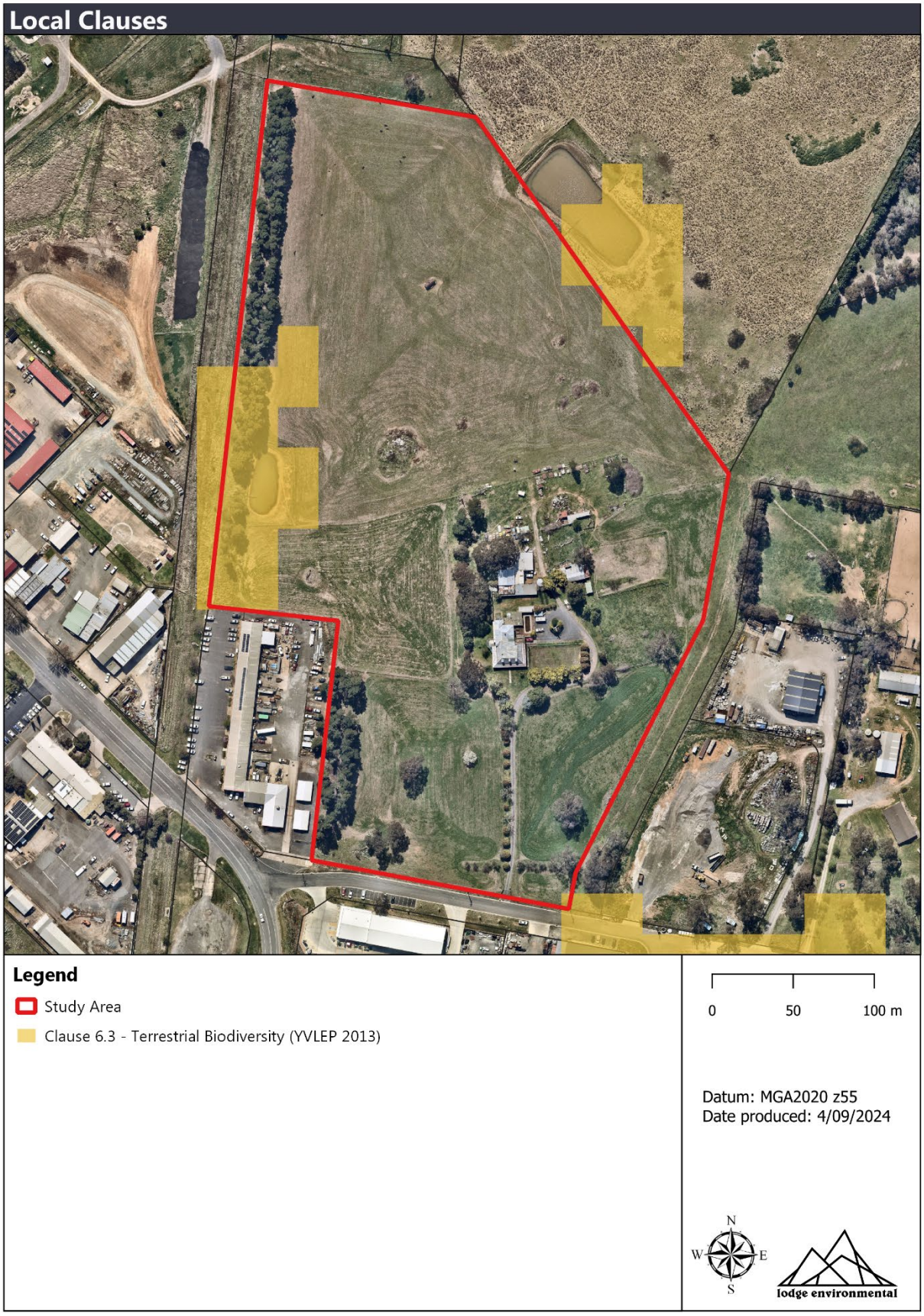

Figure 2: Terrestrial Biodiversity (YVLEP 2013)

3.0 METHODS

3.1 DATA AND LITERATURE REVIEW

Data records and relevant literature pertaining to the ecology of the Study Area and surrounding areas were reviewed on 23 August 2024. The material reviewed included:

- NSW BioNet Atlas of NSW Wildlife database search (10 km)
- EPBC Act Protected Matters Search Tool (10 km)
- Review of the State Biodiversity Values Map
- EES threatened species profile database
- NSW State Vegetation Type Map
- ePlanning Property Report
- Relevant legislative documents
- Aerial photography.

3.2 FIELD SURVEY

To address the FFA, the following survey methods were undertaken on 3 September 2024 by ecologists Henry Dowling and Lissabelle Giuliano:

- Identification of plant species and vegetation communities present within the site
- Search for signs of threatened species, observe and record significant flora and fauna – threatened and migratory species, other incidental fauna observations
- Observe and record current disturbance and threats (e.g. weeds, trampling, litter)
- Identifying potential habitat for threatened flora and fauna species/populations (e.g. habitat bearing trees (HBTs), creeks, boulders etc) and record with a handheld GPS
- Recording presence of environmental weeds
- Taking reference photographs of the entire site.

3.3 SURVEY LIMITATIONS

Survey was conducted during the noted times and may be outside of the optimal survey period for some flora and fauna species. It is therefore possible that some species may not have been detected due to their seasonal geographic variation. Cryptic species may not have been obvious. However, habitat assessments were conducted to further predict the likelihood of species occurrence at the site. A conservative approach was applied in the assumption of the presence of species that could potentially occur within the site area. In this regard, the survey is considered adequate for the purposes of this report.

4.0 DESKTOP REVIEW

4.1 BIODIVERSITY VALUES MAP

A review of the State Biodiversity Values Map was conducted on 23 August 2024. There are no Biodiversity Values (BV) mapped throughout the Study Area (**Figure 3**). The nearest mapped BV lies approximately 480 metres to the west.

4.2 EXISTING VEGETATION MAPPING

A review of the State Vegetation Type Map (DCCEEW 2023) identified no Plant Community Types (PCTs) within the Study Area. PCT 3376 – Southern Tableland Grassy Box Woodland is mapped nearby (**Figure 4**).

4.3 LAND ZONING

The Study Area is entirely zoned as E3 – Productivity Support under the Yass Valley LEP (2013) (**Figure 5**). The objectives of this zone are:

- To provide a range of facilities and services, light industries, warehouses and offices
- To provide for land uses that are compatible with, but do not compete with, land uses in surrounding local and commercial centres
- To maintain the economic viability of local and commercial centres by limiting certain retail and commercial activity
- To provide for land uses that meet the needs of the community, businesses and industries but that are not suited to locations in other employment zones
- To provide opportunities for new and emerging light industries
- To enable other land uses that provide facilities and services to meet the day to day needs of workers, to sell goods of a large size, weight or quantity or to sell goods manufactured on-site.

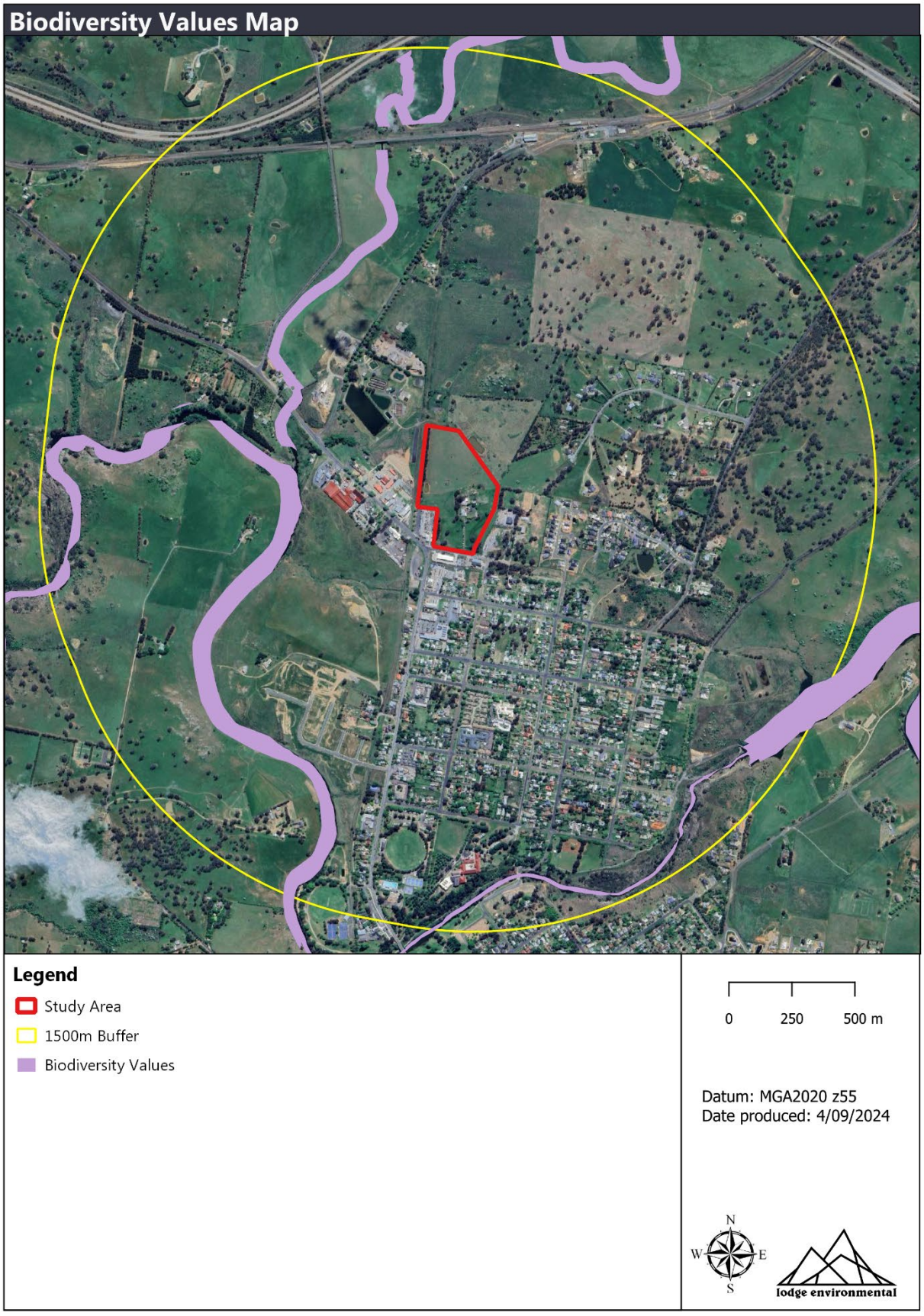

Figure 3: Biodiversity Values Mapping

Figure 4: Unvalidated Vegetation Mapping (DCCEEW 2023)

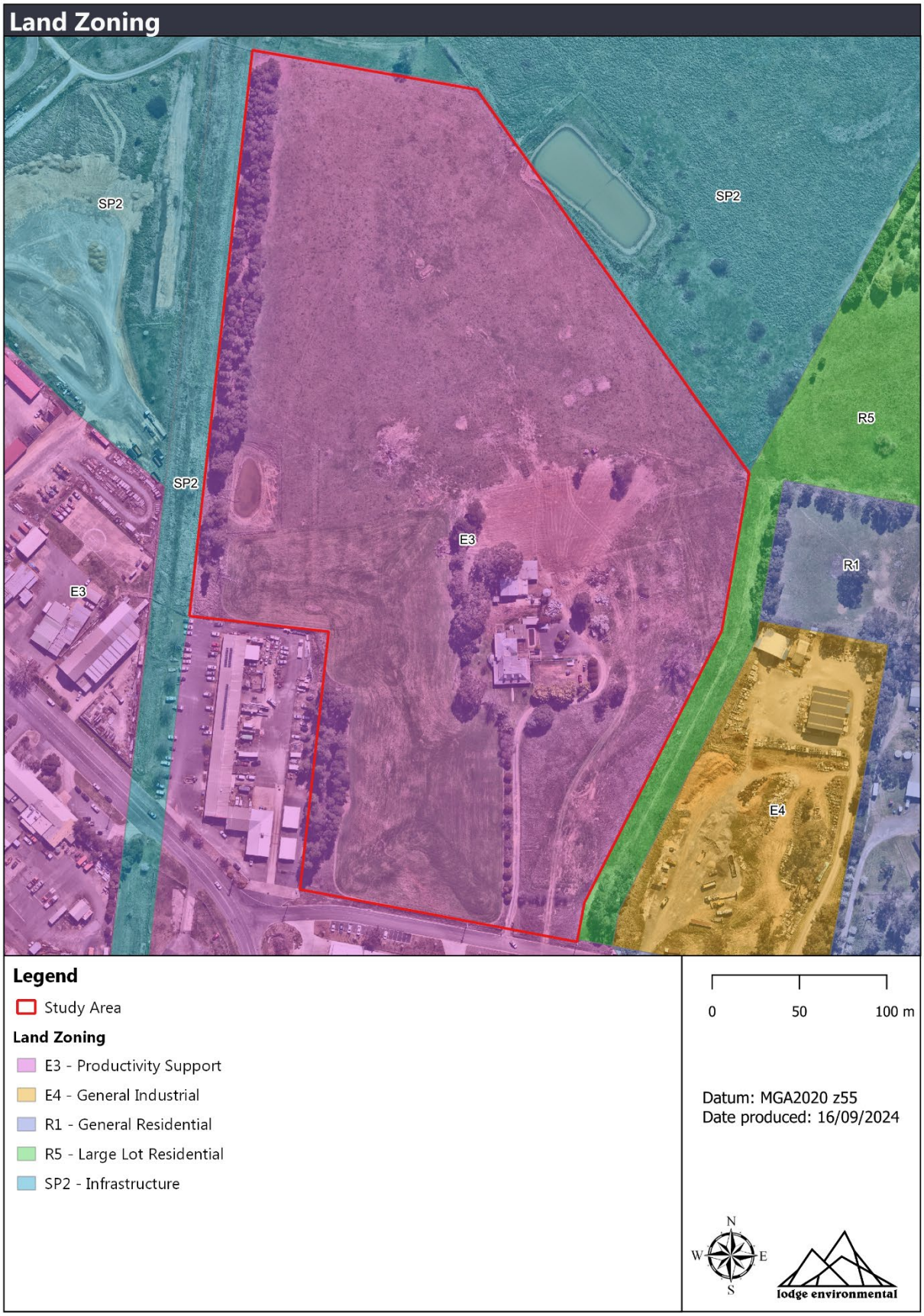

Figure 5: Land Zoning of the Study Area (Yass Valley LEP 2013)

4.4 THREATENED FLORA SPECIES

A review of the NSW BioNet Atlas and the Commonwealth Protected Matters Search Tool identified three Threatened Ecological Communities (TECs), and 11 flora species listed under the BC Act and/or the EPBC Act that have been previously recorded, or are considered to have habitat, within 10 km of the site. BioNet Atlas threatened species records are shown in **Figure 6**. This initial compilation of potentially occurring species informed the site survey, providing an indication of which species required consideration within the site. An assessment of the likelihood of occurrence of threatened flora species within the site is available in **Appendix A** and was used to guide the field survey methodology.

Prior to field survey, four threatened flora species was identified as having moderate to high potential to occur within the Subject Land

Prior to field survey, seven threatened entities were identified as having a potential to occur within the Study Area (**Table 2**).

Table 2: Potentially occurring TECs and threatened flora

Scientific name	Common name	BC Act	EPBC Act
Threatened Ecological Communities			
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland		-	CE
Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia		-	E
Natural Temperate Grassland of the South Eastern Highlands		-	CE
Flora			
Ammobium craspedioides	Yass Daisy	V	V
Leucochrysum albicans subsp.tricolor	Hoary Sunray	V	V
Rutidosis leptorhynchoides	Button Wrinklewort	-	E
Swainsona sericea	Silky Swainson-pea	V	-

4.5 THREATENED FAUNA SPECIES

A review of the NSW BioNet Atlas and the Commonwealth Protected Matters Search Tool identified 42 threatened fauna listed under the BC Act and/or the EPBC Act that have been previously recorded, or are considered to have habitat, within 10km of the site. BioNet Atlas threatened species records are shown in **Figure 6.** This initial compilation of potentially occurring species, which informed the site survey, provided an indication of which species required consideration within the Study Area. An assessment of the likelihood of occurrence of threatened fauna species within the site is available in **Appendix A** and was used to guide the field survey methodology.

Prior to field survey, 19 threatened fauna species were identified as having the potential to occur within the Study Area (**Table 3**).

Table 3: Potentially occurring threatened fauna.

Common name	Scientific name	BC Act	EPBC Act
Aves			
Dusky Woodswallow	*Artamus cyanopterus cyanopterus*	V	-

Gang-gang Cockatoo	*Callocephalon fimbriatum*	V	E
Brown Treecreeper	*Climacteris picumnus victoriae*	V	V
Varied Sittella	*Daphoenositta chrysoptera*	V	-
Little Eagle	*Hieraaetus morphnoides*	V	-
Swift Parrot	*Lathamus discolor*	E	CE
Blue-winged Parrot	*Neophema chrysostoma*	V	-
Superb Parrot	*Polytelis swainsonii*	V	V
Scarlet Robin	*Petroica boodang*	V	-
Flame Robin	*Petroica phoenicea*	V	-
Diamond Firetail	*Stagonopleura guttata*	V	-
Mammals			
Southern Myotis	*Myotis macropus*	V	-
Little Pied Bat	*Chalinolobus picatus*	V	-
Greater Broad-nosed Bat	*Scoteanax rueppellii*	V	-
Grey-headed Flying Fox	*Pteropus poliocephalus*	V	V
Reptilia			
Pink-tailed Legless Lizard	*Aprasia parapulchella*	V	V
Striped Legless Lizard	*Delma impar*	V	V
Insecta			
Key's Matchstick Grasshopper	*Keyacris scurra*	E	E
Golden Sun Moth	*Synemon plana*	V	V

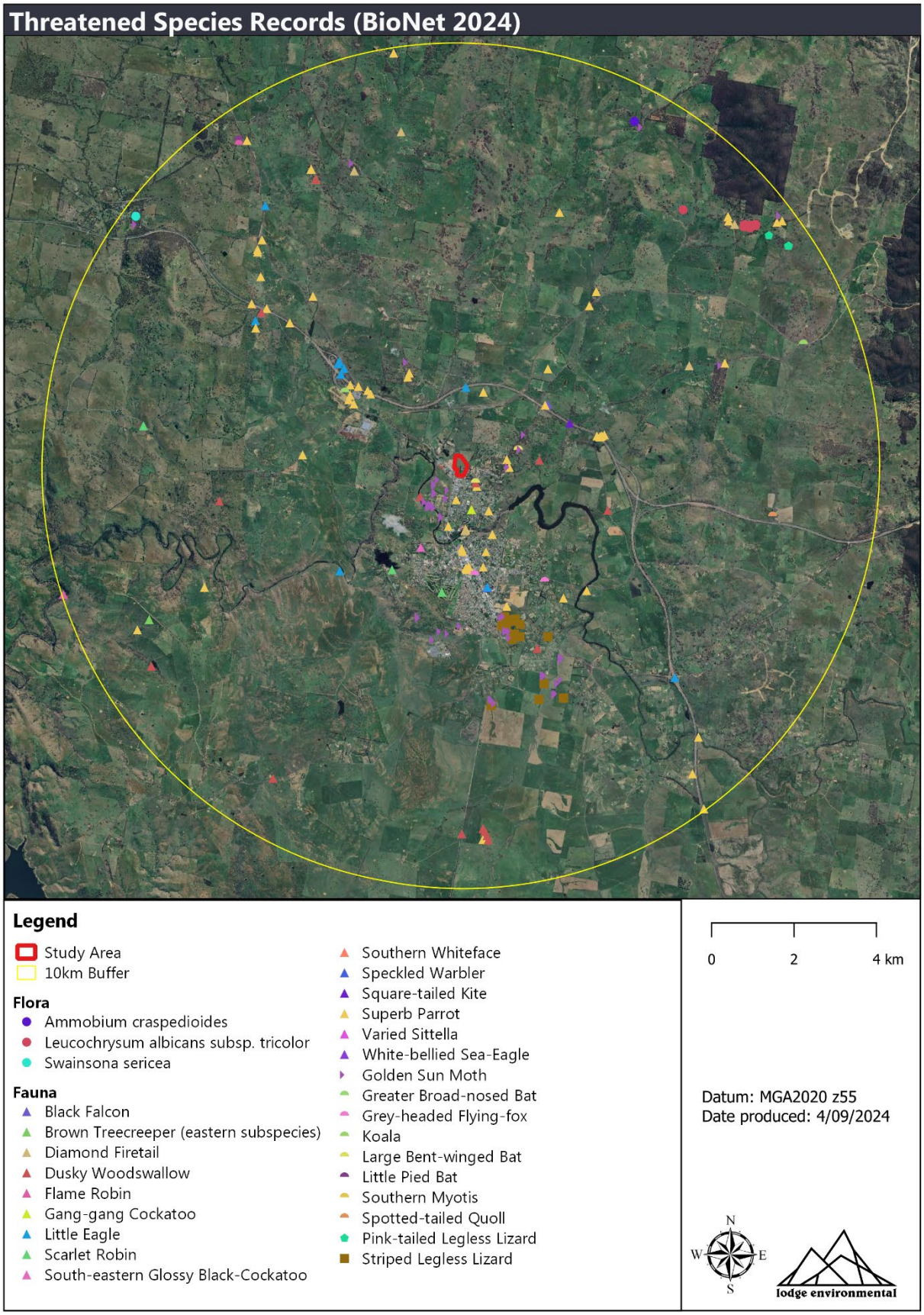

Figure 6: Threatened species recorded within 10km of the Study Area

5.0 FIELD SURVEY RESULTS

5.1 EXISTING ENVIRONMENT AND HABITAT

The Study Area is characterised by previously cleared areas, comprised of exotic grasses, weeds and pasture species. Exotic and native trees are planted around the existing infrastructure and driveway. There is a dam present near the western border of the Study Area, and another just beyond the north-eastern border.

The cleared areas consist predominantly of exotic ground cover and pasture species, including *Cynodon dactylon* (Common Couch), *Cenchrus clandestinus* (Kikuyu), *Dactylis glomerata* (Cocksfoot) and *Plantago lanceolata* (Lamb's Tongue), bordered by windbreaks containing *Pinus radiata* (Radiata Pine). The patches of native vegetation occur mostly in proximity to the existing dwelling, consisting of planted mature trees including *Eucalyptus globulus subsp. maidenii* (Maiden's Gum), *Eucalyptus leucoxylon* (Yellow Gum), *Eucalyptus mannifera* (Brittle Gum) and *Eucalyptus elata* (River Peppermint).

The native tree cover across the site is expected to facilitate the movement and foraging of a wide variety of highly mobile native fauna species (i.e. birds and mammals) between the Study Area and the wider locality. An overview of the habitat features present within the Study Area are described below in **Table 4**.

Table 4: Habitat features present within the Study Area

Habitat Feature	Description of the feature	Presence of the habitat feature
Habitat-bearing trees	Habitat-bearing trees can be alive or dead (stag) and include any additional sheltering, roosting or nesting features that may be relied upon by native fauna, but are not captured within the traditional definition of a Hollow-bearing tree. These features include hollows, crevices, cracks, fissured branches, exfoliating bark, nests, dreys and arboreal termite mounds.	Several hollows were recorded, across one stag (1 small hollow) and one exotic Elm tree (5 small hollows) (**Figure 7, Figure 8**). These recorded habitat features have the potential to provide roosting and shelter habitat for a variety of threatened and non-threatened fauna species found within the locality.
Groundcover	Groundcover consists of low shrubs, grasses, herbs and leaf litter. Tall, dense tussock grasses provide important shelter and nesting habitat for a diverse range of animals, including birds, reptiles, marsupials and insects.	Groundcover was predominately exotic species. Exotic groundcover species still provide habitat for a range of fauna found in the locality.
Leaves, flowers, fruits, seeds and sap	Leaves, flowers, fruits, seeds and sap serve as a critical food source for a diverse array of native animals ranging from large mammals to insects, that are subsequently eaten by birds and mammals. In addition, the foliage of plants can offer vital shelter to nesting or roosting animals, protecting them from both harsh weather conditions and predators.	Upper stratum species across the Study Area provide leaves, flowers, fruits and seeds as a foraging and shelter habitat for fauna within the locality.
Waterbodies	Access to water is an essential habitat feature for many animals. While some animals require water only for drinking, others depend heavily on certain aquatic habitats for breeding and foraging. Aquatic ecosystems are home to a diverse array of species such as fish, frogs, turtles, platypus, water rats and aquatic invertebrates. These animals use fallen logs, instream rocks and substrate as places to hide, rest and nest.	Two dams were located across the Study Area. No vegetation was observed within these dams, and surrounding vegetation was exotic pasture. Nevertheless, the dams provide habitat for waterbirds, frogs and aquatic fauna.

Figure 7: HBTs identified within the Study Area; exotic tree (left) and stag (right)

Figure 8: Western dam (left) and north-east dam (right)

5.2 VALIDATED VEGETATION

Following the field assessment and consideration of the historical disturbance and current land use practices, two vegetation zones were validated within the Study Area, being:

- Native Vegetation (Planted)
- Exotic Vegetation

Figure 9 depicts the validated vegetation within the Study Area. The below subsections and **Table 5** provide a detailed description of the vegetation zones recorded. Native vegetation within the Study Area was not assigned to a PCT, as several of the *Eucalyptus* species present are not known to occur naturally within the area. The previous, long-term landowner advised that all trees had been planted.

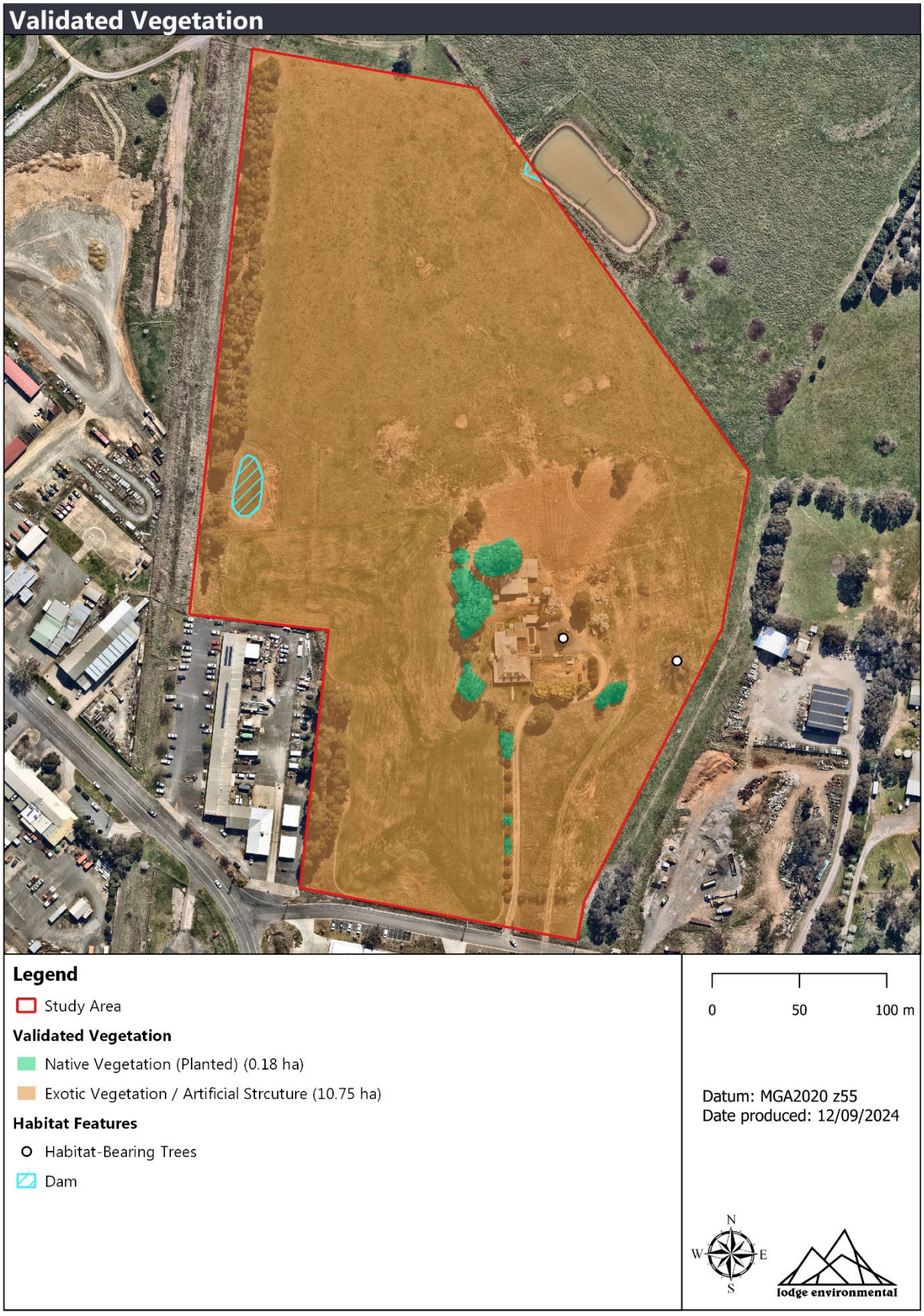

Figure 9: Validated Vegetation (Lodge Environmental 2024)

5.2.1 Native Vegetation (Planted)

Table 5: Native Vegetation Zone Description

Native Vegetation		
Vegetation Structure	Overstorey only present, including *Eucalyptus mannifera* (Brittle Gum) and *Eucalyptus elata* (River Peppermint), as well as planted species that do not occur naturally within the area, including *Eucalyptus globulus* subsp. *maidenii* (Maiden's Gum) and *Eucalyptus leucoxylon* (Yellow Gum).	
Landscape Position	Occurs surrounding the existing dwelling and driveway, at elevations of 490-500 m asl.	
Soil	With reference to eSPADE (DPIE 2024), the Study Area is mapped as occurring on 'Binalong' (SI5512bi). Binalong soils are defined as *'Undulating low hills. Slope gradients 3 – 10%. Local relief between 30 – 90 m. Permanent erosional stream or convergent integrated tributary pattern. Elevations vary between 500 – 630 m above sea-level.'*	
Survey Method	**Condition**	**Area (ha)**
Random meander	Poor	0.18 ha
Zone Photo		

5.2.2 Exotic Vegetation / Artificial Structure

The Exotic Vegetation/Artificial Structure zone encompasses the existing infrastructure, including a residential dwelling, sheds and access roads, with planted ornamental garden species, planted windbreaks and exotic pasture.

The vegetation present within this zone consists of mostly exotic planted trees and landscaping, including *Pinus radiata* (Monterey Pine), *Cedrus deodara* (Deodar Cedar) and *Ulmus* sp. (Elm). The cleared paddocks are restricted to exotic pasture including *Cynodon dactylon* (Common Couch), *Cenchrus clandestinus* (Kikuyu), *Dactylis glomerata* (Cocksfoot), *Eleusine* sp. (Goose Grass) and *Plantago lanceolata* (Lamb's Tongue).

No threatened species were recorded within this vegetation zone.

Figure 10: Exotic vegetation

5.3 THREATENED ECOLOGICAL COMMUNITIES

TECs are ecological communities that are at the risk of extinction from a number of pressures, including:

- Clearing of native vegetation
- Inappropriate fire regimes
- Exotic and/or invasive species
- Climate change
- Water diversion
- Pollution and urban development.

TECs are afforded considerable protection via their listing under both the State BC Act and Commonwealth EPBC Act.

The native vegetation within the Study Area is not considered to align with any listed TECs.

5.4 FLORA

A total of 27 species were recorded during the site inspection (6 native and 21 exotic). A species list is provided in **Appendix B**.

5.4.1 Threatened Flora Species

Targeted flora surveys were not conducted as part of this assessment. Following the site survey and with a greater understanding of the habitat attributes within the Study Area, no threatened flora species are considered to have potential of occurring within the Study Area.

5.5 FAUNA

A total of 10 fauna species were identified within the site. A species list is included in **Appendix C**. Targeted surveys were not conducted as part of this assessment.

5.5.1 Threatened Fauna Species

There were no threatened fauna species identified within the Study Area.

In general, the habitat potential of the Study Area for specialist native species, such as the listed threatened species, is poor. This is primarily due to the isolated nature of the native vegetation and historical land use, which has degraded much of the Study Area's natural habitat value. Nevertheless, the remaining native canopy within the Study Area has the potential to be utilised by native fauna moving through the landscape, offering sheltering and foraging habitat.

The following observations were noted:

- One stag and one exotic tree with hollows were identified throughout the Study Area, which provide sheltering habitat in the form of small hollows.
- Native canopy provides flowers which may be utilised as a food source for highly mobile fauna.
- Mid and ground stratum absent.
- Poor connectivity to areas of greater condition vegetation due to a fragmented landscape.
- Two dams are located within or just outside the Study Area, which provide potential habitat for waterbirds, frog and aquatic fauna.
- No rocks, caves, overhangs or crevices to provide habitat.
- No natural recruitment or regeneration of native flora species.

Following the site survey and with a greater understanding of the habitat attributes of the Study Area, the threatened species listed in **Table 6** have the potential to utilise the habitat attributes within the Study Area.

If future development impacts habitat features these threatened species utilise, targeted survey may be required to determine presence or absence and the level of impact. Alternatively, proposal design and planning should aim to avoid and incorporate habitat features. In doing so, preservation and protection of critical habitat for threatened species can be preserved.

Table 6: Threatened fauna species with a potential to use the sites habitat features

Common name	Scientific name	BC Act	EPBC Act
Aves			
Dusky Woodswallow	*Artamus cyanopterus cyanopterus*	V	-
Gang-gang Cockatoo	*Callocephalon fimbriatum*	V	E
Blue-winged Parrot	*Neophema chrysostoma*	V	V
Mammals			
Southern Myotis	*Myotis macropus*	V	-
Little Pied Bat	*Chalinolobus picatus*	V	-
Greater Broad-nosed Bat	*Scoteanax rueppellii*	V	-
Grey-headed Flying Fox	*Pteropus poliocephalus*	V	V

5.5.2 Biodiversity and Conservation SEPP 2021

The Koala Habitat Protection SEPP 2021 has now been consolidated under Chapter 4 of the Biodiversity and Conservation SEPP 2021 (The SEPP). The SEPP aims to encourage the proper

conservation and management of areas of natural vegetation that provide habitat for *Phascolarctos cinereus* (Koala) to ensure a permanent free-living population over their present range and reverse the current trend of Koala population decline.

5.5.2.1 Development Assessment Process – No Approved Koala Plan of Management

Part 4.9 of The SEPP applies to the Study Area due to the following criteria being met:

- The Study Area encompasses an area of at least 1 ha (including adjoining land), and
- YVC does not have an approved koala plan of management.

Before the consenting authority approve a DA, they must assess whether the development is likely to have any impact on Koalas or Koala habitat. To demonstrate a development has low or no impact on Koalas or Koala habitat information prepared by a suitably qualified ecologist must detail if the DA:

- Does not include any trees belonging to the Koala use tree species.
- Is not Core Koala Habitat. Core Koala Habitat is defined as:
    - An area of land where Koalas are recorded as being present (individuals recorded, scratch marks or scat).
    - An area of land where Koalas have been recorded as being present in the previous 18 years.
- Does not include any trees with a diameter at breast height of more than 10 cm.
- Includes only horticultural or agricultural plantations.

If a DA is considered to have a higher level of impact on Koalas or Koala habitat, a Koala Assessment Report (KAR) must be submitted to the consenting authority to assist with deciding whether to grant consent.

Eucalyptus mannifera (Brittle Gum) was identified within the Study Area, which is considered a Koala use tree within the Central and Southern Tablelands Koala Management Area (KMA5), however there have not been any Koala sightings within 10km of the Study Area in the last 18 years. As such, the Study Area is not considered Core Koala Habitat, and a KAR is not required for the DA.

6.0 IMPACT ASSESSMENT

6.1 SUMMARY OF IMPACTS

Figure 11 depicts the Study Area and the associated impacts to native vegetation assessed within this report. To take a conservative approach, it is assumed that the proposed development will require the total clearance of the Study Area. The existing dwelling and outbuildings are to be demolished. The proposed development will require the removal of two habitat trees and decommissioning of one dam.

6.1.1 Direct Impacts

The direct impact imposed by the proposal on native vegetation will result from the clearance of all (0.18 ha) of native vegetation within Study Area. All other trees to be removed are exotic and represent marginal habitat for threatened species. The total area of impacted native vegetation is 0.18 ha, and is comprised of the following:

- Planted Native Vegetation.

No threatened flora is be impacted by the proposal.

Two HBTs are to be removed. The HBTs consisted of a large *Ulmus pumila* (Siberian Elm) with five small hollows and a stag tree which contained one small hollow. These trees represent marginal sheltering habitat only.

One dam is to be decommissioned; whilst there is no aquatic vegetation within this dam it may offer marginal refuge habitat for native yabbies or turtles, which are known to be quite mobile at certain times of the year.

The impacted native vegetation is considered to provide sheltering and foraging habitat for the threatened fauna species listed in **Section 5.5.1**. Further assessment (**Section 6.4**) is required to ascertain whether the proposal has a significant impact on these threatened species and whether entry into the BOS is required.

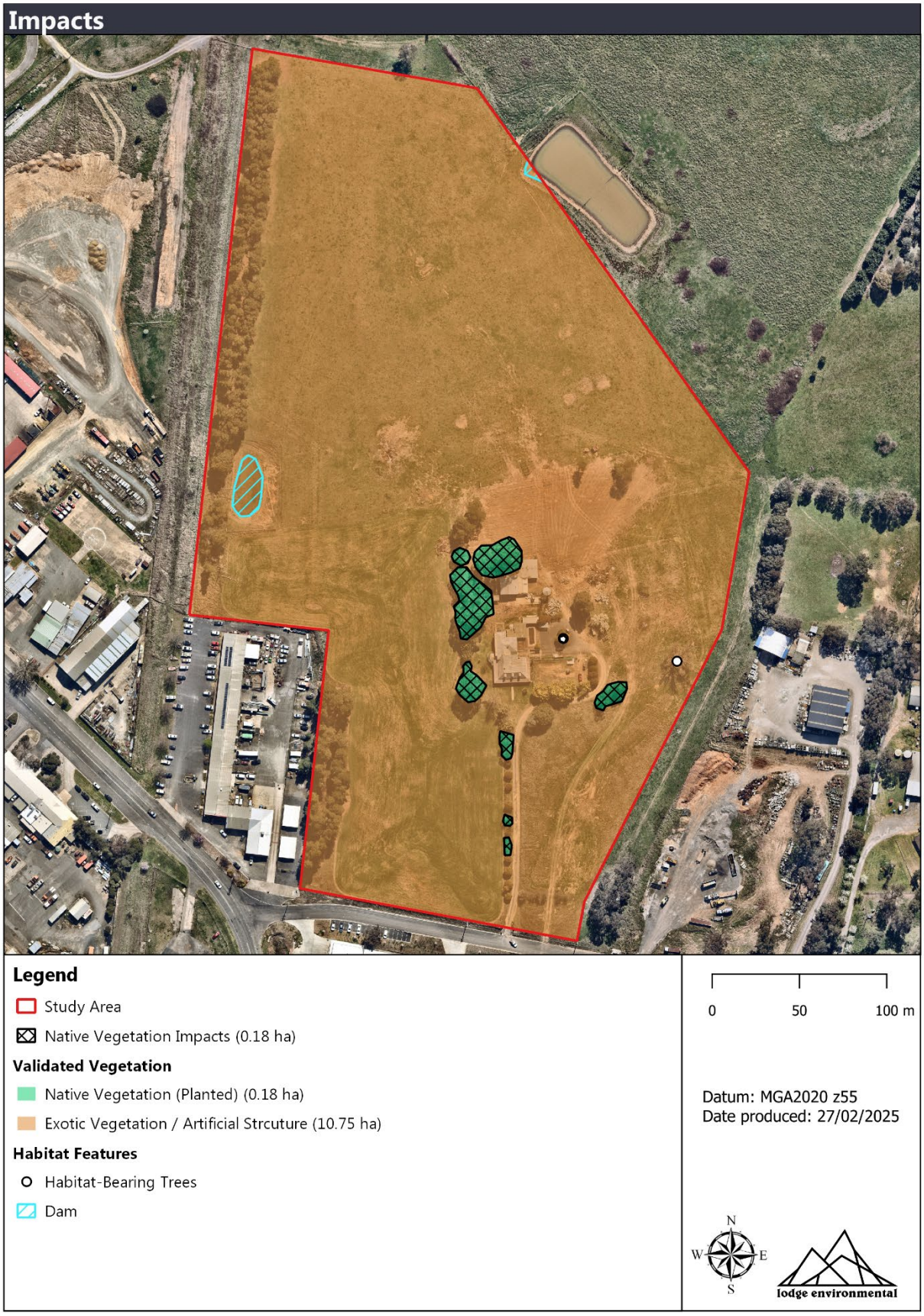

Figure 11: Impact to native vegetation

6.1.2 Indirect Impacts

The proposal is not considered to introduce any significant additional indirect impacts on important vegetation or fauna habitat beyond those already present due to current land use. The proposed subdivision will impact a small area of native vegetation, which is located within a disturbed and fragmented landscape, where considerable indirect impacts already exist, such as weed incursion, native fauna vehicle strikes, etc. The proposed development will not fragment any biodiversity linkages.

Table 7 details the indirect impacts relevant to the proposal and any measures that are to be implemented to avoid or minimise the impact.

Table 7: Indirect Impacts and recommended avoidance and minimisation measures

Indirect Impact	Assessment of impact	Avoidance and Minimisation Measures
Non-native vegetation	Non-native vegetation within the Subject Land is restricted to introduced lawn species. Works increase the potential for weed spread and invasion into adjacent vegetation.	All weed species should be controlled and disposed of appropriately. A Construction Environmental Management Plan (CEMP) is to be prepared by suitably qualified personnel prior to the release of a construction certificate. The CEMP is to address how to manage the spread and invasion of exotic species into adjacent native vegetation.
Construction works	There is the potential for additional impact to the dam on the north-eastern border of the Study Area due to construction works including: • Run-off • Sedimentation	Adequate measures should be taken to minimise soil erosion for the duration of works within the site. Special care should be taken to avoid water, chemical, pollutants and soil runoff into adjacent dam.
Vehicle strikes	An existing driveway is present within the Study Area. Increased use during and following works, as well as increased use of the servicing road, will result in increased potential for vehicle strikes.	Residential speed limits will apply.
Light Pollution	Artificial lighting may disturb and disorientate fauna, particularly nocturnal fauna with light sensitive vision that may be present within the adjacent reserve.	To minimise the effect of light pollution on native fauna, artificial lighting should be installed in compliance with the National Light Pollution Guidelines (DCCEEW 2023). Natural darkness should be preserved, and lighting should only be installed where needed, following best practice design principles such as using timers, sensors, low intensity lighting and avoiding light spill by directing or shielding lights.

6.2 YASS VALLEY LEP (2013)

The Study Area is partially covered by the Yass Valley LEP Terrestrial Biodiversity clause (6.3). The objectives of this clause are to maintain terrestrial biodiversity by–

(a) protecting native fauna and flora, and

(b) protecting the ecological processes necessary for their continued existence, and

(c) encouraging the conservation and recovery of native fauna and flora and their habitats.

The western dam shall be decommissioned under ecologist supervision; a dam-dewatering protocol should be prepared to ensure any residing fauna are safely relocated. No native flora is present within the dam.

It is recommended that native landscaping, using locally endemic species, is undertaken to restore ecological value to the Study Area and encourage recovery of native fauna habitat.

6.3 BIODIVERSITY OFFSET SCHEME ENTRANCE

6.3.1 Native vegetation clearance threshold

The proposed development impact to native vegetation totals 0.18 ha, at a maximum. The impact to native species is below the Biodiversity Offset Scheme entrance threshold of 0.25 ha for a lot size <1 ha (based on proposed minimum lot size). Therefore, the BOS entrance threshold is not triggered.

6.3.2 Biodiversity Values Mapping

There is no land within the Study Area overlain by the BV Map. Therefore, the BOS entrance threshold is not triggered.

6.3.3 Assessments of Significance

Assessments of Significance (AoS) were applied where necessary. The AoS are discussed below.

6.4 SIGNIFICANCE ASSESSMENTS

6.4.1 Assessment of Significance under the EP&A Act and BC Act

Assessments using the criteria provided under the EP&A Act must be considered by consent or determining authorities when considering a development proposal or development application. This enables a decision to be made as to whether there is likely to be a significant impact on the species and hence if entry into the BOS required.

The results of the field survey have been used to inform whether significance assessments are required and for any listed species and communities. Significance assessments have been undertaken (**Appendix D**) for the species listed in **Table 8**.

After undertaking the AoS for the above listed entities, under its current layout, the proposal is not considered to have any significant impact on any of the above entities.

Table 8: Species to which the BC Act AoS has been applied

Common name	Scientific name	BC Act	EPBC Act
Aves			
Dusky Woodswallow	*Artamus cyanopterus cyanopterus*	V	-
Gang-gang Cockatoo	*Callocephalon fimbriatum*	V	E
Blue-winged Parrot	*Neophema chrysostoma*	V	-
Mammals			
Southern Myotis	*Myotis macropus*	V	-
Little Pied Bat	*Chalinolobus picatus*	V	-
Greater Broad-nosed Bat	*Scoteanax rueppellii*	V	-
Grey-headed Flying Fox	*Pteropus poliocephalus*	V	V

6.4.2 EPBC Act Significant Impact Guidelines

The EPBC Act establishes a process for assessing the environmental impact of activities and developments where MNES may be affected. The process includes the application of Significant Impact Criteria for listed threatened species and ecological communities that represent a MNES that will be impacted because of the proposed action. Significant impact guidelines that outline several criteria have been developed by the Commonwealth, to aid in conducting the assessment and help decide whether a referral to the Commonwealth is required. Consideration of the SIC was undertaken for the species listed in **Table 9**.

On application of the SIC, it is determined that the proposed development is unlikely to result in a significant impact to MNES (threatened and migratory species).

Table 9: Entities to which the EPBC Significant Impact Criteria has been applied

Common name	Scientific name	BC Act	EPBC Act
Aves			
Gang-gang Cockatoo	*Callocephalon fimbriatum*	V	E
Mammals			
Grey-headed Flying Fox	*Pteroptus poliocephalus*	V	V

Key. V=Vulnerable, E=Endangered, Ep=Endangered Population, CE=Critically Endangered, M=Migratory.
Species habitat associations have been informed predominantly from EES (2024) and DotEE (2024) species profiles.

7.0 RECOMMENDATIONS

This report takes a conservative approach, in assessing the maximum potential vegetation removal under the impact of the proposal, and assuming complete impact to the entirety of the Study Area. This includes the removal of 0.18 ha of native planted vegetation, two HBTs and decommissioning of the western dam.

Key preliminary recommendations and comments include:

- Native landscaping including locally occurring species will aim to restore habitat value to the Study Area. This will address the YVLEP Terrestrial Biodiversity clause by "*encouraging the conservation and recovery of native fauna and flora and their habitats*".
- Six habitat features are to be offset with nest boxes or artificial hollows at 1:1 ratio, for a total of six nest boxes or artificial hollows. Due to the lack of retained native vegetation it is unlikely that the Study Area will provide sufficient space to accommodate the required nest boxes. Alternatively, a contribution to YVC of an equivalent number of nest boxes or commensurate monetary amount to cover the installation of artificially drilled hollow in a more preferential location may be suitable.
- The following procedure for felling of the HBTs should be undertaken in accordance with the below:
    - Prior to felling, a suitably licensed ecologist is to be engaged to conduct a pre-clearance survey within 48 hours of felling works to assess the occupancy of hollows to ensure that the hollows are not currently being utilised by native fauna.
    - A suitably licensed ecologist (who is vaccinated for Australian Bat Lyssavirus) is to be engaged to supervise the removal of the HBTs in order to minimise the chance of harm to fauna, and to rescue or relocate any fauna displaced during the clearing process.
    - Remove the non-HBTs prior to removal of the HBTs.
    - Fell trees into the already disturbed areas to avoid damaging adjacent vegetation.
    - Take care when moving equipment near vegetation to be retained.
    - Where possible, logs from felled trees should be distributed into areas of retained vegetation so that they can continue to provide habitat for fauna such as terrestrial reptiles and mammals.
    - Relocate woody debris to areas where they will not contribute a fire hazard.
    - Leave the HBTs standing for at least one night after non-HBT clearing to allow any fauna the opportunity to remove themselves after site disturbance.
    - After clearing, re-check the site to ensure no fauna have become trapped or injured during clearing operations. Any fauna found should be moved to adjacent habitat.
    - Before felling the HBTs, tap trunk using heavy machinery to scare fauna from the hollows. Repeat several times. The aim is to 'substantially' shake the tree and encourage fauna to exit.

  - Carefully fell the HBT by gently lowering the tree to the ground using an excavator arm fitted with grapples. Preferably, arrange for qualified tree surgeons to dismantle the HBT using chainsaws and pulleys.
  - After felling the tree, thoroughly check the tree for fauna in the case that any have become trapped or injured during clearing operations. Any fauna should be checked and safely moved into adjacent habitat.
  - If taking the tree down in stages, the non-hollow bearing branches should be removed before the hollow bearing branches are removed.
  - Provide written evident to Council in order to document that a suitable qualified person was engaged for the tasks listed above.
- A dam dewatering protocol is required to be prepared by a suitably qualified ecologist and implemented for decommissioning of the western dam.
- Demolition and clearing works of unoccupied buildings, such as the sheds, should be undertaken in stages, by first removing the roof. This will allow any roosting microbats to safely relocate.
- Adequate erosion and sediment control measures should always be in place during construction, in accordance with best practice guidelines (Landcom 2004), including:
  - sediment fencing
  - vehicle and machinery movement confined to designated work areas
  - consideration given to weather, with works stopped if the onset of heavy rain is deemed likely to cause soil erosion or soil structure damage
- All weed/exotic species should be controlled. A Construction Environmental Management Plan (CEMP) is to be prepared by suitably qualified personnel prior to the release of a construction certificate. The CEMP is to address how to manage the spread and invasion of exotic species into adjacent native vegetation.
  - Weed material must be disposed of appropriately, at a waste disposal centre, where the composting process will destroy all plant pathogens and seeds.
- Care must be taken when moving equipment near vegetation to be retained. If works appear to encroach on retained vegetation, advice from a qualified Arborist should be gained to infer appropriate tree protection measures. Generally, the Tree Protection Zone (TPZ) is a hypothetical estimation of the area required to protect a tree from adverse construction and development activities. It is calculated for each tree by multiplying diameter at breast height (DBH) by 12 and is a radius measured in metres from the centre of trunk. It is understood that encroachments into the TPZ can occur for 10% of the zone in accordance with AS4970-2009 Protection of trees on development sites.
- To minimise the impact of light pollution on nocturnal fauna, natural darkness should be preserved were possible, and lighting should only be installed where needed, following best practice design principles such as using timers, sensors, low intensity lighting and avoiding light spill by directing or shielding lights.

8.0 CONCLUSION

Through the completion of the surveys conducted as part of this report, no threatened flora or fauna were recorded within the Study Area that will be significantly impacted by the development.

A range of suitable recommendations have been made to improve the environmental outcome of the proposal. These include use of native landscaping, felling supervision, a dam dewatering protocol and weed control.

Assessments of Significance were undertaken where necessary. It was determined that the proposal will not constitute a significant impact on the listed entities.

This Flora and Fauna Assessment has adequately considered threatened species and communities in the context of the proposed development in the Study Area by:

- Conducting a field survey and targeted flora surveys.
- adopting the precautionary principle in the assessment of threatened species; and
- designating appropriate recommendations to minimise potential impacts to threatened species that may transiently occur on the site as well as any other fauna.

The assessments contained within this report have determined that the proposed development is unlikely to have a significant effect on any listed communities or species or their habitat in accordance with the EP&A Act, BC Act and EPBC Act provided the recommendations contained in this report are adhered to. There will not be an impact on any active and mapped areas of Biodiversity Value, nor will there be an impact on native vegetation above the relevant impact threshold.

Therefore, the preparation and submission of a BDAR or referral to the Commonwealth is not required.

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10.0 LIMITATIONS

This report and the associated services performed by Lodge Environmental are in accordance with the scope of services set out in the contract between Lodge Environmental and the Client. The scope of services was defined by the requests of the Client, by the time and budgetary constraints imposed by the Client, and by the availability of access to Site.

Lodge Environmental derived the data in this report primarily from visual inspections, and limited survey and analysis made on the dates indicated. In preparing this report, Lodge Environmental has relied upon, and presumed accurate, certain information provided by government authorities, the Client and others identified herein. The report has been prepared on the basis that while Lodge Environmental believes all the information in it is deemed reliable and accurate at the time of preparing the report, it does not warrant its accuracy or completeness and to the full extent allowed by law excludes liability in contract, tort or otherwise, for any loss or damage sustained by the Client arising from or in connection with the supply or use of the whole or any part of the information in the report through any cause whatsoever.

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It is the responsibility of the Client to accept if the Client so chooses any recommendations contained within and implement them in an appropriate, suitable and timely manner.

APPENDICES

Appendix A: Threatened flora and fauna likelihood table

Common Name	Scientific Name	Legislation		Habitat Associations	Likelihood of Occurrence	Further Significance Assessment Undertaken
		BC Act	EPBC Act			
Ecological Community						
Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia		-	E	The ecological community predominately occurs on the drier edge of the temperate grassy eucalypt woodland. The most common form of the ecological community is Grassy Woodlands which comprises of a tree layer and a native understorey with a varying proportion of shrubs, grasses and herbs. This grassy woodland form has a tree canopy that is dominated or co-dominated by Grey Box (*Eucalyptus microcarpa*). The derived native grassland form can occur in patches where the tree canopy and mid layer have been almost entirely removed but the native ground layer remains largely intact with high flora diversity.	Low	No
Natural Temperate Grassland of the South Eastern Highlands		-	CE	The ecological community occurs at altitudes up to around 1200 m, and as low as 250 m in some parts of its distribution. It occurs on a wide range of topographic positions and on soils derived from a variety of substrates, including granites, basalts, sediments, colluvium and alluvium. It is a naturally treeless or sparsely treed community (less than 10% projective foliage cover from woody plants), which is characterised by native tussock grasses and wildflowers that are typically up to 1.0 m in height.	Low	No
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland		-	CE	The ecological community is known to occur on hilly to undulating landscapes in areas with soils of moderate fertility derived from a range of lithologies, including alkaline and acid volcanics, granites, sediments, serpentinites and metamorphics. The structure of the ecological community varies with location and site	Low	No

Common Name	Scientific Name	Legislation		Habitat Associations	Likelihood of Occurrence	Further Significance Assessment Undertaken
		BC Act	EPBC Act			
				conditions but typically it was formerly (prior to European settlement) an open grassy woodland with medium height trees.		
Flora						
Yass Daisy	*Ammobium craspedioides*	V	V	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 (*Eucalyptus blakelyi, E. bridgesiana, E. dives, E. goniocalyx, E. macrorhyncha, E. mannifera, E. melliodora, E. polyanthemos, E. rubida*). Apparently unaffected by light grazing, as populations persist in some grazed sites.	Moderate	No – species not present
Floating Swamp Wallaby-grass	*Amphibromus fluitans*	V	V	*Amphibromus fluitans* 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 Potamogeton and Chamaeraphis species.	Low	No
Crimson Spider Orchid	*Caladenia concolor*	E1,P,2	V	Habitat is regrowth woodland on granite ridge country that has retained a high diversity of plant species, including other orchids. Grows in sclerophyll forest on clay loams or gravel beds; south from Bethungra. The dominant trees are Blakely's Red Gum (*Eucalyptus blakelyi*), Red Stringybark (*E. macrorhyncha*), Red Box (*E. polyanthemos*) and White Box (*E. albens*); the diverse understorey includes Silver Wattle (*Acacia dealbata*), Hop Bitter-pea (*Daviesia latifolia*), Common Beard-heath (*Leucopogon virgatus*), Spreading Flax-lily (*Dianella revoluta*) and Poa Tussock (*Poa sieberiana*).	Low	No

Common Name	Scientific Name	Legislation		Habitat Associations	Likelihood of Occurrence	Further Significance Assessment Undertaken
		BC Act	EPBC Act			
Spiny Peppercress	*Lepidium aschersonii*	V	V	Found on ridges of gilgai clays dominated by Brigalow (*Acacia harpophylla*), Belah (*Casuarina cristata*), Buloke (*Allocasuarina luehmanii*) and Grey Box (*Eucalyptus microcarpa*). In the south has been recorded growing in Bull Mallee (*Eucalyptus behriana*). Often the understorey is dominated by introduced plants. The species grows as a component of the ground flora, in grey loamy clays. Vegetation structure varies from open to dense, with sparse grassy understorey and occasional heavy litter.	Low	No
Hoary Sunray	*Leucochrysum albicans subsp. tricolor*	E	E	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.	Moderate	No – species not present
Tarengo Leek Orchid	*Prasophyllum petilum*	E	E	Grows in open sites within Natural Temperate Grassland at the Boorowa and Delegate sites. Also grows in grassy woodland in association with River Tussock *Poa labillardieri,* Black Gum *Eucalyptus aggregata* and *tea-trees Leptospermum spp.* near Queanbeyan and within the grassy groundlayer dominated by Kanagroo Grass under Box-Gum Woodland at Ilford (and Hall, ACT).	Low	No
Button Wrinklewort	*Rutidosis leptorhynchoides*	E	E	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 (either due to the shallow nature of the soils, or at some sites due to the competitive effect of woodland trees).	Moderate	No – species not present

Common Name	Scientific Name	Legislation		Habitat Associations	Likelihood of Occurrence	Further Significance Assessment Undertaken
		BC Act	EPBC Act			
				Exhibits an ability to colonise disturbed areas (eg. vehicle tracks, bulldozer scrapings and areas of soil erosion). Is known to occur in grassland and woodland; in the A.C.T. and Monaro region.		
Large-fruit fireweed	*Senecio macrocarpus*	-	V	Large-fruit fireweed occurs in grassy woodlands and grassland habitats. In New South Wales, the species occurs 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.	Low	No
Small Purple-pea	*Swainsona recta*	E	E	Grows in association with understorey dominants that include Kangaroo Grass *Themeda australis,* poa tussocks *Poa spp*. and spear-grasses *Austrostipa spp*.	Low	No
Silky Swainson-pea	*Swainsona sericea*	V	-	Silky Swainson-pea has been recorded from the Northern Tablelands to the Southern Tablelands and further inland on the slopes and plains. Found in Natural Temperate Grassland and Snow Gum *Eucalyptus pauciflora* Woodland on the Monaro.	Moderate	No – species not present
Austral Toadflax	*Thesium australe*	V	V	Austral Toad-flax is found in very small populations scattered across eastern NSW, along the coast, and from the Northern to Southern Tablelands. Occurs in grassland on coastal headlands or grassland and grassy woodland away from the coast. Often found in association with Kangaroo Grass (*Themeda australis*).	Low	No
Aves						
Regent Honeyeater	*Anthochaera phrygia*	CE	CE	Mainly inhabits temperate woodlands and open forests of the inland slopes of south-east Australia. These woodlands have significantly large numbers of mature trees, high canopy cover and abundance of mistletoes.	Low	No

Common Name	Scientific Name	Legislation		Habitat Associations	Likelihood of Occurrence	Further Significance Assessment Undertaken
		BC Act	EPBC Act			
Southern Whiteface	*Aphelocephala leucopsis*	V	V	Southern Whitefaces live in a wide range of sparsely treed woodlands and shrublands where there is an understorey of grasses or shrubs or both, usually in habitats dominated by acacias or eucalypts on ranges, foothills and lowlands and plains.	Low	No
Dusky Woodswallow	*Artamus cyanopterus cyanopterus*	V	-	The species occurs throughout most of New South Wales, but is sparsely scattered in, or largely absent from, much of the upper western region. Most breeding activity occurs on the western slopes of the Great Dividing Range. 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 ground-cover of grasses or sedges and fallen woody debris	Moderate	Yes
Australasian Bittern	*Botaurus poiciloptilus*	E	E	Favours permanent freshwater wetlands with tall, dense vegetation, particularly bullrushes (*Typha spp.*) and spikerushes (*Eleocharis spp.*).	Low	No
Sharp-tailed Sandpiper	*Calidris acuminata*	-	M	The Sharp-tailed Sandpiper prefers the grassy edges of shallow inland freshwater wetlands.	Low	No
Curlew Sandpiper	*Calidris ferruginea*	E	CE	It generally occupies littoral and estuarine habitats, and in New South Wales is mainly found in intertidal mudflats of sheltered coasts.	Low	No
Gang-gang Cockatoo	*Callocephalon fimbriatum*	V	E	In New South Wales, the Gang-gang Cockatoo is distributed from the south-east coast to the Hunter region, and inland to the Central Tablelands and south-west slopes. The Gang-gang Cockatoo prefers tall montane forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests during summer, these being at higher altitudes. In winter, this species occurs at lower altitudes in drier, more open eucalypt forests and woodlands, or in dry forest in coastal areas.	Moderate	Yes

Common Name	Scientific Name	Legislation		Habitat Associations	Likelihood of Occurrence	Further Significance Assessment Undertaken
		BC Act	EPBC Act			
South-eastern Glossy Black-Cockatoo	*Calyptorhynchus lathami lathami*	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.	Low	No
Speckled Warbler	*Chthonicola sagittata*	V	-	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. Large, relatively undisturbed remnants are required for the species to persist in an area.	Low	No
Brown Treecreeper (eastern subspecies)	*Climacteris picumnus victoriae*	V	V	Found in eucalypt woodlands (including Box-Gum Woodland) and dry open forest of the inland slopes and plains inland of the Great Dividing Range; mainly inhabits woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understorey, sometimes with one or more shrub species; also found in mallee and River Red Gum (*Eucalyptus camaldulensis*) Forest bordering wetlands with an open understorey of acacias, saltbush, lignum, cumbungi and grasses; usually not found in woodlands with a dense shrub layer; fallen timber is an important habitat component for foraging; also recorded, though less commonly, in similar woodland habitats on the coastal ranges and plains.	Moderate	No – no suitable habitat
Varied Sittella	*Daphoenositta chrysoptera*	V	-	Inhabits eucalypt forests and woodlands, especially those containing rough-barked species and mature smooth-barked gums with dead branches, mallee and Acacia woodland. Feeds on arthropods gleaned from crevices in rough or decorticating bark, dead branches,	Moderate	No – no suitable habitat

Common Name	Scientific Name	Legislation		Habitat Associations	Likelihood of Occurrence	Further Significance Assessment Undertaken
		BC Act	EPBC Act			
				standing dead trees and small branches and twigs in the tree canopy.		
Grey Falcon	*Falco hypoleucos*	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. 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.	Low	No
Black Falcon	*Falco subniger*	V	-	The Black Falcon is widely, but sparsely, distributed in New South Wales, mostly occurring in inland regions. There is assumed to be a single population in NSW that is continuous with a broader continental population, given that falcons are highly mobile, commonly travelling hundreds of kilometres (Marchant & Higgins 1993).	Low	No
Latham's Snipe	*Gallinago hardwickii*	-	M	Occurs in permanent and ephemeral wetlands up to 2000 m above sea-level.Migratory Wetlands Species.	Low	No
Painted Honeyeater	*Grantiella picta*	V	V	The Painted Honeyeater is nomadic and occurs at low densities throughout its range. The greatest concentrations of the bird and almost all breeding occurs on the inland slopes of the Great Dividing Range in NSW, Victoria and southern Queensland. During the winter it is more likely to be found in the north of its distribution. Inhabits Boree/ Weeping Myall (*Acacia pendula*), Brigalow (*A. harpophylla*) and Box-Gum Woodlands and Box-Ironbark Forests. A specialist feeder on the fruits of mistletoes growing on woodland eucalypts and acacias. Prefers mistletoes of the genus Amyema.	Low	No
White-bellied Sea-Eagle	*Haliaeetus leucogaster*	V	-	The White-bellied Sea-Eagle is widespread along the east coast of NSW. This species occurs at sites	Low	No

Common Name	Scientific Name	Legislation		Habitat Associations	Likelihood of Occurrence	Further Significance Assessment Undertaken
		BC Act	EPBC Act			
				near the sea or sea-shore, such as around bays and inlets, beaches, reefs, lagoons, estuaries and mangroves; and at, or in the vicinity of freshwater swamps, lakes, reservoirs, billabongs and saltmarsh. The habitat of this species is characterised by the presence of large areas of open water including larger rivers, swamps, lakes, and the sea. Additionally, their terrestrial habitats include coastal dunes, tidal flats, grassland, heathland, woodland, and forest (including rainforest).		
Little Eagle	*Hieraaetus morphnoides*	V	-	The Little Eagle is found throughout the Australian mainland apart from the most densely forested areas of the Dividing Range escarpment. It occurs as a single population throughout NSW. The species occupies open eucalypt forest, woodland or open woodland. Sheoak or Acacia woodlands and riparian woodlands of interior NSW are also used.	Moderate	No – no suitable habitat
White-throated Needletail	*Hirundapus caudacutus*	-	M	Almost exclusively aerial. Takes insects on wing over a range of habitat types. Recorded most often above wooded areas, including open forest and rainforest. Migratory Terrestrial Species.	Low	No
Swift Parrot	*Lathamus discolor*	E	CE	The Swift Parrot migrates to the Australian south-east mainland between February and October. In NSW the species is generally found on the coast and southwest slopes. Favoured feed trees include winter flowering species such as *Eucalyptus robusta* (Swamp Mahogany), *Corymbia maculata* (Spotted Gum), *C. gummifera* (Red Bloodwood), *E. tereticornis* (Forest Red Gum), *E. sideroxylon* (Mugga Ironbark) and *E. albens* (White Box).	Moderate	No – no suitable habitat
Square-tailed Kite	*Lophoictinia isura*	V	-	The Square-tailed Kite ranges along coastal and subcoastal areas from south-western to northern Australia. In NSW, scattered records of the	Low	No

Common Name	Scientific Name	Legislation		Habitat Associations	Likelihood of Occurrence	Further Significance Assessment Undertaken
		BC Act	EPBC Act			
				species throughout the state indicate that the species is a regular resident in the north, north-east and along the major west-flowing river systems. It is a summer breeding migrant to the south-east, including the NSW south coast, arriving in September and leaving by March.		
Hooded Robin (south-eastern form)	*Melanodryas cucullata cucullata*	V	E	The Hooded Robin is widespread, found across Australia, except for the driest deserts and the wetter coastal areas (northern and eastern coastal QLD and TAS), rarely found on the coast. 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.	Low	No
Blue-winged Parrot	*Neophema chrysostoma*	V	V	The Blue-winged Parrot inhabits a range of habitats from coastal, sub-coastal and inland areas, right through to semi-arid zones. Throughout their range, they favour grasslands and grassy woodlands. They are often found near wetlands both near the coast and in semi-arid zones. Blue-winged Parrots can also be seen in altered environments such as airfields, golf courses and paddocks.	Moderate	Yes
Scarlet Robin	*Petroica boodang*	V	-	Lives in dry eucalypt forests and woodlands. The understorey is usually open and grassy with few scattered shrubs. Its habitat usually contains abundant logs and fallen timber: these are important components of its habitat.	Moderate	No – no suitable habitat
Flame Robin	*Petroica phoenicea*	V	-	Breeds in upland tall moist eucalypt forests and woodlands, often on ridges and slopes. Prefers clearings or areas with open understoreys. The ground layer of the breeding habitat is	Moderate	No – no suitable habitat

Common Name	Scientific Name	Legislation		Habitat Associations	Likelihood of Occurrence	Further Significance Assessment Undertaken
		BC Act	EPBC Act			
				dominated by native grasses and the shrub layer may be either sparse or dense.		
Superb Parrot	*Polytelis swainsonii*	V	V	Inhabit Box-Gum, Box-Cypress-pine and Boree Woodlands and River Red Gum Forest. In the Riverina the birds nest in the hollows of large trees (dead or alive) mainly in tall riparian River Red Gum Forest or Woodland. On the South West Slopes nest trees can be in open Box-Gum Woodland or isolated paddock trees. Species known to be used are Blakely's Red Gum, Yellow Box, Apple Box and Red Box.	Low	No
Diamond Firetail	*Stagonopleura guttata*	V	V	It is widely distributed in NSW, with a concentration of records from the Northern, Central and Southern Tablelands, the Northern, Central and South Western Slopes and the North West Plains and Riverina. Not commonly found in coastal districts. Found in grassy eucalypt woodlands, including Box-Gum Woodlands and Snow Gum Eucalyptus pauciflora Woodlands. Also occurs in open forest, mallee, Natural Temperate Grassland, and in secondary grassland derived from other communities. Often found in riparian areas (rivers and creeks), and sometimes in lightly wooded farmland.	Moderate	No – no suitable habitat
Mammalia						
Large-eared Pied Bat	*Chalinolobus dwyeri*	V	V	Cave-roosting bat that forages in timbered woodland and dry sclerophyll forest.	Low	No
Little Pied Bat	*Chalinolobus picatus*	V	-	Occurs in dry open forest, open woodland, mulga woodlands, chenopod shrublands, cypress pine forest and mallee and Bimbil box woodlands. Roosts in caves, rock outcrops, mine shafts, tunnels, tree hollows and buildings. Can tolerate high temperatures and dryness but need access to nearby open water.	Moderate	Yes

Common Name	Scientific Name	Legislation		Habitat Associations	Likelihood of Occurrence	Further Significance Assessment Undertaken
		BC Act	EPBC Act			
Spotted-tailed Quoll	*Dasyurus maculatus*	V	E	Recorded across a range of habitat types, including rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline.	Low	No
Large Bent-winged Bat	*Miniopterus orianae oceanensis*	V	-	Caves are the primary roosting habitat, but also use derelict mines, storm-water tunnels, buildings and other man-made structures. Form discrete populations centred on a maternity cave that is used annually in spring and summer for the birth and rearing of young. Maternity caves have very specific temperature and humidity regimes.	Low	No
Southern Myotis	*Myotis macropus*	V	-	Generally roost in groups of 10 - 15 close to water in caves, mine shafts, hollow-bearing trees, storm water channels, buildings, under bridges and in dense foliage.	Moderate	Yes
Corben's Long-eared Bat	*Nyctophilus corbeni*	V	V	Inhabits a variety of vegetation types, including mallee, bulloke *Allocasuarina leuhmanni* and box eucalypt dominated communities, but it is distinctly more common in box/ironbark/cypress-pine vegetation that occurs in a north-south belt along the western slopes and plains of NSW and southern Queensland. Roosts in tree hollows, crevices, and under loose bark.	Low	No
Koala	*Phascolarctos cinereus*	E	E	Open eucalypt forest and woodland, containing a variety of 'preferred' feed trees	Low	No
Grey-headed Flying-fox	*Pteropus poliocephalus*	V	V	Occur in subtropical and temperate rainforests, tall sclerophyll forests.	Moderate	Yes
Greater Broad-nosed Bat	*Scoteanax rueppellii*	V	-	Utilises a variety of habitats from woodland through to moist and dry eucalypt forest and rainforest. Roosts in tree hollows and buildings.	Moderate	Yes
Amphibia						
Sloane's Froglet	*Crinia sloanei*	E	E	Occurs in dams and ponds, with generally less intensive agricultural practices, and greater	Low	No

Common Name	Scientific Name	Legislation		Habitat Associations	Likelihood of Occurrence	Further Significance Assessment Undertaken
		BC Act	EPBC Act			
				proportion of remnant wetland habitat areas. Sloane's Froglet lives and breeds in temporary and permanent waterbodies including oxbows off creeks and rivers, farm dams, large and small natural wetlands, constructed frog ponds and temporary puddles. It prefers wetlands that contain riparian and aquatic vegetation. Most often it has been found in waterbodies that contain grasses and reeds that are of medium height and have small stem diameters, such as couch (*Elymus repens*), watercouch *(Paspalum pasplodes*) or the Common Spikerush (*Eleocharis acuta*). Sloane's Froglet uses roadside drains, table drains, irrigation channels and inundated grasslands to move from one area to another		
Booroolong Frog	*Litoria booroolongensis*	E	E	Live along permanent streams with some fringing vegetation cover such as ferns, sedges or grasses. Adults occur on or near cobble banks and other rock structures within stream margins.	Low	No
Southern Bell Frog	*Litoria raniformis*	E	V	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.	Low	No
Reptilia						
Pink-tailed Legless Lizard	*Aprasia parapulchella*	V	V	Inhabits sloping, open woodland areas with predominantly native grassy ground layers, particularly those dominated by Kangaroo Grass (*Themeda australis*). Sites are typically well-drained, with rocky outcrops or scattered, partially-buried rocks.	Moderate	No – no suitable habitat
Striped Legless Lizard	*Delma impar*	V	V	Found mainly in Natural Temperate Grassland but has also been captured in grasslands that have a high exotic component. Also found in	Moderate	No – no suitable habitat

Common Name	Scientific Name	Legislation		Habitat Associations	Likelihood of Occurrence	Further Significance Assessment Undertaken
		BC Act	EPBC Act			
				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 Kangaroo Grass (*Themeda triandras*), spear-grasses *Austrostipa spp*. and poa tussocks *Poa spp*., and occasionally wallaby grasses *Austrodanthonia spp*.		
Insecta						
Key's Matchstick Grasshopper	*Keyacris scurra*	E	E	Keys Matchstick Grasshopper is usually found in native grasslands but it has also been recorded in other vegetation associations containing a native grass understory (especially kangaroo grass *Themeda triandra*) and known food plants (particularly Asteraceae). Although it does not feed on Themeda, it may be important for providing protection from predators .	Moderate	No – no suitable habitat
Golden Sun Moth	*Synemon plana*	V	V	Occurs in Natural Temperate Grasslands and grassy Box-Gum Woodlands in which groundlayer is dominated by wallaby grasses *Austrodanthonia spp*. Grasslands dominated by wallaby grasses are typically low and open - the bare ground between the tussocks is thought to be an important microhabitat feature for the Golden Sun Moth, as it is typically these areas on which the females are observed displaying to attract males.	Moderate	No – no suitable habitat

Key. V=Vulnerable, E=Endangered, Ep=Endangered Population, CE=Critically Endangered, M=Migratory.
Species habitat associations have been informed predominantly from EES (2021) and DotEE (2021) species profiles.

Appendix B: Flora Species List

Scientific name	Common name	Native	Exotic
Arctotheca calendul	Capeweed		X
Cedrus deodara	Deodar Cedar		X
Cirsium sp.			X
Cordyline Australis	New Zealand Cabbage Tree		X
Crassula sieberriana	Australian Stonecrop	X	
Dactylis glomerata	Cocksfoot		X
Echium plantagineum	Patterson's Curse		X
Eleusine sp.	Goose Grass		X
Eucalyptus elata	River Peppermint	X	
Eucalyptus globulus subsp. maidenii	Maiden's Gum	X	
Eucalyptus leucoxylon	Yellow Gum	X	
Eucalyptus mannifera	Brittle Gum	X	
Eucalyptus sp.		X	
Fumaria sp.			X
Juncus sp.			X
Lolium sp.	Ryegrass		X
Onopordum acanthium	Scotch thistle		X
Photina sp.			X
Pinus radiata	Radiata pine		X
Plantago lanceolata	Ribwort Plantain		X
Prunus sp.	Cherry blossom		X
Romulus rosea	Onion Grass		X
Rubus fruticosa	Blackberry		X
Stellaria media	Chickweed		X
Taraxacum officinale	Dandelion		X
Trifolium sp.	White clover		X
Ulmus pumila	Siberian elm		X

Appendix C: Fauna Species List

Class Name	Scientific Name	Common Name
Aves	*Grallina cyanoleuca*	Magpie Lark
	Hirundo neoxena	Welcome Swallow
	Sturnus vulgaris	European Starling
	Strepera graculina	Pied Currawong
	Rhipidura leucophrys	Willy Wagtail
	Chrysococcyx basalis	Horsefield's Bronze-cuckoo
	Anas superciliosa	Pacific Black Duck
	Corvus coronoides	Australian Raven
	Gymnorhina tibicen	Australian Magpie
	Platycercus eximius	Crimson Rosella

Appendix D: Assessment of Significance

Threatened Bats

Little Pied Bat (*Chalinolobus picatus*) - Vulnerable (BC Act)

Occurs in dry open forest, open woodland, mulga woodlands, chenopod shrublands, cypress pine forest and mallee and Bimbil box woodlands. Roosts in caves, rock outcrops, mine shafts, tunnels, tree hollows and buildings. Can tolerate high temperatures and dryness but need access to nearby open water. Feeds on moths and possibly other flying invertebrates.

Grey-headed Flying-fox (*Pteropus poliocepalus*) – Vulnerable (BC Act)

Occur in subtropical and temperate rainforests, tall sclerophyll forests. Forages on a variety of flowering and fruiting native and exotic plants.

Southern myotis (*Myotis macropus*) – Vulnerable (BC Act)

Generally, roost in groups of 10 - 15 close to water in caves, mine shafts, hollow-bearing trees, storm water channels, buildings, under bridges and in dense foliage.

Greater Broad-nosed bat (*Scoteanax rueppellii*) – Vulnerable (BC Act)

Utilises a variety of habitats from woodland through to moist and dry eucalypt forest and rainforest. Roosts in tree hollows and buildings.

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,

Impacts that are considered to impact on the life cycle of a species relates to impacts on stages of reproduction, growth, development, ageing and death. The impacts of the proposal on the above listed bat species relates to the loss of a maximum of 0.18 ha of marginal foraging habitat. The potential shelter habitat is not favourable and is unlikely to support breeding due to its proximity to human activity and would likely be frequently disturbed. The listed species are highly mobile and can utilise a range of more preferential foraging and sheltering habitats. Therefore, the removal of a 0.18 ha and 2 HBTs will not adversely affect the life cycle of these species such that a viable population is likely to be placed at risk of extinction.

B. in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:

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

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

Not applicable – not an endangered ecological community.

C. In relation to the habitat of a threatened species or ecological community:

i) The extent to which habitat is likely to be removed or modified because of the proposed development or activity, and

0.18 ha of native vegetation, and two HBTs considered potential sheltering habitat are to be removed.

ii) Whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and

The proposal would not result in the fragmentation or isolation of any areas of foraging or sheltering habitat for these species. The areas of potential habitat to be affected is very small and will not fragment or isolate foraging habitat at a broad scale.

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

The proposed development will require the removal 0.18 ha and two HBTs within the Study Area. These habitat features exists within an area cleared for current agricultural/infrastructure use and are likely to be disturbed, and thus it is unlikely that the Study Area supports breeding behaviours. The listed species are highly mobile and can utilise a range of more preferential foraging and sheltering habitats. Therefore, the habitat present within the Study Area is not important to the long-term survival of the listed species.

D. Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding value (either directly or indirectly)

There are no Areas of Outstanding Biodiversity Value within the Study Area with reference to the Areas of Outstanding Biodiversity Value register.

E. Whether the proposed development or activity is part of a key threatening process or is likely to increase the impact of a key threatened process.

Key threatening processes, as listed in Schedule 4 of the BC Act of relevance to the proposed vegetation and habitat clearance:

- Clearing of native vegetation

The removal of 0.18 ha of vegetation and two HBTs with marginal sheltering habitat is considered a very small disturbance. These species are highly mobile and is known to rely on a range of foraging and shelter resources within the local occurrence. Therefore, the proposal is unlikely to exacerbate the impacts of this key threatening process.

Conclusion

The proposal will directly affect a maximum area of 0.18 ha of marginal foraging or sheltering habitat only. If the listed bat species utilise the trees and human structures for intermittent foraging or sheltering, the localised nature of the removal, indicate that the proposed action is unlikely to have a significant impact on listed bat species such that it would put a local population of any of the species at risk of extinction or substantially isolate any areas of potential habitat

As such, a Species Impact Statement or BDAR is not recommended with respect to the potentially affected species.

Threatened Birds

Dusky Woodswallow (*Artamus cyanopterus cyanopterus*) – Vulnerable (BC Act)

The species occurs throughout most of New South Wales, but is sparsely scattered in, or largely absent from, much of the upper western region. Most breeding activity occurs on the western slopes of the Great Dividing Range. 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.

Gang-gang Cockatoo (*Callocephalon fimbriatum*) - Vulnerable (BC Act)

In New South Wales, the Gang-gang Cockatoo is distributed from the south-east coast to the Hunter region, and inland to the Central Tablelands and south-west slopes. The Gang-gang Cockatoo prefers tall montane forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests during summer, these being at higher altitudes. In winter, this species occurs at lower altitudes in drier, more open eucalypt forests and woodlands, or in dry forest in coastal areas.

Blue-winged Parrot (*Neophema chrysostoma*) - Vulnerable (BC Act)

Blue-winged parrots 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. The species can also be seen in altered environments such as airfields, golf-courses and paddocks. Pairs or small parties of blue-winged parrots forage mainly near or on the ground for seeds of a wide range of native and introduced grasses, herbs and shrubs

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,

Impacts that are considered to impact on the life cycle of a species relates to impacts on stages of reproduction, growth, development, ageing and death. The impacts of the proposal on the above listed bird species relates to the loss of a maximum of 0.18 ha of marginal foraging and sheltering habitat. The potential shelter habitat is not favourable and is unlikely to support breeding due to its proximity to human activity and would likely be frequently disturbed. The listed species are highly mobile and can utilise a range of more preferential foraging and sheltering habitats. Therefore, the removal of 0.18 ha of native vegetation and 2 HBTs will not adversely affect the life cycle of these species such that a viable population is likely to be placed at risk of extinction.

B. in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:

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

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

Not applicable – not an endangered ecological community.

C. In relation to the habitat of a threatened species or ecological community:

i) The extent to which habitat is likely to be removed or modified because of the proposed development or activity, and

0.18 ha of native vegetation, and two HBTs considered potential sheltering habitat are to be removed.

ii) Whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and

The proposal would not result in the fragmentation or isolation of any areas of foraging or sheltering habitat for these species. The areas of potential habitat to be affected is very small and will not fragment or isolate foraging habitat at a broad scale.

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

The proposed development will require the removal 0.18 ha and two HBTs within the Study Area. These habitat features exist within an area cleared for current agricultural/infrastructure use and are subject to human disturbance, and thus it is unlikely that the Study Area supports breeding behaviours. The listed species are highly mobile and can utilise a range of more preferential foraging and sheltering habitats. Therefore, the habitat present within the Study Area is not important to the long-term survival of the listed species.

D. Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding value (either directly or indirectly)

There are no Areas of Outstanding Biodiversity Value within the Study Area with reference to the Areas of Outstanding Biodiversity Value register.

E. Whether the proposed development or activity is part of a key threatening process or is likely to increase the impact of a key threatened process.

Key threatening processes, as listed in Schedule 4 of the BC Act of relevance to the proposed vegetation and habitat clearance:

- Clearing of native vegetation

The removal of 0.18 ha of vegetation and two HBTs with marginal sheltering habitat is considered a very small disturbance. These species are highly mobile and is known to rely on a range of foraging and shelter resources within the local occurrence. Therefore, the proposal is unlikely to exacerbate the impacts of this key threatening process.

Conclusion

The proposal will directly affect a maximum area of 0.18 ha of marginal foraging or sheltering habitat only. If the listed bird species utilise the trees for intermittent foraging or sheltering, the localised nature of the removal, indicate that the proposed action is unlikely to have a significant impact on listed bat species such that it would put a local population of any of the species at risk of extinction or substantially isolate any areas of potential habitat

As such, a Species Impact Statement or BDAR is not recommended with respect to the potentially affected species.

Appendix E: Significant Impact Criteria

Threatened Megabats

Grey-headed Flying Fox (*Pteropus poliocephalus*) – Vulnerable (EPBC Act)

Occur in subtropical and temperate rainforests, tall sclerophyll forests. Forages on a variety of flowering and fruiting native and exotic plants. The EPBC Act Policy Statement *Referral Guideline for Management actions in grey-headed and spectacled flying-fox camps* (DoE 2015) (Referral Guideline) defines a nationally important GHFF camp as one that has been occupied by:

- ≥ 10,000 GHFF in more than one year in the last 10 years; or
- > 2,500 GHFF permanently or seasonally every year for the last 10 years.

The nearest GHFF camp was recorded in Yass, 1.8 km south of the Study Area (Camp 983), in February 2019 and February 2021, with a population category 1 (1- 499 individuals).

Criterion a: lead to a long-term decrease in the size of an important population of a species

The Study Area does not support populations for breeding or dispersal, populations necessary for maintaining genetic diversity, or populations near the limit of the species range. The nearest camp is nearly 2 km away and as such the proposed development will not impact directly on any GHFF camps. Furthermore, the habitat to be removed is considered to provide marginal foraging habitat for a small number of individuals only. The trees present within the Study Area would likely represent a minute component of a full night's foraging route (if utilised at all). Thus, the removal of 0.18 ha of native vegetation will not lead to a long-term decrease in the size of an important population of GHFF in Yass.

Criterion b: reduce the area of occupancy of an important population

The trees to be removed exist within a disturbed and fragmented landscape and are considered marginal foraging habitat only, and would likely represent a minute component of a full night's foraging route (if utilised at all). The trees exist nearly 2 km from the nearest camp and as such the proposed development will not cause disturbance that could result in the abandonment of a GHFF camp. Therefore, the proposed development will not reduce the area of occupancy of the GHFF within Yass.

Criterion c: fragment an existing important population into two or more populations

The trees to be removed exist within a disturbed and fragmented landscape and are considered marginal foraging habitat only, and would likely represent a minute component of a full night's foraging route (if utilised at all). GHFF are a highly mobile species and will utilise a wide range of foraging and sheltering habitat. The removal of 0.18 ha of native vegetation within an already highly disturbed and fragmented landscape will not cause the fragmentation of the GHFF population within the Yass.

Criterion d: adversely affect habitat critical to the survival of a species

The trees to be removed exist within a disturbed and fragmented landscape and are considered marginal foraging habitat only, and would likely represent a minute component of a full night's foraging route (if utilised at all). GHFF are a highly mobile species and will utilise a wide range

of foraging and sheltering habitat. Thus, the proposed development will not adversely affect habitat critical to the survival of the GHFF.

Criterion e: disrupt the breeding cycle of an important population

The trees to be removed are considered marginal foraging habitat only and cannot support a breeding population. The nearest camp is nearly 2 km away and will not be impacted by the development directly. Thus the proposed development will not disrupt the breeding cycle of the GHFF.

Criterion f: Adversely affect habitat critical to the survival of a species; modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.

The trees to be removed exist within a disturbed and fragmented landscape and are considered marginal foraging habitat only, and would likely represent a minute component of a full night's foraging route (if utilised at all). GHFF are a highly mobile species and will utilise a wide range of foraging and sheltering habitat. Therefore, the proposed development will not modify, destroy, remove, isolate, or decrease the availability or quality of habitat to the extent that the GHFF is likely to decline.

Criterion g: 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 introduction of any invasive species.

Criterion h: Introduce disease that may cause the species to decline.

The proposal will not result in the introduction of any diseases.

Criterion i: Interfere substantially with the recovery of the species.

The proposal is not considered to interfere with any recovery or conservation efforts that are targeted towards Grey-headed Flying-fox.

The trees to be removed exist within a disturbed and fragmented landscape and are considered marginal foraging habitat only, and would likely represent a minute component of a full night's foraging route (if utilised at all). The nearest camp is nearly 2 km away and will not be impacted by the development directly. Therefore, the proposed development is not considered to constitute a significant impact on the Grey-headed Flying Fox. As such, a referral to the Commonwealth is not recommended.

Thereatened Birds

Gang-gang Cockatoo (*Callocephalon fimbriatum*) - Endangered (EPBC Act)

In New South Wales, the Gang-gang Cockatoo is distributed from the south-east coast to the Hunter region, and inland to the Central Tablelands and south-west slopes. The Gang-gang Cockatoo prefers tall montane forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests during summer, these being at higher altitudes. In winter, this species occurs at lower altitudes in drier, more open eucalypt forests and woodlands, or in dry forest in coastal areas.

Blue-winged Parrot (*Neophema chrysostoma*) - Vulnerable (BC Act)

Blue-winged parrots 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. The species can also be seen in altered environments such as airfields, golf-courses and paddocks. Pairs or small parties of blue-winged parrots forage mainly near or on the ground for seeds of a wide range of native and introduced grasses, herbs and shrubs

Criterion a: lead to a long-term decrease in the size of an important population of a species

The proposed development would result in the removal of a maximum of 0.18 ha of planted native vegetation and contains two HBTs with suitable roosting habitat for the above species (6x small hollows), although 5 hollows are within an exotic tree and likely provide less favourable habitat.

The vegetation within the Subject Land is not considered preferential due to disturbance from current land use. As the above listed bird species range widely, and the occurrence of these species within the Subject Land is likely limited to marginal foraging and roosting, the removal of 0.18 ha of vegetation will not reduce habitat connectivity and individuals within the proposed impact area will be able to readily relocate to nearby habitat. Therefore, the proposal is not likely to lead to a long-term decrease in the size of an important population of the above listed bird species.

Criterion b: reduce the area of occupancy of an important population

The vegetation within the Subject Land is not considered preferential due to disturbance from current land use. As the above listed bird species range widely, and the occurrence of these species within the Subject Land is likely limited to marginal foraging and roosting, the removal of 0.18 ha of vegetation will not reduce habitat connectivity and individuals within the proposed impact area will be able to readily relocate to nearby habitat. Therefore, the proposal is not likely to reduce the area of occupancy of the above listed bird species.

Criterion c: fragment an existing important population into two or more populations

The trees to be removed exist within a disturbed and fragmented landscape and are considered marginal foraging habitat only. The removal of 0.18 ha of native vegetation within an already highly disturbed and fragmented landscape will not fragment any biodiversity linkages and therefore won't cause the fragmentation of any populations.

Criterion d: adversely affect habitat critical to the survival of a species

The trees to be removed exist within a disturbed and fragmented landscape and are considered marginal foraging habitat only and not preferential habitat. The above-listed birds are a highly mobile and can readily relocate to more favourable foraging and sheltering habitat. Thus, the

removal of 0.18 ha of planted native vegetation is not considered habitat that is critical to these species.

Criterion e: disrupt the breeding cycle of an important population

The trees to be removed include two HBTs with suitable roosting habitat for the above species (6x small hollows), although 5 hollows are within an exotic tree and likely provide less favourable habitat. Given the disturbed nature of the Study Area it is unlikely these species would utilise these hollows for breeding and as such, the proposal is not anticipated to disrupt the breeding cycle of these species.

Criterion f: Adversely affect habitat critical to the survival of a species; modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.

The trees to be removed exist within a disturbed and fragmented landscape and are considered marginal foraging habitat only, as they are located within a disturbed and cleared landscape. These bird species are a highly mobile species can readily relocate to more preferable foraging and sheltering habitat. Therefore, the proposed development will not modify, destroy, remove, isolate, or decrease the availability or quality of habitat to the extent that the above-listed birds are.

Criterion g: 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 introduction of any invasive species.

Criterion h: Introduce disease that may cause the species to decline.

The proposal will not result in the introduction of any diseases.

Criterion i: Interfere substantially with the recovery of the species.

The proposal is not considered to interfere with any recovery or conservation efforts that are targeted towards the above listed species.

The trees to be removed exist within a disturbed and fragmented landscape and are considered marginal foraging habitat only. The trees to be removed include two HBTs with suitable roosting habitat for the above species (6x small hollows), although 5 hollows are within an exotic tree and likely provide less favourable habitat. Therefore, the proposal is unlikely is not considered to constitute a significant impact on the Gang-Gang Cockatoo or Blue-winged Parrot. As such, a referral to the Commonwealth is not recommended.