



20 July 2023

Beth Hoskins  
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## **Ecological Impact Assessment for the Proposed Subdivision of Lot 11 DP1044967, 69 Gorman Road, Goulburn, NSW**

Capital Ecology project no. 3214

Dear Beth Hoskins,

This letter provides an Ecological Impact Assessment (EIA) for the proposed lot size reduction and proposed subdivision (the 'proposed development') of 69 Gorman Road, Goulburn, NSW (Lot 11 1044967, area = 10.11 ha). We understand that the proposal seeks to reduce the existing minimum lot size of the western portion of Lot 11 from 10 ha to 2 ha (currently zoned RU6 with minimum lot size of 10 ha), and subsequently subdivide Lot 11 1044967 into two lots including establishment of a new building envelope, asset protection zone, and associated infrastructure (i.e. driveway, fences) in proposed new Lot 2. The 'subject land' (subject land = 4.61 ha) for this EIA includes the portions of proposed new Lot 1 (proposed to encompass 2.00 ha) and proposed new lot 2 (proposed to encompass 2.00 ha) associated with the locations of the proposed building envelope inclusive of the required asset protection zone, a variable buffer of up to 150 m to this development, and a portion of the crown road reserve between Gorman Road and the western lot boundary (Figure 1 and Figure 2).

The primary aims of this EIA are to document the ecological values of the subject land and to determine and assess the likely impacts of the proposed development upon habitat for terrestrial flora and fauna species and ecological communities listed pursuant to the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and/or the NSW *Biodiversity Conservation Act 2016* (BC Act).

This EIA has been prepared with regard to:

- technical plans and information provided by LandTeam<sup>1</sup>, including spatial data, regarding the subject land and the proposed development layout;

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<sup>1</sup> LandTeam (2022). *J&B Hoskins – Proposed subdivision of Lot 11 DP1044967, 69 Gorman Road, Goulburn. Development Application Overall Site Plan*. Drawing No. 215271-DA01-01, Issue D, Dated 19/07/2022.

Capital Ecology Pty Ltd

PO Box 854  
Gungahlin ACT 2912

ACN: 607 364 358  
ABN: 50 607 364 358

Phone: 0412 474 415  
Email: [admin@capitalecology.com.au](mailto:admin@capitalecology.com.au)

[www.capitalecology.com.au](http://www.capitalecology.com.au)

We acknowledge the Traditional Custodians of the land on which we work. We pay our respects to Elders past and present.

- the results of completed database searches for the subject land, with ecological point data obtained from the NSW Wildlife Atlas (BioNet);
- a review of relevant studies and other background information;
- a detailed field survey on 20 April 2023, completed to record and assess the ecological values of the subject land; and
- the knowledge of the authors regarding the biota of the locality, specifically the threatened ecological communities, flora, and fauna (and associated habitat) with the potential to occur in the lowland woodland ecosystems of the region.

## 1. Methods

### 1.1 Database and Literature Review

To inform the EIA, Capital Ecology completed a desktop review, involving the following.

- A list of threatened species (flora and fauna), threatened populations, and threatened ecological communities (TECs) listed pursuant to the EPBC Act with the potential to occur within the subject land was obtained using the Department of Climate Change, Energy, the Environment and Water's online EPBC Act Protected Matters Search Tool (PMST) on 21 April 2023.
- Ecological point data from the NSW Wildlife Atlas (BioNet) were obtained on 27 April 2023, providing a list of threatened species which have previously been recorded in the locality (i.e. within a 10 km radius of the subject land).
- Previous and current studies undertaken by Capital Ecology and others in the locality.

### 1.2 Vegetation Survey and Mapping

Capital Ecology undertook a survey to classify and map the vegetation and habitat values within the subject land, this included:

- mapping on-ground boundaries of each of the Plant Community Types (PCTs) present in the subject land;
- assessing the native vs. exotic dominance of the groundstorey vegetation throughout the subject land with the objective of identifying and mapping any substantial native patches, if present;
- recording all groundstorey species within the subject land (a list was compiled of all flora species identified within the subject land, with particular attention paid to the presence of threatened species);
- recording the species and characteristics of the exotic trees and shrubs within the subject land;
- assessing the habitat potential for threatened flora and fauna species which may occur in the locality; and
- mapping other ecological values and constraints (e.g. infestations of priority weeds etc.).

Note that the vegetation zones in the subject land were identified and classified as per Table 1, which encompasses all of the regularly encountered woodland/forest condition states in the locality. While not all of the vegetation zones in Table 1 may be present within a given site, classifying vegetation in this manner enables accurate identification of vegetation condition and ensures consistency across all of Capital Ecology's projects in the region.



**Table 1. Capital Ecology vegetation zone classification for woodlands and forests: example shown is for PCT3376 – Southern Tableland Grassy Box Woodland**

PCT	Groundstorey Dominance (perennial) Native or Exotic	Mature characteristic canopy sp./spp. Present or Absent	Regeneration of characteristic canopy sp./spp. Present or Absent	Native Forb Diversity		Vegetation Zone ID
				Low, Mod-High Low = < 12 sp. (disturbance tolerant spp. only) Mod-High = ≥12 sp.; incl. ≥ 1 important sp.; +/- disturbance sensitive spp.		
PCT3376 – Southern Tableland Grassy Box Woodland	Native	Present	Present	Mod-High	PCT3376 - Zone 1	
				Low	PCT3376 - Zone 2	
			Absent	Mod-High	PCT3376 - Zone 3	
				Low	PCT3376 - Zone 4	
		Absent	Present	Mod-High	PCT3376 - Zone 5	
				Low	PCT3376 - Zone 6	
			Absent	Mod-High	PCT3376 - Zone 7	
				Low	PCT3376 - Zone 8	
	Exotic	Present	Present	Low	PCT3376 - Zone 9	
			Absent	Low	PCT3376 - Zone 10	
		Absent	Absent	Low	PCT3376 - Zone 11	

## Native vegetation extent

In accordance with the BC Act, native vegetation is defined according to Part 5A of the *Local Land Services Act 2013* (LLS Act), which states:

*(1) For the purposes of this Part, native vegetation means any of the following types of plants native to New South Wales:*

- (a) trees (including any sapling or shrub or any scrub),*
- (b) understorey plants,*
- (c) groundcover (being any type of herbaceous vegetation),*
- (d) plants occurring in a wetland.*

*(2) A plant is native to New South Wales if it was established in New South Wales before European settlement. The regulations may authorise conclusive presumptions to be made of the species of plants native to New South Wales by adopting any relevant classification in an official database of plants that is publicly accessible.*

As per this definition, planted vegetation which comprises plant species native to NSW, regardless of whether or not the species are indigenous to the specific region and/or PCT of the subject land, is classified as native vegetation.

The Commonwealth Government<sup>2,3</sup>, ACT Government<sup>4</sup>, and previous NSW Government<sup>5</sup> assessment guidelines for the temperate grassland and woodland PCTs of the NSW/ACT Southern Tablelands region each declare vegetation as native dominant if 50% or more of the perennial groundlayer is comprised of native species. However, no such threshold is defined by the BAM, and the NSW Department of Planning, and Environment (DPE) have advised that the criteria for use in determining native vs. exotic dominance must be more stringent than the previously applied 50/50 rule. It is understood that this is due to the potential for seasonal variation and/or assessor disparity to substantially alter the BAM mapping result. For example, a patch of vegetation that is classified as 55% native in one season may be classified as 45% native in another.

With regard to the above, for the purposes of this EIA:

1. 'Native vegetation' is defined as any plant, naturally occurring or planted, which is native to NSW.
2. Exotic vegetation is defined as any plant which is not native to NSW.
3. A polygon of vegetation is defined as 'native vegetation' if:
  - a. species native to NSW are present in the canopy or mid-storey; or
  - b. for derived grassland communities (i.e. no canopy or mid-storey present), the area of native vegetation can be calculated to account for the exotic component as follows:

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<sup>2</sup> Commonwealth of Australia (2006). *Policy Statement 3.5: White Box – Yellow Box – Blakely's Red Gum grassy woodlands and derived native grasslands*. Commonwealth Department of Environment and Heritage.

<sup>3</sup> Commonwealth of Australia (2016). *Approved conservation advice for the Natural Temperate Grassland of the South Eastern Highlands (NTG–SEH) ecological community*.

<sup>4</sup> ACT Government (2010). *Survey guidelines for determining lowland vegetation classification and condition in the ACT*. Environment and Sustainable Development Directorate – Conservation Planning and Research.

<sup>5</sup> NSW Government (2014). *BioBanking Assessment Methodology 2014*. NSW Government Office of Environment and Heritage.

- where there is greater than 75% native vegetation in the ground cover then treat the vegetation as 100% native and assess the area to be cleared accordingly; or
- where the proportion of exotic to native vegetation in the ground cover is between 15-75% - the calculation of native vegetation extent is adjusted by multiplying the proportion (%) of native cover by the total area to be cleared; or
- where there is less than 15% native ground cover the vegetation can be considered exotic, and the area does not contribute to the native vegetation extent when determining the area of native vegetation clearance for the NSW Biodiversity Offsets Scheme (BOS) native vegetation clearance threshold.

### 1.3 Likelihood of Occurrence Assessment

The Likelihood of Occurrence Assessment for threatened flora and fauna species is a categorisation used to determine the likelihood that the subject species occurs within a subject land. The results are based on the findings of completed desktop studies and field surveys, expert opinion, and consideration of the species' currently recognised distribution and preferred habitat.

Threatened species and populations included in the Likelihood of Occurrence Assessment include all of those identified during the database and literature review as potentially occurring within 10 km of the subject land (Figure 4). Also included are threatened species listed pursuant to the BC Act and considered by Capital Ecology to have some potential to occur within the subject land.

The likelihood of a species occurring within the subject land is categorised as either negligible, low, moderate, or high. A species that has been identified within the subject land during the surveys for this EIA or by other confirmed records is expressed as confirmed.

The completed Likelihood of Occurrence Assessment is provided as Appendix A. Species assigned a moderate or higher likelihood of occurrence in the subject land, other than if this is limited to transient visitation, are considered in more detail in Section 2.4 (threatened flora) and Section 2.5 (threatened fauna) of this EIA.

### 1.4 Limitations

The NSW Cadastral boundaries for the subject land and surrounding area do not align with the publicly available aerial imagery. As such, the subject land for this EIA has been adjusted such that it aligns with cadastral boundaries provided by LandTeam<sup>6</sup>

The vegetation mapping for this EIA has been developed using high resolution orthorectified aerial imagery<sup>7</sup> in combination with a handheld GPS. The areas mapped will therefore accurately correspond to the observed extent with respect to the GDA2020 / MGA zone 55 spatial reference system (EPSG:7855).

The impact from the proposed development has been calculated using the spatial data for the development overlaid on the vegetation mapping produced for this EIA.

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<sup>6</sup> LandTeam (2022). *J&B Hoskins – Proposed subdivision of Lot 11 DP1044967, 69 Gorman Road, Goulburn. Development Application Overall Site Plan*. Drawing No. 215271-DA01-01, Issue D, Dated 19/07/2022.

<sup>7</sup> NSW Government (2023). *NSW Public Imagery WMS Server*. NSW Land and Property Information.

## 2. Results

### 2.1 Subject Land Description

#### 2.1.1 Descriptive Overview

The subject land occurs on a partially cleared rural residential block (Lot 11 DP1044967) located east of Gorman Road, Goulburn, NSW, and is surrounded by a combination of large lots zoned for environmental conservation (C2), environmental management (C3), transition (RU6), and Infrastructure (SP2) (Figure 1 and Figure 2). The subject land encompasses approximately 4.61 ha and is zoned<sup>8</sup> 'RU6 - Transition' with a minimum lot size<sup>9</sup> of 'AB1 – 10 ha' and 'C3 – Environmental Management'<sup>10</sup> with a minimum lot size<sup>11</sup> of 'AD - 100 ha'.

As shown in Figure 2, the subject land encompasses approximately 4.61 ha and includes the area for proposed Lot 1 (excluding the paddock currently occupied by the existing residence and associated amenity area), and an already cleared portion of proposed Lot 2 encompassing a 150 m variable buffer, together with a portion of the crown road reserve positioned between Gorman Road and the western boundary of Lot 2. The entrance to proposed Lot 2 will be off Gorman Road through the existing crown road reserve.

As shown in Figure 1 and Figure 2, the subject land is bordered by:

- a mosaic of thinned and intact woodland and dry forest communities to the north and east;
- cleared rural residential land to the south; and
- Gorman Road and a mosaic of rural residential and thinned and intact woodland and dry forest communities to the west.

Before European occupation, the entire subject land would have been characterised by a grassy woodland on the lower slopes and an open dry sclerophyll forest with a sparse shrub and grass groundlayer on the higher, elevated land characterised by dry, skeletal soils. Analysis of the earliest available historical aerial imagery suggests that substantial clearing of the region had been undertaken by the 1960s that resulted in significant clearing and/or thinning of the canopy. Personal communication with the landholder, together with the presence of historical infrastructure within and surrounding the subject land, also indicates that the majority of the subject land was cleared of native vegetation and occupied by a commercial orchard enterprise through the early 1900s.

The vegetation throughout the majority of the subject land is characterised by a predominantly exotic groundstorey dominated by common pasture grasses and agricultural weeds, with only highly disturbance tolerant native groundstorey species remaining within cleared areas. Vegetation within the crown road reserve and eastern buffer area is characterised by remnant and regenerating native upper and middle strata, and a predominately exotic groundstorey with some native grasses and forbs existing as a minor component.

No part of the subject land is identified on the [NSW Biodiversity Values Map](#) (BVM).

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<sup>8</sup> Goulburn Mulwaree LEP 2009 *Land Zoning Map LZN\_001G*

<sup>9</sup> Goulburn Mulwaree LEP 2009 *Lot Size Map LSZ\_001G*

<sup>10</sup> Goulburn Mulwaree LEP 2009 *Land Zoning Map LZN\_001G*

<sup>11</sup> Goulburn Mulwaree LEP 2009 *Lot Size Map LSZ\_001G*

The topography across the subject land is gently undulating, with the elevation ranging from approximately 657 m Australian Height Datum (AHD) in the north-east corner, rising to 671 m AHD towards the south-western extent of the subject land.

## 2.2 Vegetation

### 2.2.1 Plant Community Type (PCT) mapping

The western boundary and a small area in the south-east of the subject land supports Blakely's Red Gum *Eucalyptus blakelyi* as the dominant overstorey species. There is variable age class regeneration of Blakely's Red Gum *Eucalyptus blakelyi* in the areas mapped as Zone 9 (i.e. contain a remnant canopy). The midstorey is present in the westernmost patch and is dominated by Hawthorn *Crataegus monogyna*, Blackberry *Rubus fruticosus* sp. agg. and Green Wattle *Acacia decurrens*. These patches support a highly disturbed exotic groundstorey with the common agricultural species Cocksfoot *Dactylis glomerata*, Sheep Sorrel *Rumex acetosella* and Dallis Grass *Paspalum dilatatum* as the dominant species, together with exotic grasses Phalaris *Phalaris aquatica*, Tall Fescue *Festuca arundinacea* and African Love Grass *Eragrostis curvula* forming a substantial but non-dominant component. Native grasses Weeping Grass *Microlaena stipoides* and Couch *Cynodon dactylon* form a minor component of the groundstorey.

The cleared area occupying the majority of the subject land is generally continuous and the overstorey is characterised by scattered, isolated exotic Pear *Pyrus* sp. and lacks a midstorey throughout the patch. These patches support a highly disturbed exotic groundstorey with the common agricultural pasture species Tall Fescue and Sheep Sorrel as the dominant species, together with the exotic grasses Phalaris, African Lovegrass and Cocksfoot and native grasses Weeping Grass, Common Wheatgrass *Anthosachne scabra* and Couch forming minor components. This patch supports small populations of native Tall Sedge *Carex appressa* and Austral Rush *Juncus australis* and exotic Umbrella Sedge *Cyperus Eragrostis* surrounding water bodies and along soaks and contour drains.

The patch of vegetation within the variable buffer along the eastern edge of the subject land supports largely intact remnant dry sclerophyll forest dominated by an overstorey codominated by Inland Scribbly Gum *Eucalyptus rossii*, Red Stringybark *E. macrorhyncha* and Brittle Gum *E. mannifera*, with scattered Blakely's Red Gum *E. blakelyi*. The midstorey is sparse and consists of Green Wattle *Acacia decurrens*, Kangaroo Thorn *Acacia paradoxa*, and African Boxthorn *Lycium ferocissimum*. The groundstorey is native and dominated by Weeping Grass *Microlaena stipoides*, with native Red-Anther Wallaby Grass *Rytidosperma pallidum* and Purple Wiregrass *Aristida ramosa* and exotic Sheep Sorrel *Rumex acetosella* and Annual Fescue *Vulpia myuros* forming substantial but non-dominant components. This patch also supports a diversity of other native tussock forming grasses and some native forbs.

As shown in Figure 3 and detailed in Table 2, based on the landscape position and plant species present within the subject land and surrounds, the historic PCTs would have consisted of open grassy woodland (PCT3376) and dry sclerophyll forest (PCT3747) as defined in the NSW Vegetation Information System (VIS).



**Table 2. PCTs recorded in the subject land.**

PCT	PCT name	PCT description	Occurrence in subject land	TEC status Commonwealth / NSW	PCT % cleared
3376	Southern Tableland Grassy Box Woodland	A tall sclerophyll woodland with a dry shrub layer that is patchy to absent and a mid dense, grassy groundcover, widespread in the low hills of the drier parts of the Southern Tablelands. The canopy almost always includes box eucalypts ( <i>Eucalyptus melliodora</i> or <i>E. bridgesiana</i> ), occasionally associated with <i>E. blakelyi</i> which may be locally prominent in lower parts of the landscape. The shrub layer is sparse to absent with occasional, scattered <i>Melichrus urceolatus</i> , <i>Lissanthe strigosa</i> or various <i>Acacia</i> species. The mid-dense ground layer typically includes grasses, forbs, graminoids and some twiners, very frequently including <i>Hydrocotyle laxiflora</i> , <i>Austrostipa scabra</i> , <i>Lomandra filiformis</i> , <i>Microlaena stipoides</i> and <i>Elymus scaber</i> . It occurs on granite, volcanic and sedimentary substrates in cold, dry environments with a mean annual rainfall typically below 760 mm.	This PCT was mapped across the flatter, more gently sloping areas of the subject land.	Critically Endangered (Commonwealth and NSW) when occurring in a condition consistent with the listing criteria of the TEC.	93%
3747	Southern Tableland Western Hills Scribbly Gum Forest	A mid-high to tall dry shrubby sclerophyll open forest of slopes and crests of dry, rocky tableland hills and ranges, at moderate altitudes across the central tablelands and northern parts of the southern tablelands. It generally occurs at elevations of 550-1100 m and in locations receiving 600-920 mm mean annual rainfall, commonly on quartz-rich sedimentary, acid volcanic and granitoid substrates, with scattered occurrences in areas mapped as shales or mudstones. A sparse to mid-dense tree canopy very frequently includes <i>Eucalyptus macrorhyncha</i> and or <i>Eucalyptus rossii</i> , commonly with <i>Eucalyptus mannifera</i> and occasionally <i>Eucalyptus goniocalyx</i> . A sparse shrub layer very frequently includes <i>Hibbertia obtusifolia</i> , commonly with <i>Daviesia leptophylla</i> and <i>Brachyloma daphnoides</i> and occasionally <i>Acacia gunnii</i> , <i>Monotoca scoparia</i> or <i>Melichrus urceolatus</i> . The ground layer is sparse to mid-dense, and very frequently includes large tussocks of <i>Rytidosperma pallidum</i> , which dominates with a high cover, and <i>Lomandra filiformis</i> , <i>Poa sieberiana</i> , <i>Dianella revoluta</i> , <i>Gonocarpus tetragynus</i> and <i>Goodenia hederacea</i> . Also common is <i>Hovea linearis</i> (most records likely to be <i>Hovea heterophylla</i> ), with <i>Lomandra multiflora subsp. multiflora</i> occasional.	This PCT was mapped along the eastern edge of the subject land, primarily within the variable buffer area.	Not listed.	65%

## 2.2.2 Vegetation Zones

As illustrated in Figure 3, PCT3376 and PCT3747 were determined to comprise the following four discernible vegetation zones. Each vegetation zone is described below in Table 3 to Table 5.

PCT3376 - *Southern Tableland Grassy Box Woodland*.

- Zone 9 – Exotic dominant understorey, mature canopy, regeneration, and low native forb diversity.
- Zone 11 – Exotic dominant understorey, no canopy, and low native forb diversity.

PCT3747 - *Southern Tableland Western Hills Scribbly Gum Forest*.

- Zone 2 – Native dominant understorey, mature canopy, regeneration, and low native forb diversity
- Zone 11 – Exotic dominant understorey, no canopy, and low native forb diversity.

As described above, PCT3376 Zone 9 supports a remnant canopy of Blakely's Red Gum, with regeneration. This zone also supports Green Wattle, Blackberry and African Boxthorn in the midstorey. This zone supports a highly disturbed exotic groundstorey with Cocksfoot, Sheep Sorrel and Dallis Grass, and other exotic groundstorey species such as Phalaris, Tall Fescue, and African Lovegrass. The disturbance tolerant native grasses Weeping Grass and Couch form small patches in shaded areas throughout the regenerating trees and shrubs. Areas along the western fence line support climbers and scramblers including exotic scrambling shrub Blackberry and native climber Nodding Saltbush *Einaida nutans*.

PCT3747 Zone 2 supports a relatively intact dry forest dominated in approximately equal parts by mature and regenerating Inland Scribbly Gum, Red Stringybark and Brittle Gum. The midstorey is relatively sparse and is dominated by several acacia species. The groundlayer is dominated by Weeping Grass and other native grasses commonly found in dry forest communities, including Red-Anther Wallaby Grass and Purple Wiregrass. A variety of native and exotic sedges and rushes occur along soaks and depressions. Exotic understorey species including Annual Fescue and Sheep Sorrel occur in dense patches throughout PCT 3747 Zone 2.

The patches mapped as PCT3376 Zone 11 and PCT3747 Zone 11 are areas historically cleared of native woody vegetation and are currently lightly grazed by livestock and periodically slashed. These patches are characterised by an exotic agricultural landscape dominated by exotic pasture grasses and exotic broadleaf forbs with some disturbance tolerant native groundstorey species persisting to a very limited extent.

As described in Table 3 to Table 5, PCT3376 Zone 9, and PCT3747 Zone 2 meet the definition of BC Act 'native vegetation' (refer Figure 3 and Figure 6). PCT3376 Zone 11 and PCT3747 Zone 11 are dominated by planted exotic trees, and/or exotic grasses and forbs and do not contain a cover of native trees and/or shrubs.

The subject land contains several common exotic weed species, including significant weeds such as Blackberry, Common Hawthorn, African Lovegrass and African Boxthorn.

**Table 3. PCT3376 Zone 9 results summary**

PCT3376 Zone 9	
Description	<p><u>Southern Tableland Grassy Box Woodland – Low diversity</u></p> <p>This zone is characterised by a canopy of Blakely’s Red Gum with regeneration of the overstorey. The sparse midstorey and shrubstorey are dominated by Green Wattle and Hawthorn.</p> <p>The exotic groundlayer is dominated by Cocksfoot, Sheep Sorrel and Dallis Grass, with minor components of Weeping Grass and Couch and low native forb diversity.</p>
Area	0.15 ha
Overstorey Species	Dominant = Blakely’s Red Gum.
Overstorey Cover	Approximately 20%.
Overstorey Regeneration	Yes.
Perennial Groundlayer	Exotic dominant (>90% exotic)
Significant Weeds	Blackberry, African Boxthorn, Hawthorn and Sheep Sorrel
EPBC Act and/or BC Act listed TEC	Yes (BC Act).
BC Act Native Vegetation	Yes.





**Table 4. PCT3747 Zone 2 results summary**

PCT3747 Zone 2	
Description	<p><u>Dry Sclerophyll Forest – low diversity</u></p> <p>This zone supports a relatively intact dry forest dominated by mature and regenerating Inland Scribbly Gum, Brittle Gum and Red Stringybark, with scattered Blakely’s Red Gum. The midstorey is present but sparse and consists Green Wattle and Kangaroo Thorn.</p> <p>The groundstorey is dominated by Weeping Grass and other native grasses commonly found in dry forest communities, Red Anther Wallaby Grass, and Purple Wiregrass. Several exotic species including Annual Fescue and Sheep Sorrel make up a large, non-dominant component of the groundstorey within this zone.</p> <p>The native forb and non-grass understorey species diversity across this zone is low and includes Mat Rush <i>Lomandra spp.</i>, Nodding Saltbush and Smooth Willowherb <i>Epilobium billardereanum</i>.</p>
Area	0.13 ha
Overstorey Species	Dominant = Scribbly Gum, Brittle Gum, Red Stringybark Scattered = Blakely’s Red Gum
Overstorey Cover	Approximately 30%
Overstorey Regeneration	Yes.
Perennial Groundlayer	Native dominant (>55% native)
Significant Weeds	Spear Thistle <i>Cirsium vulgare</i> , Sheep Sorrel, African Lovegrass, African Boxthorn, Serrated Tussock <i>Nassella trichotoma</i>
EPBC Act and/or BC Act listed TEC	No.
BC Act Native Vegetation	Yes.



**Table 5. PCT3376/PCT3747 Zone 11 results summary**

PCT3376/PCT3747 Zone 11	
Description	<p><u>Exotic Vegetation</u></p> <p>This zone is characterised by a continuous patch of exotic vegetation dominated by commonly cultivated agricultural grasses and exotic broadleaf forbs and including sparse occurrences of disturbance tolerant native groundstorey species. Small populations of native and exotic sedges and rushes exist throughout this patch surrounding waterbodies and soaks.</p>
Area	4.33 ha.
Overstorey Species	Scattered = Pear <i>Pyrus sp.</i>
Perennial Groundlayer	Exotic dominant (>90% exotic)
Significant Weeds	African Lovegrass, Spear Thistle, Serrated Tussock
EPBC Act and/or BC Act listed TEC	No.
BC Act Native Vegetation	No.





## 2.3 Threatened Ecological Communities

### 2.3.1 Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)

Two EPBC Act listed threatened ecological communities have the potential to occur in the area, both listed as critically endangered under the EPBC Act:

- 'Natural Temperate Grassland of the South Eastern Highlands' (NTG-SEH); and
- 'White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland' (EPBC Act Box-Gum Woodland).

Due to the presence of remnant woodland eucalypts throughout the subject land and surrounding area, only EPBC Act Box-Gum Woodland is considered to have the potential to occur within the subject land.

To determine whether a patch meets the criteria for the community, the vegetation must be assessed against the flowchart provided in *Policy Statement 3.5: White Box – Yellow Box – Blakely's Red Gum grassy woodlands and derived native grasslands* (Commonwealth of Australia 2006<sup>12</sup>). An assessment of the vegetation within the subject land against this flowchart is provided below.

1. *Criterion 1. Is, or was previously, at least one of the most common overstorey species White Box, Yellow Box or Blakely's Red Gum?*

Yes – Blakely's Red Gum is the dominant overstorey species in the areas mapped as PCT 3376 Zone 9 and is likely to have been the dominant species in PCT3376 Zone 11.

2. *Criterion 2. Does the patch have a predominantly native understorey?*

No – PCT 3376 Zones 9 and 11 support a predominantly exotic understorey.

3. *Criterion 3. Is the patch 0.1 ha (1000 m<sup>2</sup>) or greater in size with 12 or more native understorey species present (excluding grasses)? There must be at least one important species.*

*Or*

*Is the patch 2 ha or greater in size with an average of 20 or more mature trees per hectare, or is there natural regeneration of the dominant overstorey eucalypts?*

No – PCT 3376 Zones 9 and 11 do not meet either criterion of step 3.

Conclusion – The areas mapped as PCT3376 Zone 9 and Zone 11 do not meet the definition of EPBC Act Box-Gum Woodland.

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<sup>12</sup> Commonwealth of Australia (2006). *Policy Statement 3.5: White Box – Yellow Box – Blakely's Red Gum grassy woodlands and derived native grasslands. Environment Protection and Biodiversity Conservation Act 1999.* Commonwealth Department of Environment and Heritage.

### 2.3.2 Biodiversity Conservation Act 2016 (NSW)

Two BC Act listed ecological communities have the potential to occur in the subject land:

- ‘White Box – Yellow Box – Blakely's Red Gum Woodland’ (BC Act Box-Gum Woodland)'; and
- ‘Monaro Tableland Cool Temperate Grassy Woodland in the South East Highlands Bioregion’.

#### BC Act Box-Gum Woodland

This community, listed as critically endangered in NSW, is described below, together with an assessment of its presence and condition in the subject land.

The below description is extracted from the NSW *Final Determination: White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland* (NSW Threatened Species Scientific Committee 2020, gazetted 17 July 2020<sup>13</sup>).

*4.2. White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland is characterised by widely-spaced trees with canopies not touching and projected foliage cover generally less than 30% (Prober et al. 2017) ...Understorey shrubs are typically sparse or absent (Prober et al. 2017). The groundcover is dominated by perennial tussock grasses interspersed with a diverse range of forb species with the families Asteraceae and Fabaceae, and the orders Liliales and Asparagales well represented (Prober et al. 2017).*

*4.3. White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland is characteristically dominated by one or more of the species Eucalyptus albens (White Box), E. melliodora (Yellow Box) and E. blakelyi (Blakely's Red Gum) ...A number of understorey species are typically found throughout almost the entire range of the community, with the exception of the extreme north of its distribution and areas where they have been excluded by grazing.*

*4.10. The distribution of White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland spans a range in elevation from approximately 170 m ASL on the western slopes of the Great Dividing Range to approximately 1200 m on the Northern Tablelands of NSW (Beadle 1981), although occurrences on the ranges are typically at lower elevations (Prober et al. 2017). The topography on which the community occurs ranges from flat in the west of its range to hilly and undulating in the east (Prober and Thiele 2004).*

*4.12. ...For the purpose of establishing the risk of ecosystem/community collapse due to ongoing decline in distribution, it is not possible on the basis of available data, to specify thresholds in either tree cover or species diversity which are indicative of loss of function because: i) no single threshold is appropriate for the range of circumstances and pathways leading to different states of degradation (and hence the potential for recovery); ii) the point at which an ecological community has ceased to function in its original form is inherently uncertain, and the scientific basis upon which symptoms such as loss of tree cover and diversity can be related to ecological function is not established in this case; and iii) recovery may be dependent on active remediation, therefore thresholds can not be determined in absolute terms because they depend on social (collective will) and economic (cost of remediation) factors.*

*3.1.4. The condition of remnants ranges from relatively good to highly degraded, such as paddock remnants with weedy understories and only a few hardy natives left. Some remnants of the community may consist of only an intact overstorey or an intact understorey but may still have high conservation value due to the flora and fauna they support.*

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<sup>13</sup> NSW Threatened Species Scientific Committee (2020). *Final Determination: White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland*. Gazetted 17 July 2020.

The final determination does not provide specific listing criteria against which to assess a patch of vegetation. However, as described in the final determination, the definition for the BC Act Box-Gum Woodland TEC is very broad. In effect, any land for which the climax community is Box-Gum Woodland that has not been cultivated, become a stock camp, or otherwise been entirely modified, is likely to meet the minimum definition of the BC Act listed TEC.

Presence in the subject land – Present – The areas mapped as PCT3376 would have once supported the climax community of this TEC.

PCT3376 Zone 9 is characterised by a native overstorey with an exotic understorey with low native forb diversity, and PCT3376 Zone 11 by an overstorey absent of native vegetation with an exotic understorey with low native forb diversity.

Zone 9 supports vegetation which meets the criteria for this TEC. PCT3376 Zone 11 lacks a remnant overstorey and has a groundstorey that is highly modified and dominated by exotic grasses and herbaceous weeds. As such, PCT3376 Zone 11 does not support vegetation which meets the criteria for this TEC under the BC Act.

As such, the portions of the subject land that support BC Act Box-Gum Woodland are defined by the extent of PCT3376 Zone 9 (Figure 4).

### **BC Act Monaro Tableland Cool Temperate Grassy Woodland in the South East Highlands Bioregion**

The Monaro Tableland Cool Temperate Grassy Woodland (CTGW) in the South East Highlands Bioregion community, listed as critically endangered in NSW, is described below, together with an assessment of its presence and condition in the subject land.

The below description is extracted from the NSW *Final Determination for the TSC Act critically endangered listed ecological community Monaro Tableland Cool Temperate Grassy Woodland in the South East Highlands Bioregion* (NSW Threatened Species Scientific Committee 2019<sup>14</sup>).

*Monaro Tableland Cool Temperate Grassy Woodland ranges in structure from woodland to low open woodland. It is characterised by a sparse to very sparse tree stratum dominated by Eucalyptus pauciflora either in monospecific stands or with any of Acacia melanoxylon, E. rubida subsp. rubida, E. stellulata or E. viminalis as codominants. A number of other tree species have been recorded within the community, although very infrequently and always as canopy subdominants. These include E. bridgesiana, E. dives, E. blakelyi and E. melliodora. Tree height and cover vary as a function of moisture availability, drainage and past land management. The tree stratum becomes shorter and sparser with declining moisture availability or increasing levels of soil waterlogging... Trees may be absent as a consequence of tree removal under pastoral management and grazing by domestic stock. A continuous herbaceous ground stratum is usually present, although this is highly variable in composition and cover as a function of grazing pressure from wild herbivores (native and exotic) and domestic stock. Ground cover species include Themeda triandra, Poa sieberiana, Elymus scaber, Hydrocotyle laxiflora, Scleranthus biflorus, Oxalis perennans, Plantago varia, Euchiton japonicus, Poa labillardieri, Hypericum gramineum, Desmodium varians, Geranium solanderi, Acaena echinata, Gonocarpus tetragynus, Microlaena stipoides, Dichondra repens, Solenogyne gunnii, Asperula conferta, Asperula scoparia, Rumex brownii, Rytidosperma laeve, Rytidosperma pilosum, Chrysocephalum apiculatum and Chrysocephalum semipapposum. The Community may develop a shrub or bracken layer as a consequence of the opening up of the ground stratum*

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<sup>14</sup> NSW Threatened Species Scientific Committee (2019). *Final Determination: Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion*. Department of Planning, Industry and Environment, Sydney. Gazetted 28 June 2019.

*following excessive grazing by rabbits and sheep. This may include species such as Pimelea pauciflora, Acacia dealbata, Acacia melanoxylon, Acacia rubida subsp. rubida, Cassinia longifolia and Pteridium esculentum (Costin 1954).*

As stated in Part 4 of the Final Determination, the occurrence or historical occurrence of Snow Gum *Eucalyptus pauciflora* is the primary characteristic for determining the presence of the community. The final determination provides a Monaro & Werriwa CTGW Assessment Spreadsheet Tool to be used in conjunction with an Advisory Layer indicating potential extent. Presence of Snow Gum, characteristic species, non-characteristic species, stumps, and the proximity to nearest Snow Gum, are entered into the assessment tool to determine the likelihood of occurrence of the community. Part 1 of the Final Determination provides a list of an assemblage of species characteristic of the Monaro Tableland CTGW.

Presence in the subject land – Absent – The dominant tree species in the subject land are not characteristic of the dominant or co-dominant species of the BC Act Monaro Tableland Cool Temperate Grassy Woodland in the South East Highlands Bioregion TEC. As such, the subject land does not support vegetation which meets the criteria for this community under the BC Act.

## Conclusion

The subject land supports the BC Act listed ecological community *White Box Yellow Box Blakely's Red Gum Woodland* in the areas mapped as PCT3376 Zone 9. No part of the subject land supports the BC Act listed ecological community *Monaro Tableland Cool Temperate Grassy Woodland in the South East Highlands Bioregion*.

## 2.4 Threatened Flora Occurrence

No EPBC Act and/or BC Act listed threatened flora species were recorded in the subject land during the field survey, and, as detailed in the Likelihood of Occurrence Assessment (refer Appendix B), none of the threatened flora species with the potential to occur in the locality are considered to have a moderate or higher likelihood of occurrence in the subject land.

## 2.5 Fauna Habitat and Threatened Fauna Occurrence

The habitat features in the subject land were identified during the field surveys and assessed regarding their potential value to native fauna species, both threatened and common. The fauna habitat features of the subject land are described in Table

**Table 6. Fauna habitat features.**

Habitat Feature	Description	Relevant Native Fauna Species/Assemblages
Remnant eucalypts	The subject land supports a small number of remnant Eucalypts to west along the Gorman Road crown road corridor, and within the variable buffer area to the east.	All remnant trees, young and mature, are likely to provide foraging resources for a variety of birds and marsupials when in flower, including threatened species. No hollow bearing trees were observed within the subject land, and as such, it is unlikely that the subject land would support breeding habitat for hollow-bearing fauna.
Other native vegetation (i.e. native shrubs, grasses, and forbs)	The subject land supports native vegetation in strata besides the overstorey in along the Gorman Road crown road corridor, within the variable buffer to the east and in small, sparse patches throughout the broader subject land.	The native grasses, forbs, and shrubs are likely to provide a foraging resource for a variety of native birds, reptiles, and herbivorous mammals, including threatened species. The presence of the remnant overstorey combined with the diverse native midstorey and shrubstorey provide a level of habitat complexity and structure that is likely to provide habitat value for a range of woodland birds, including the region's threatened and rare woodland birds, which generally prefer to inhabit more intact vegetation.  As expansive and well-connected patches of native vegetation exist to the north, east and west of the subject land, it is unlikely that the lower-quality native vegetation within the subject land would provide important habitat to native fauna besides common generalist species.
Creeks, streams, dams	The subject land contains one small farm dam that is fringed by common native and exotic riparian vegetation.	The dam is unlikely to provide habitat of significant value to aquatic flora or fauna. However, it is likely to be of some limited value to common native water birds (e.g. Australian Wood Duck <i>Chenonetta jubata</i> ) and reptiles (e.g. Eastern Long-necked Turtle <i>Chelodina longicollis</i> ).

A total of 11 native fauna species were recorded during surveys, including ten bird species and one amphibian species (refer Appendix C). No EPBC Act or BC Act listed threatened fauna species were recorded. However, there are several records for threatened fauna in the locality (Figure 5), and, as outlined below and detailed in the Likelihood of Occurrence Assessment (refer Appendix A), several threatened fauna species may visit the subject land on a transitory basis.

As detailed in Appendix C, the following species are considered to have a moderate likelihood of occurring within higher quality patches of vegetation within the subject land: Dusky Woodswallow *Artamus cyanopterus cyanopterus*, Varied Sittella *Daphoenositta chrysoptera*, Scarlet Robin *Petroica boodang*, Flame Robin *Petroica phoenica*, and Diamond Firetail *Stagonopleura guttata*.

As no native vegetation within the subject land will be impacted, threatened woodland birds are not considered likely to be impacted by the proposed development.



## 2.6 High Threat Weeds

Table 10 lists the high threat weeds that occur in the subject land. None of these weeds are currently widespread or occur at high density.

**Table 10. High threat weeds.**

Species Name	Common Name	Status
<b>Rushes/Sedges</b>		
<i>Cyperus eragrostis</i>	Tall Flat-sedge	-
<b>Shrubs</b>		
<i>Crataegus monogyna</i>	Common Hawthorn	-
<i>Rubus fruticosus</i>	Blackberry	WoNS,AP
<i>Lycium ferocissimum</i>	African Boxthorn	WoNS,AP
<b>Grasses</b>		
<i>Eragrostis curvula</i>	African Lovegrass	C
<i>Nassella trichotoma</i>	Serrated Tussock	WoNS,AP,C
<i>Paspalum dilatatum</i>	Dallis Grass	-
<b>Forbs</b>		
<i>Cirsium vulgare</i>	Spear Thistle	-
<i>Rumex acetosella</i>	Sheep Sorrel	-

**Table key.** Commonwealth Weed of National Significance = **WoNS**. Regional Priority Weed in the South-East Local Land Services region under the NSW *Biosecurity Act 2015*: **P** = Prevention; **E** = Eradication; **C** = Containment; **AP** = Asset Protection; **LM** = Species subject to Local Management programs.

## 3. Summary of Proposed Impacts

In total, the subject land supports 1.26 ha of BC Act native vegetation, which includes 0.15 ha of vegetation that meets the criteria for BC Act Box-Gum Woodland.

As shown in Figure 2 and Figure 7, the proposed development seeks to establish a 4,000 m<sup>2</sup> building envelope and a 4.5 m wide entrance driveway within the subject land; all impacts associated with any future development will occur within these areas, including all dwellings, associated asset protection zones (APZs), effluent disposal areas, sheds etc. As the APZ is entirely exotic vegetation and will be incorporated within the building envelope, it is not addressed separately in this assessment and is included in the figure presented as the 'development footprint'.

The proposed development is assumed to impact upon all of the vegetation within this 4,800 m<sup>2</sup> (0.48 ha) development footprint.

Due to the planned positioning of the proposed building envelope and driveway upon the subject land, all vegetation disturbance will be confined to PCT3376 Zone 11 and PCT3747 Zone 11. Therefore, the vegetation disturbance area:

- does not support any BC Act Native Vegetation;
- does not contain vegetation which may constitute a listed threatened ecological community;
- does not support any listed threatened flora species; and

- supports vegetation which is likely to provide only limited habitat value for common, generalist native fauna and is unlikely to be of importance to any listed fauna species.

Accordingly, the proposed development in the subject land is unlikely to significantly impact any EPBC Act and/or BC Act listed threatened flora or fauna species or ecological community.

## 4. Proposed Measures to Minimise and Mitigate Impacts on Biodiversity

The following measures are proposed in order to minimise the potential impacts of the development on the ecological values of the subject land and surrounds.

### Weed management

A key potential risk to the biodiversity values of the subject land and adjoining areas during construction of the proposed development is the facilitated spread of the high threat weeds current occurring in the locality and/or the introduction of new weeds. The following best practice weed management measures will be implemented during construction.

- Appropriate vehicle hygiene will be maintained. Vehicles and machinery entering the subject land will be clean of weed seed or propagules.
- Only sterile materials such as hessian/jute or rice straw will be used for soil stabilisation or similar purposes.
- High threat weeds will be prevented from establishing in the subject land.

Blackberry, African Boxthorn and Serrated Tussock all of which occur in the subject land, are listed as Commonwealth Weeds of National Significance (WoNS). These species and any other high threat weeds should be removed from within the subject land as part of the proposed development.

Ongoing weed control in the subject land will be the responsibility of the owner of the respective lot.

### Sedimentation and erosion control

Best practice sediment and erosion control, such as the use of sediment traps, sediment interception ponds, silt fences and haybale fences, will be implemented as required during construction to minimise the flow of water and associated material into the surrounding areas and receiving waterways.

## 5. Legislative Requirements

### 5.1 Commonwealth

#### *Environment Protection and Biodiversity Conservation Act 1999*

The Commonwealth EPBC Act requires that proposed 'actions' be assessed in terms of their potential to impact upon 'Matters of National Environmental Significance' (MNES) as defined under the Act. Where a potential impact on a MNES may occur as a result of a proposed action, the significance of that impact must be assessed. Guideline criteria for determining whether an impact is significant are provided under the Act. Where a proposed action will, or is likely to, have a significant impact on a MNES, the proposed action must be referred to the Commonwealth Minister for the Environment. The purpose of the referral is to determine whether a proposed action requires approval and/or controls under the EPBC Act.

With regard to the above, it is unlikely that the proposed development will have a significant impact on a MNES given the subject land does not:

- support any EPBC Act listed ecological communities;
- support any EPNC Act listed flora species; or
- contain habitat of potential importance to EPBC Act listed threatened or migratory fauna species.

In light the above, EPBC Act referral is unwarranted and is not recommended.

## 5.2 New South Wales

### *Biodiversity Conservation Act 2016*

Under the BC Act, the Biodiversity Offsets Scheme (BOS) is triggered, and a Biodiversity Development Assessment Report (BDAR) prepared applying the NSW Biodiversity Assessment Method (BAM) by an accredited BAM Assessor must accompany a development application, for a proposed development which:

1. *will involve clearance of native vegetation (including trees, understorey plants, groundcover plants, and wetland plants) or a prescribed impact (as set out in clause 6.1 of the Biodiversity Conservation Regulation 2017 [BC Regulation]) on land identified on the Biodiversity Values Map; and/or*
2. *will exceed the native vegetation clearance threshold for the smallest minimum lot size associated with the subject land; and/or*
3. *may significantly impact one or more BC Act listed entities (i.e. threatened species or ecological communities).*

### **Biodiversity Values Map**

No part of the subject land is identified on the Biodiversity Values Map<sup>15</sup>.

### **Native vegetation clearance**

The smallest current minimum lot size for the subject land is 'AB1 - 10 ha' (Goulburn Mulwaree LEP 2009 Lot Size Map - Sheet LSZ\_001G). In this regard, as stated in Part 7, Clause 7.2 of the *Biodiversity Conservation Regulation 2017* (BC Regulation), if native vegetation clearance was to exceed 0.5 ha (5,000 m<sup>2</sup>) then a BDAR would be required for the proposed development.

As detailed in this EIA and shown in Figure 6, 1.26 ha of the subject land meets the definition BC Act native vegetation. As the proposed development footprint does not include any of this native vegetation, the proposed development will not exceed the native vegetation clearance threshold for the smallest minimum lot size associated with the subject land.

### **Potential to impact one or more BC Act listed entities**

In total, the subject land supports 1.26 ha of BC Act native vegetation, which includes 0.15 ha vegetation that meets the criteria for BC Act Box-Gum Woodland. As detailed above, the proposed development footprint does not include any vegetation that meets the BC Act definition of native vegetation and does not include any vegetation that meets the criteria for BC Act Box-Gum Woodland.

As demonstrated above, the proposed development will not trigger the BOS and the preparation of a BDAR is not required.

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<sup>15</sup> <https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=BVMap>

## State Environmental Planning Policies

State Environmental Planning Policies (SEPPs) outline policy objectives relevant to state-wide issues. The *State Environmental Planning Policy (Biodiversity and Conservation) 2021* (the '*Biodiversity and Conservation SEPP 2021*') commenced on 1 March 2022 consolidating and replacing eleven former SEPPs, including the *State Environmental Planning Policy (Koala Habitat Protection) 2021*.

'Chapter 4 Koala habitat protection 2021' of the *Biodiversity and Conservation SEPP 2021* –

*aims to encourage the conservation and management of areas of natural vegetation that provide habitat for koalas to support a permanent free-living population over their present range and reverse the current trend of koala population decline.*

Regarding the application of 'Chapter 4 Koala habitat protection 2021' of the *Biodiversity and Conservation SEPP 2021* for development proposed in the subject land, the following points are noted.

- The subject land is located within the Goulburn Mulwaree Local Government Area (LGA), which is an LGA to which Chapter 4 applies as listed in Schedule 2.
- The subject land is zoned 'RU6 – Transition'.
- There is no approved koala plan of management applying to the subject land.
- The subject land has an area of greater than 1 hectare.

Based on the above assessment, the development control provisions of Chapter 4 apply to the proposed development. Therefore –

*Before a council may grant consent to a development application for consent to carry out development on the land, the council must assess whether the development is likely to have any impact on koalas or koala habitat.*

*If the council is satisfied that the development is likely to have low or no impact on koalas or koala habitat, the council may grant consent to the development application.*

With regard to the above, the following points are noted.

- The subject land contains several *Eucalyptus* species which are listed as Koala use tree species listed in Schedule 2 for the relevant Koala management area (being the 'Central and Southern Tablelands koala management area'). The areas mapped as PCT3747 Zone 2 and PCT3376 Zone 9 are therefore considered to be *highly suitable koala habitat*.
- There are no recent records of Koala in the subject land or within 10 km of the boundary of the subject land. A cluster of recent community wildlife survey sourced records of Koala exist approximately 11 km west of the subject land. This cluster of records is separated from the subject land to a high degree due to distance, cleared and residential land, roads and other significant obstacles to movement of Koala.
- While supporting highly suitable koala habitat as defined by the SEPP, the absence of recent nearby records indicates that the subject land should not be considered as 'core koala habitat', which is defined in Chapter 4 of the SEPP as:

(a) an area of land which has been assessed by a suitably qualified and experienced person as being highly suitable koala habitat and where koalas are recorded as being present at the time of assessment of the land as highly suitable koala habitat, or

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

Considering the above, and with respect to Chapter 4 of the *Biodiversity and Conservation SEPP 2021*, given the absence of recent nearby records the subject land is considered unlikely to currently support 'core koala habitat'. Therefore, Council can be satisfied that the proposed development is unlikely to directly impact 'core koala habitat'.

### **Biosecurity Act 2015**

On 1 July 2017, the *Biosecurity Act 2015* came into force, replacing ten whole existing Acts (including the *Noxious Weeds Act 1993*) and parts of four other Acts. Supported by the *Biosecurity Regulation 2016*, the Biosecurity Act provides greater flexibility and improved capacity in the response, management and control of biosecurity risks, and supports the vision of the *Biosecurity Strategy 2013-2021* that biosecurity is a shared responsibility between government, industry and the community. It provides for a range of tools and powers that can be used to support risk-based decision making and allow for increased efficiency and decreased regulation. Further detail is available at:

<http://southeast.ils.nsw.gov.au/biosecurity>

One of the key tools prepared under the Biosecurity Act is the new *South East Region Strategic Weed Management Plan 2017-2022* (RSWMP), available at:

[https://www.ils.nsw.gov.au/data/assets/pdf\\_file/0006/722706/South-East-Regional-Weed-Mgmt-Plan.pdf](https://www.ils.nsw.gov.au/data/assets/pdf_file/0006/722706/South-East-Regional-Weed-Mgmt-Plan.pdf)

Under the Biosecurity Act, the previous 'noxious weed' status has been replaced by 'state priority weeds' and 'regional priority weeds', with species within each category being subject to particular management/control requirements depending upon the region. The appendices of the RSWMP set out the requirements for the regional priority weeds occurring within the subject land (refer Section 2.6). The 'regional priority weeds' present within the subject land should be managed in accordance with the requirements of the relevant weeds control category.

## **6. Conclusions and Recommendations**

As detailed herein, the proposed development:

- will not impact any area identified on the NSW Biodiversity Values Map;
- will not exceed the native vegetation clearance threshold for the smallest minimum lot size associated with the subject land; and
- is unlikely to significantly impact any EPBC Act and/or BC Act listed threatened flora or fauna species or threatened ecological community.

In light of the above, based on our assessment:

- EPBC Act referral is unwarranted and is not recommended; and
- the BOS is not triggered for the proposed development and the preparation of a BDAR is not required.



We trust that this EIA provides the assessment and advice required. If, however, you should have any questions relating to any of the matters discussed herein, please do not hesitate to contact us.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Robert Speirs".

Robert Speirs

Director / Principal Ecologist

Accredited BAM Assessor (No: BAAS17089)

A handwritten signature in black ink, appearing to read "Jarmin Thornberry".

Jarmin Thornberry

Ecologist

### Attachments:

Figure 1. Locality Plan

Figure 2. Subject Land and Proposed Development on Recent Aerial Imagery

Figure 3. Vegetation Assessment

Figure 4. NSW Wildlife Atlas Threatened Species Search

Figure 5. BC Act Native Vegetation

Figure 6. BC Act Box-Gum Woodland

Figure 7. Proposed Development Layout and Impacts


Appendix A. Likelihood of Occurrence Assessment

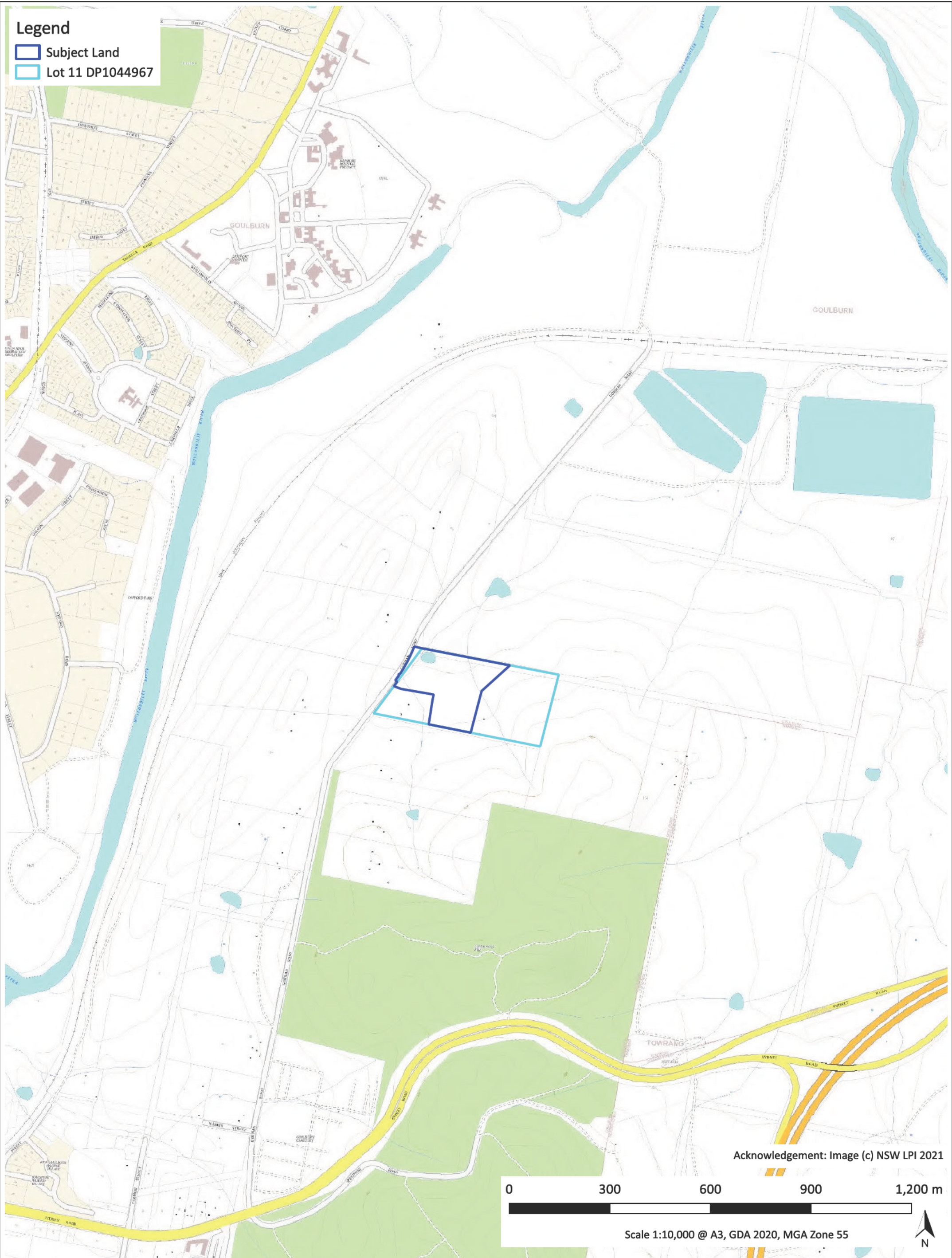
Appendix B. Recorded Flora Species

Appendix C. Recorded Fauna Species



**Legend**

-  Subject Land
-  Lot 11 DP1044967



**Figure 1. Locality Plan**

Capital Ecology Project No: 3214  
Drawn by: J. Thornberry  
Date: 27 April 2023





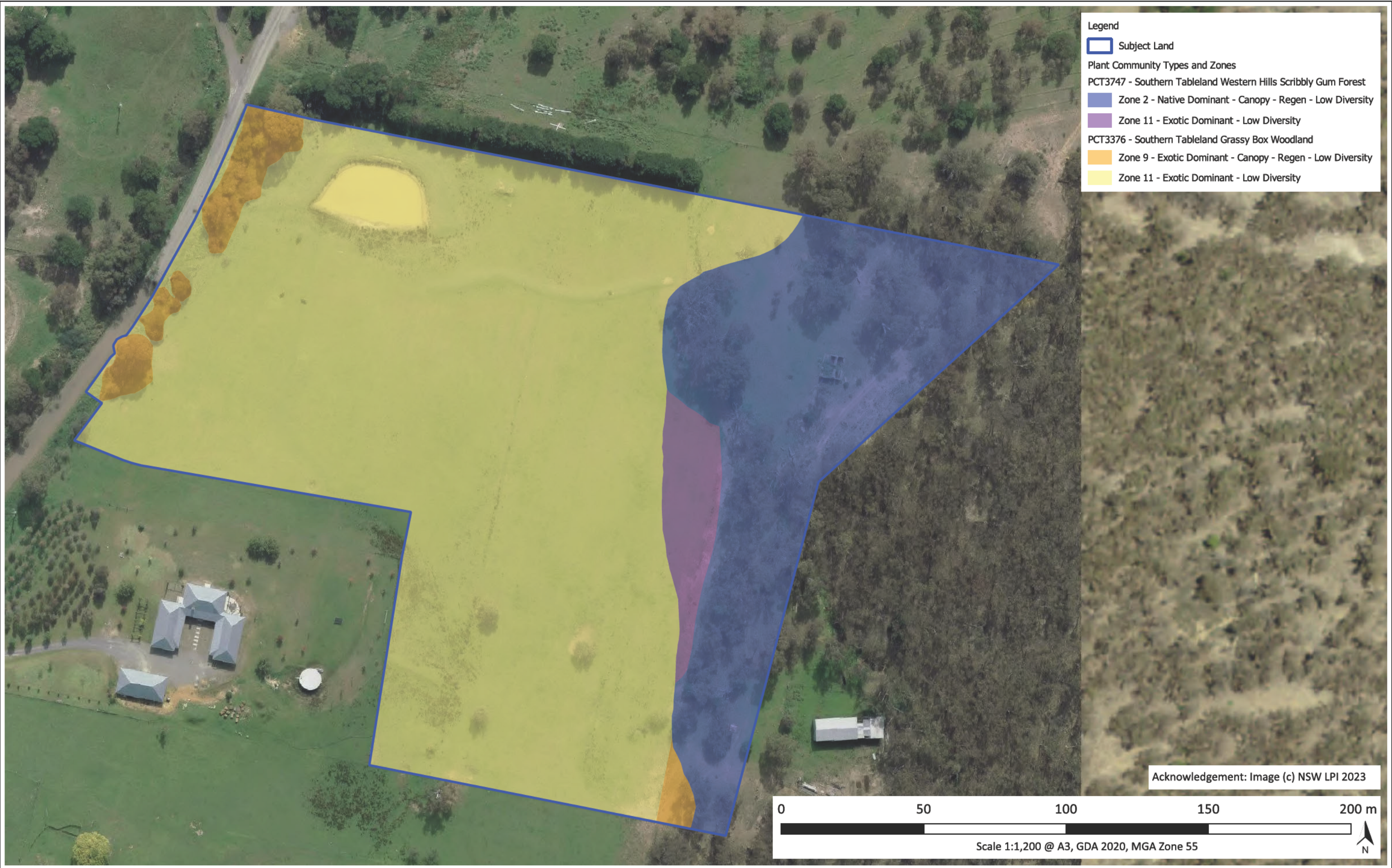


Figure 2. The Subject Land and Proposed Development on Aerial Imagery

Capital Ecology Project No: 3214  
 Drawn by: J. Thornberry  
 Date: 28 April 2023

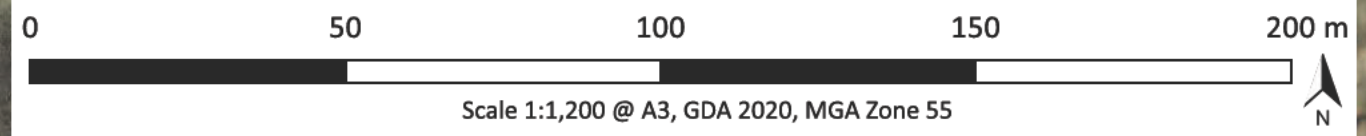






- Legend**
- Subject Land
  - Plant Community Types and Zones**
  - PCT3747 - Southern Tableland Western Hills Scribbly Gum Forest
    - Zone 2 - Native Dominant - Canopy - Regen - Low Diversity
    - Zone 11 - Exotic Dominant - Low Diversity
  - PCT3376 - Southern Tableland Grassy Box Woodland
    - Zone 9 - Exotic Dominant - Canopy - Regen - Low Diversity
    - Zone 11 - Exotic Dominant - Low Diversity

Acknowledgement: Image (c) NSW LPI 2023

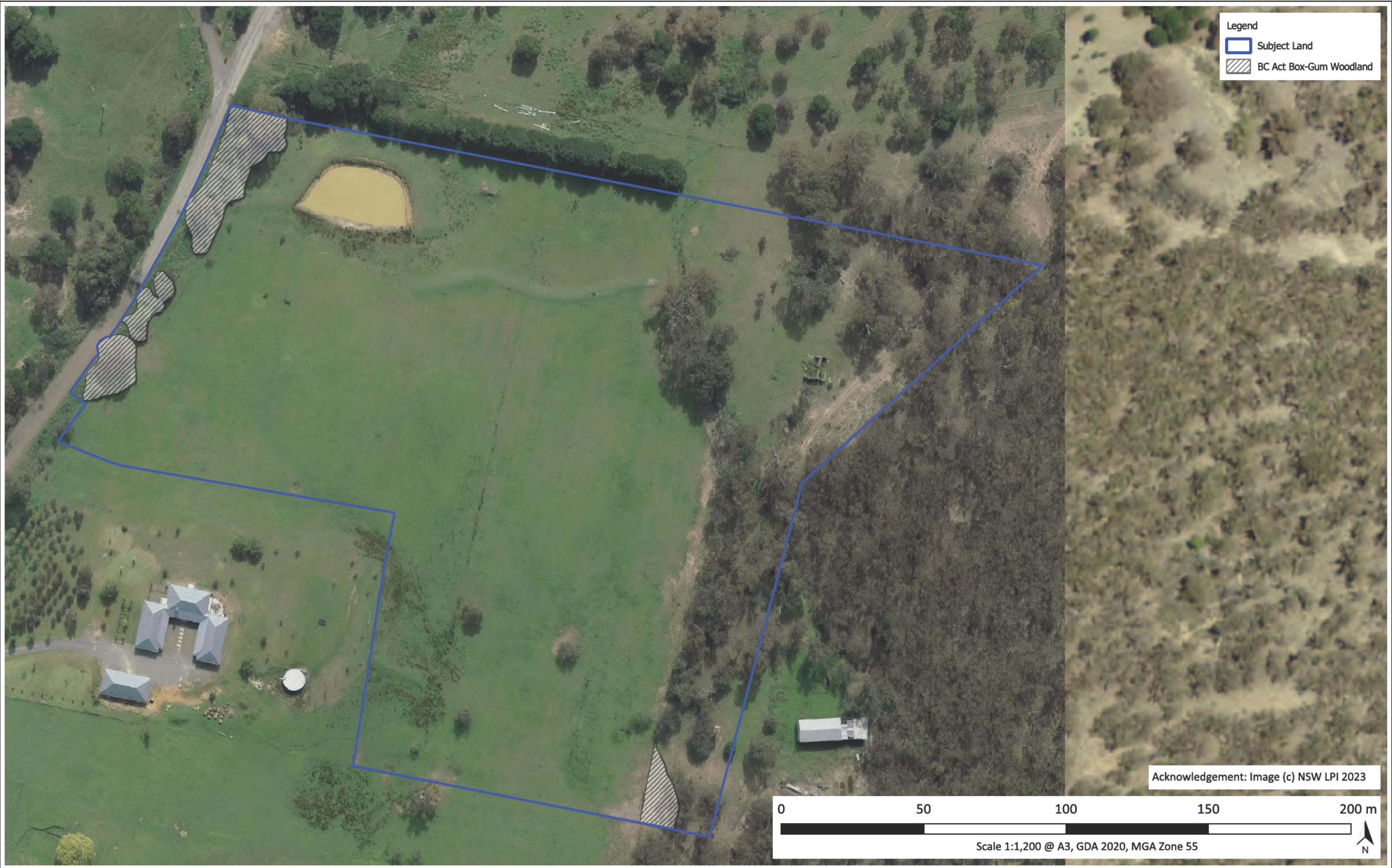


**Figure 3. Vegetation Assessment**

Capital Ecology Project No: 3214  
 Drawn by: J. Thornberry  
 Date: 28 April 2023







Legend  
 [Blue outline] Subject Land  
 [Diagonal lines] BC Act Box-Gum Woodland

Acknowledgement: Image (c) NSW LPI 2023

0 50 100 150 200 m  
 Scale 1:1,200 @ A3, GDA 2020, MGA Zone 55

Figure 4. Threatened Ecological Communities

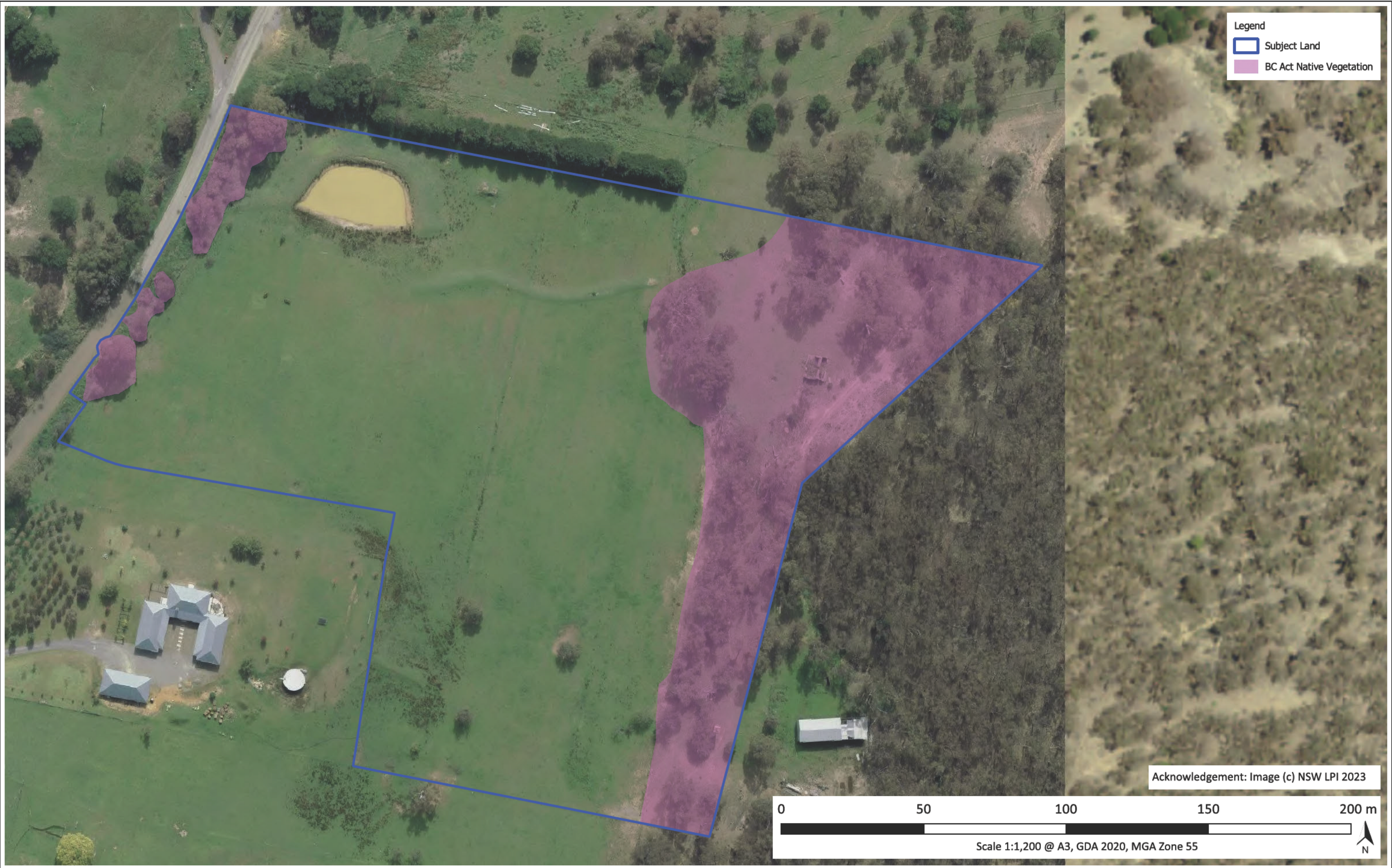
Capital Ecology Project No: 3214  
 Drawn by: J. Thornberry  
 Date: 28 April 2023











Legend  
 [Blue outline] Subject Land  
 [Purple fill] BC Act Native Vegetation

Acknowledgement: Image (c) NSW LPI 2023

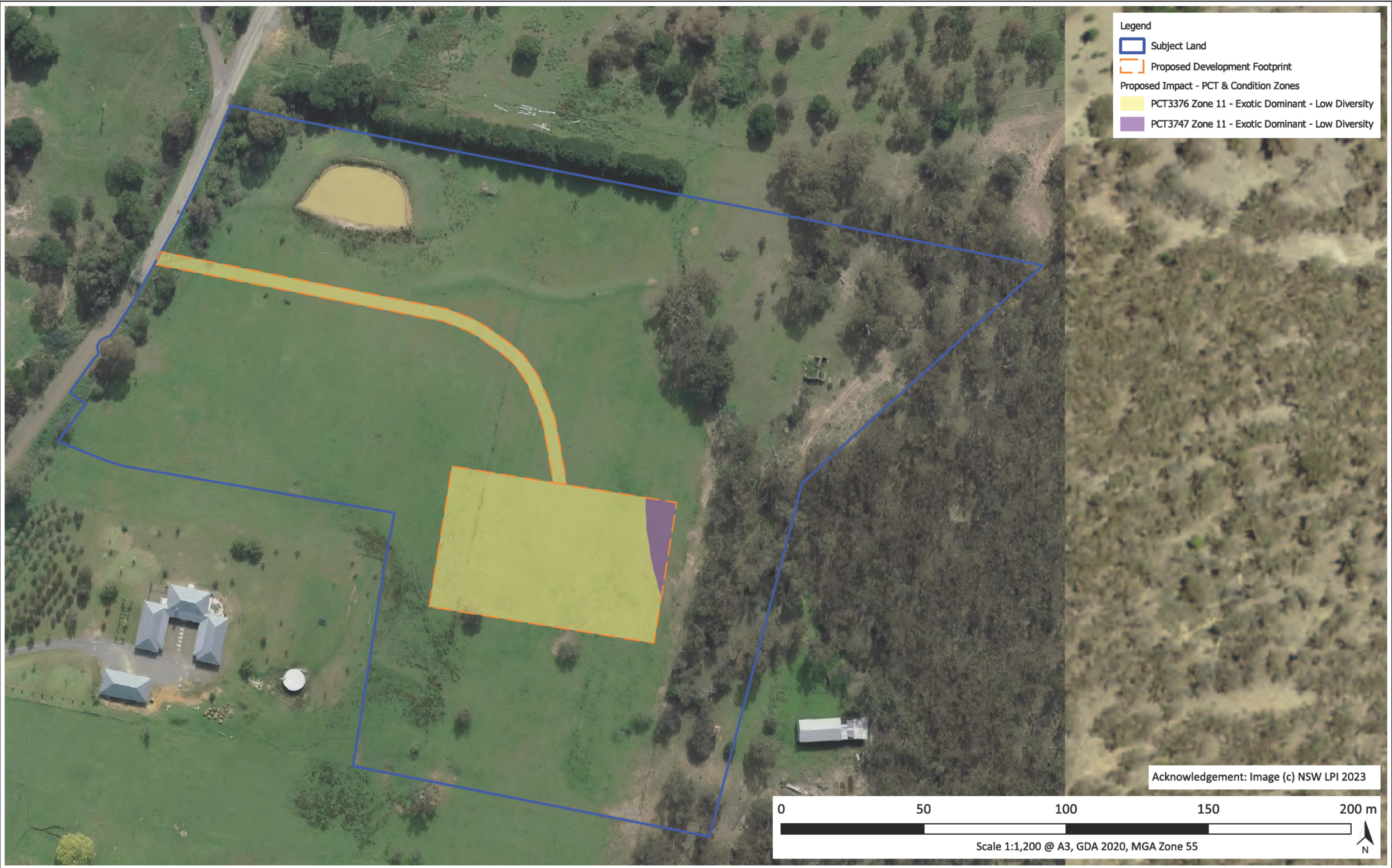
0 50 100 150 200 m  
 Scale 1:1,200 @ A3, GDA 2020, MGA Zone 55

Figure 6. BC Act Native Vegetation

Capital Ecology Project No: 3214  
 Drawn by: J. Thornberry  
 Date: 28 April 2023







Acknowledgement: Image (c) NSW LPI 2023

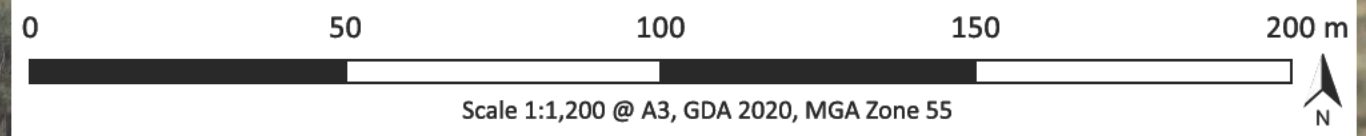


Figure 7. Proposed Development Layout and Impacts

Capital Ecology Project No: 3214  
 Drawn by: J. Thornberry  
 Date: 28 April 2023





## Appendix A. Likelihood of Occurrence Assessment

### Key for below table

#### EPBC Act:

CE - critically endangered  
 E - endangered  
 V - vulnerable  
 CD - conservation dependent

#### BC Act:

CE1 - critically endangered (Part 1, Schedule 1A)  
 E1 - endangered species (Schedule 1, Part 1)  
 E2 - endangered population (Schedule 1, Part 2)  
 E4 - presumed extinct (Schedule 1, Part 4)  
 V1 - vulnerable species (Schedule 2, Part 1)

Species Name	EPBC Act Status	BC Act Status	Description (Distribution and Habitat)	Likelihood of Occurrence
<b>Birds</b>				
<i>Anthochaera phrygia</i> Regent Honeyeater	CE	CE1	A semi-nomadic species occurring in temperate eucalypt woodlands and open forests. Most records are from box-ironbark eucalypt forest associations and wet lowland coastal forests. Key eucalypt species include Mugga Ironbark, Yellow Box, Blakely's Red Gum, White Box and Swamp Mahogany. Also utilises a number of other eucalypt species. Nectar and fruit from the mistletoes <i>Amyema miquelii</i> , <i>A. pendula</i> , and <i>A. cambagei</i> are also eaten during the breeding season. Regent Honeyeaters usually nest in horizontal branches or forks in tall mature eucalypts and sheoaks as well as within mistletoe haustoria (section of the root which connects with the host tree). An open cup-shaped nest is constructed by the female of bark, grass, twigs and wool.	Low There are two records of this species within 10 km of the subject land, however, there is no potential habitat for this species within the subject land.
<i>Aphelocephala leucopsis</i> Southern Whiteface	V	-	The Southern Whiteface occurs throughout mainland Australia south of the tropics. This species occurs in a wide range of habitats but is primarily associated with open woodlands and shrublands including an understorey of grasses or shrubs. The Southern Whiteface is generally sedentary and mostly feeds on the ground, favouring relatively undisturbed woodlands and shrublands with a low tree density and herbaceous understorey.	Low It is possible that the species may visit the subject land to forage. While this species has been recorded in the locality, the subject land does not contain nesting resources or foraging resources of potential significance to the species.

Species Name	EPBC Act Status	BC Act Status	Description (Distribution and Habitat)	Likelihood of Occurrence
<i>Artamus cyanopterus cyanopterus</i> Dusky Woodswallow	-	V1	The Dusky Woodswallow has two separate populations. The eastern population is found from Atherton Tableland, Queensland south to Tasmania and west to Eyre Peninsula, South Australia. The other population is found in south-west Western Australia. The Dusky Woodswallow is found in open forests and woodlands, and may be seen along roadsides and on golf courses. South-eastern population migrates north in autumn.	<b>Moderate</b> There are six records for the species within 10 km of the subject land. The species is likely to visit the subject land to forage and may nest in the more intact vegetation zones.
<i>Botaurus poiciloptilus</i> Australasian Bittern	E	E1	Australasian Bitterns are widespread but uncommon over south-eastern Australia. In NSW they may be found over most of the state except for the far north-west. Favours permanent freshwater wetlands with tall, dense vegetation, particularly bullrushes <i>Typha</i> spp. and spikerushes <i>Eleocharis</i> spp.. Hides during the day amongst dense reeds or rushes and feed mainly at night on frogs, fish, yabbies, spiders, insects and snails.	Negligible There is no potential habitat for this species within the subject land and there are no records in the locality.
<i>Calidris ferruginea</i> Curlew Sandpiper	CE	E1	The Curlew Sandpiper is distributed around most of the Australian coastline. Inland records are probably mainly of birds pausing for a few days during migration. The Curlew Sandpiper breeds in Siberia and migrates to Australia (as well as Africa and Asia) for the non-breeding period, arriving in Australia between August and November, and departing between March and mid-April. It generally occupies littoral and estuarine habitats, and in New South Wales is mainly found in intertidal mudflats of sheltered coasts. It also occurs in non-tidal swamps, lakes and lagoons on the coast and sometimes inland.	Negligible There is one record of this species within 10 km of the subject land, however, there is no potential habitat for this species within the subject land.
<i>Callocephalon fimbriatum</i> Gang-gang Cockatoo	E	V1	In summer the Gang-gang Cockatoo occupies tall montane forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests. Also occur in subalpine Snow Gum woodland and occasionally in temperate or regenerating forest. In winter, the species occurs at lower altitudes in drier, more open eucalypt forests and woodlands, particularly in box-ironbark assemblages, or in dry forest in coastal areas.  The Gang-gang Cockatoo usually breeds in tall forests in the ACT region, however they have been observed on occasion to breed in Box-Gum Woodland on Red Hill and other similar lowland habitat around Canberra (R. Speirs pers. obs., M. Mulvaney pers. comm.).	Low There are seven records for the species within 10 km of the subject land. It is possible that the species may visit the subject land to forage. The subject land does not contain nesting resources or foraging resources of potential significance to the species



Species Name	EPBC Act Status	BC Act Status	Description (Distribution and Habitat)	Likelihood of Occurrence
<i>Calyptorhynchus lathamii</i> Glossy Black-cockatoo	V	V1	The Glossy Black-cockatoo has a patchy distribution, having once been widespread across most of the south-east of Australia. The species is now distributed throughout an area which extends from the coast near Eungella in eastern Queensland to Mallacoota in Victoria. Glossy black-cockatoos feed on casuarina seeds, however they occasionally consume seeds from eucalypts, angophoras, acacias and hakeas, as well as insect larvae. In the ACT region the species feeds almost exclusively on Drooping Sheoak <i>Allocasuarina verticillata</i> . Pairs mate for life and nest in the hollows of large, old living or dead eucalypt trees. Breeding takes place between March and August.	<b>Negligible</b> There are three records for the species within 10 km of the subject land. The subject land does not contain any Drooping Sheoak and therefore does not provide potentially important foraging habitat. The subject land does not contain any breeding habitat for this species.
<i>Chthonicola sagittata</i> Speckled Warbler	-	V1	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 includes 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. The diet consists of seeds and insects, with most foraging taking place on the ground around tussocks and under bushes and trees. Pairs are sedentary and occupy a breeding territory of about ten hectares, with a slightly larger home-range when not breeding. The rounded, domed, roughly built nest of dry grass and strips of bark is located in a slight hollow in the ground or the base of a low dense plant.	<b>Low</b> There are seven records for the species within 10 km of the subject land. It is possible that the species may visit the subject land to forage. The subject land does not contain nesting resources or foraging resources of potential significance to the species
<i>Climacteris picumnus victorae</i> Brown Treecreeper(south-eastern)	V	V	The Brown Treecreeper (south-eastern subspecies) is endemic to south-eastern Australia across various vegetation communities, showing a preference to grassy woodlands dominated by rough-barked Eucalypts. This subspecies is relatively sedentary, permanently inhabiting large patches (>300ha) of relatively intact vegetation including moderate levels of ground cover and high density of fallen timber, and feeds both terrestrially and arboreally. Brown Treecreepers are an obligate hollow nesting species.	<b>Low</b> It is possible that the species may utilise intact vegetation zones on the edge of the subject land, but as a highly edge-sensitive species, any occurrences of this species within the subject land is likely to be transitory.
<i>Daphoenositta chrysoptera</i> Varied Sittella	-	V1	The Varied Sittella occurs in a wide variety of woodland and forest habitats, particularly in lowland areas. The species prefers areas with a dominance of rough barked trees, notably Red Stringybark at relatively high density. The species is rarely recorded in sparsely treed areas.	<b>Moderate</b> There are seven records for the species within 10 km of the subject land. This species may forage and nest in the subject land in the more intact vegetation zones.

Species Name	EPBC Act Status	BC Act Status	Description (Distribution and Habitat)	Likelihood of Occurrence
<i>Epthianura albifrons</i> White-fronted Chat	-	V1	The White-Fronted Chat is a small passerine bird, distributed throughout the southern half of Australia. This species is primarily found in temperate to arid areas, and within the Southern Tablelands, this species is predominantly dependent on grassland/wetland ecosystems, foraging on or close to the ground.	Low The species has been recorded once within 10 km of the subject land. Although tolerant of open, grassy areas, it is likely that use of the subject land by this species would be transitory in nature due to significant areas of more suitable habitat in surrounding areas.
<i>Falco hypoleucos</i> Grey Falcon	V	E1	The Grey Falcon is sparsely distributed in NSW, chiefly throughout the Murray-Darling Basin, with the occasional vagrant east of the Great Dividing Range. The breeding range has contracted since the 1950s with most breeding now confined to arid parts of the range. There are possibly less than 5000 individuals left. Population trends are unclear, though it is believed to be extinct in areas with more than 500mm rainfall in NSW. It is 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. It also occurs near wetlands where surface water attracts prey.	Negligible The species has not been recorded in the locality. The subject land does not contain potentially significant foraging or breeding habitat for the species.
<i>Falco subniger</i> Black Falcon	-	V1	The Black Falcon is widely distributed throughout NSW in relatively sparse density. The species hunts over open areas including agricultural areas, grasslands, woodlands and shrublands. The species primarily hunts other species of birds.	Low The species has been recorded once approximately 1.5 km south of the subject land. A highly mobile species, it is possible that the species may forage in the subject land in the more intact vegetation zones on a transient basis.
<i>Grantiella picta</i> Painted Honeyeater	V	V1	The Painted Honeyeater is found in Queensland and New South Wales west of the Great Dividing Range, through to northern Victoria. The species displays some migratory movement and is occasionally found in the Northern Territory and is a vagrant to South Australia and the ACT. The species frequents eucalypt forests and woodlands, particularly those that are infested heavily with mistletoes. In the ACT, the species' primary habitat is River Oak <i>Casuarina cunninghamiana</i> along river systems, especially the Murrumbidgee River.	Negligible The species has not been recorded in the locality. The subject land does not contain potentially significant foraging or breeding habitat for the species.

Species Name	EPBC Act Status	BC Act Status	Description (Distribution and Habitat)	Likelihood of Occurrence
<i>Haliaeetus leucogaster</i> White-bellied Sea-eagle	-	V1	The White-bellied Sea-eagle is found throughout Australia and is primarily found along the coastline and along major watercourses in inland Australia. Habitat for this species is characterised by the presence of large watercourses and bodies of water. Nesting habitat is typically within close proximity of foraging habitat.	Negligible Three records for the species exist within 10 km of the subject land, however, both records are within close proximity to major watercourses. The subject land does not contain potentially significant foraging resources or breeding habitat for the species.
<i>Hieraaetus morphnoides</i> Little Eagle	-	V1	The Little Eagle is a wide-ranged raptor, found throughout the Australian mainland, barring very heavily forested areas. Within the southern tablelands, the species is known to prefer to nest within woodland and open forest along watercourses, usually nesting within a tall, mature tree. This species primarily feeds on rabbits, small birds, reptiles and insects.	Low The species may periodically visit the subject land to forage. The subject land does not contain nesting resources or potentially significant foraging resources for the species.
<i>Hirundapus caudacutus</i> White-throated Needletail	V	-	The White-throated Needletail is a trans-equatorial migratory bird species which has been recorded in all coastal regions of Queensland and New South Wales and is widespread throughout Victoria. Breeding sites have been primarily located in Asia.  In Australia, this species is often recorded above open forest and rainforest, and coastal areas. Feeds on a wide variety of insects during non-breeding season then returns north. Roosts amongst dense tree foliage and in tree hollows.	Low A highly mobile species, the species may periodically forage in the airspace above the subject land. As this species lives almost exclusively on the wing within Australia and breeds within the northern hemisphere, the subject land does not contain nesting resources for the species.
<i>Lathamus discolor</i> Swift Parrot	CE	E1	The Swift Parrot occurs in woodlands and forests of NSW from May to August, where it feeds on eucalypt nectar, pollen and associated insects. The Swift Parrot is dependent on flowering resources across a wide range of habitats in its wintering grounds in NSW. This species is migratory, breeding in Tasmania and also nomadic, moving about in response to changing food availability.	Low It is possible that the species may visit the subject land to forage. The subject land does not contain nesting resources or foraging resources of potential significance to the species.

Species Name	EPBC Act Status	BC Act Status	Description (Distribution and Habitat)	Likelihood of Occurrence
<i>Melanodryas cucullata cucullate</i> Hooded Robin	E	V	The Hooded Robin (south-eastern form) is a large robin found throughout NSW excluding desert and moist coastal areas. This species is generally sedentary, preferring open woodland vegetation with high structural diversity across all strata. This species builds a small, cup-shaped nest low in the vegetation (<5m).	Low It is possible that the species may visit the subject land to forage from more structurally diverse habitat surrounding the subject land. The subject land does not contain nesting resources or foraging resources of potential significance to the species.
<i>Neophema chrysotoma</i> Blue-winged Parrot	V	-	The Blue-winged Parrot is a small, partially migratory parrot found throughout southern and western NSW, Victoria and Tasmania, nesting in southern Victoria and Tasmania. This species tends to favour grasslands and grassy woodlands and forages mainly on the ground on various grasses, herbs and shrubs.	Low It is possible that the species may visit the subject land to forage. The subject land does not contain nesting resources or foraging resources of potential significance to the species
<i>Numenius madagascariensis</i> Eastern Curlew	CE	-	The Eastern Curlew is Australia's largest shorebird and a long-haul flyer. The Eastern Curlew takes an annual migratory flight to Russia and north-eastern China to breed, arriving back home to Australia in August to feed on crabs and molluscs in intertidal mudflats. It is extremely shy and will take flight at the first sign of danger.	Negligible There is no potential habitat for this species in the subject land and there are no records in the locality.
<i>Oxyura australis</i> Blue-billed Duck	-	V	The Blue-billed Duck is a widespread but sparse species of duck endemic to south-eastern and south-western Australia, most common in the southern Murray-Darling Basin area. This species shows preference to deep, permanent wetlands with dense vegetation.	Low Several records of the species exist in the areas surrounding water treatment ponds north of the subject land. Although a dam exists within the subject land, it is relatively small and surrounding vegetation is highly degraded. The subject land does not contain nesting resources or foraging resources of significance to the species.



Species Name	EPBC Act Status	BC Act Status	Description (Distribution and Habitat)	Likelihood of Occurrence
<i>Petroica boodang</i> Scarlet Robin	-	V1	The Scarlet Robin is found in south-eastern Australia (extreme south-east Queensland to Tasmania, western Victoria and south-east South Australia) and south-west Western Australia. In NSW it occupies open forests and woodlands from the coast to the inland slopes, breeding in drier eucalypt forests and temperate woodlands.	<b>Moderate</b> The species has been recorded approximately 2.5 km from the subject land within a patch of intact woodland. It is possible that the species may visit the subject land to forage. The subject land does not contain nesting resources or foraging resources of significance to the species.
<i>Petroica phoenicea</i> Flame Robin	-	V1	The Flame Robin is found in south-eastern Australia, from the Queensland border to Tasmania, western Victoria and south-east South Australia. In NSW it breeds in upland moist eucalypt forests and woodlands, often on ridges and slopes, in areas of open understorey. The species migrates in winter to more open lowland habitats such as grassland with scattered trees and open woodland on the inland slopes and plains.	<b>Moderate</b> It is possible that the species may visit the subject land to forage. The subject land does not contain nesting resources or foraging resources of potential significance to the species
<i>Polytelis swainsonii</i> Superb Parrot	V	V1	Found mainly in open, tall riparian River Red Gum forest or woodland. Often found in farmland including grazing land with patches of remnant vegetation. Breeds in hollow branches of tall eucalypt trees within nine kilometres of feeding areas.	Low It is possible that the species may visit the subject land to forage. The subject land does not contain nesting resources or foraging resources of potential significance to the species
<i>Pycnoptilus floccosus</i> Pilotbird	-	V1	The Pilotbird is strictly terrestrial, found on the ground within dense forests, wet with heavy undergrowth. Generally forages on seeds, fruit and insects, and uses its bill and feet to turn over litter in search of food.	Negligible There is no potential habitat for this species in the subject land and there are no records in the locality.
<i>Rostratula australis</i> Australian Painted Snipe	E	E1	Usually found in shallow inland wetlands including farm dams, lakes, rice crops, swamps and waterlogged grassland. The species prefers freshwater wetlands, ephemeral or permanent, although it has been recorded in brackish waters.	Negligible The species is not known to occur near the subject land, and the subject land does not support wetland habitats that are preferred by this species.

Species Name	EPBC Act Status	BC Act Status	Description (Distribution and Habitat)	Likelihood of Occurrence
<i>Stagonopleura guttata</i> Diamond Firetail	-	V1	The Diamond Firetail is found in eastern Australia, from Eyre Peninsula, South Australia, to south-eastern Queensland. There has been a decline in density throughout the range, and many remaining populations may now be isolated. The species inhabits a wide range of eucalypt-dominated vegetation communities that have a grassy understorey, including woodland and mallee.	<b>Moderate</b> It is possible that the species may visit the subject land to forage. The subject land does not contain nesting resources or foraging resources of potential significance to the species
<i>Stricktonetta naevosa</i> Freckled Duck	-	V1	The Freckled Duck is found throughout south-eastern and south-western Australia. The species usually breeds in large, temporary swamps and wetlands created by flooding of major river systems. The species prefers permanent freshwater watercourses and water bodies with dense aquatic vegetation including Cumbungi, Lignum and Leptospermum.	Low Several records of the species exist in the areas surrounding water treatment ponds north of the subject land. Although a dam exists within the subject land, it is relatively small and surrounding vegetation is highly degraded. The subject land does not contain nesting resources or foraging resources of significance to the species.
<b>Fish and Crustacea</b>				
<i>Macquaria australasica</i> Macquarie Perch	E	E1	Macquarie Perch are found in the Murray-Darling Basin (particularly upstream reaches) of the Lachlan, Murrumbidgee and Murray rivers, and parts of south-eastern coastal NSW, including the Hawkesbury and Shoalhaven catchments. Macquarie perch are found in both river and lake habitats, especially the upper reaches of rivers and their substantial tributaries.	Negligible There is no potential habitat for this species in the subject land.

Species Name	EPBC Act Status	BC Act Status	Description (Distribution and Habitat)	Likelihood of Occurrence
<b>Amphibians</b>				
<i>Litoria aurea</i> Green and Golden Bell Frog	V	E1	The Green and Golden Bell Frog occurs mainly along coastal lowland areas of eastern NSW and Victoria. The furthest inland record of the species is at a recently discovered population near Hoskinstown in the Southern Tablelands (referred to as the Molonglo population). The species was previously known from elsewhere in the Southern Tablelands, but is now considered to have disappeared from the ACT and central slopes around Bathurst. In NSW, the species commonly occupies disturbed habitats, and breeds largely in ephemeral ponds. However, in Victoria, the Green and Golden Bell Frog occupies habitats with little human disturbance and commonly breeds in permanent ponds, as well as ephemeral ponds.	Negligible The species was recorded nearby in 1975, and further east more recently, but is now considered to be locally extinct.
<b>Insects</b>				
<i>Keyacris scurra</i> Key's Matchstick Grasshopper	E	E1	Key's Matchstick Grasshopper is found in low densities throughout central, southern and south-west NSW. This species usually prefers intact and relatively undisturbed native grasslands and grassy woodlands with a grassy understorey and abundant food plants. This species disperses weakly and is highly vulnerable to habitat degradation.	Low The highly fragmented and degraded nature of the landscape within the subject land is unlikely to support populations of this species.
<i>Synemon plana</i> Golden Sun Moth	V	E1	The Golden Sun Moth's NSW populations are found in the area between Queanbeyan, Gunning, Young and Tumut. The species occurs in Natural Temperate Grasslands and Box-Gum Grassy Woodland in which the groundcover is dominated by Wallaby Grasses <i>Rytidosperma</i> spp.. It is believed that the females lay up to 200 eggs at the base of the Wallaby Grass tussocks. After hatching, the larvae tunnel underground where they remain feeding on the roots of Wallaby Grass tussocks. The species is also known to feed on the introduced species (and Weed of National Significance), Chilean Needle Grass <i>Nassella neesiana</i> .	Negligible The subject land does not contain habitat characteristic of the species.

Species Name	EPBC Act Status	BC Act Status	Description (Distribution and Habitat)	Likelihood of Occurrence
<b>Mammals</b>				
<i>Chalinolobus dwyeri</i> Large-eared Pied Bat	V	V1	The Large-eared Pied Bat appears to exist in a number of small populations throughout its range. Very few maternity sites are known. The species requires a combination of sandstone cliff/escarpment to provide roosting habitat that is adjacent to higher fertility sites, particularly box gum woodlands or river/rainforest corridors which are used for foraging.	Negligible There is no potential habitat for this species in the subject land.
<i>Dasyurus maculatus maculatus</i> Spot-tailed Quoll (SE mainland population)	E	V1	The Spot-tailed Quoll occurs along the east coast of Australia and the Great Dividing Range. The species uses a range of habitats including sclerophyll forests and woodlands, coastal heathlands and rainforests. Occasional sightings have been made in open country, grazing lands, rocky outcrops and other treeless areas. Habitat requirements include suitable den sites, including hollow logs, rock crevices and caves, an abundance of food and an area of intact vegetation in which to forage. Seventy per cent of the diet is medium-sized mammals, and also feeds on invertebrates, reptiles and birds. Individuals require large areas of relatively intact vegetation through which to forage. The home range of a female is between 180 and 1000ha, while males have larger home ranges of between 2000 and 5000ha. Breeding occurs from May to August.	Low It is possible that the species may pass through the subject land during movements through the broader locality, however the subject land does not contain habitat of potential significance to the species.
<i>Falsistrellus tasmaniensis</i> Eastern False Pipistrelle	-	V1	The Eastern False Pipistrelle is an insectivorous bat found throughout eastern NSW. This species generally inhabits moist, tall Eucalypt forests. This species generally roosts within cavities in Eucalypts but has been known to roost under loose bark and within man-made structures.	Negligible Two records of this species exist within 10 km of the subject land. There is no potential habitat for this species in the subject land.
<i>Micronomus norfolkensis</i> Eastern Freetail-bat	-	V1	The Eastern Freetail-bat is found along the eastern coast of Australia from southern QLD to southern NSW. This species is known to occur within a variety of ecosystems east of the Great Dividing Range. This species generally roosts within cavities in Eucalypts but has been known to roost under loose bark and within man-made structures.	Negligible One record of this species exists within 10 km of the subject land. There is no potential habitat for this species in the subject land.
<i>Miniopterus australis</i> Little Bent-winged Bat	-	V1	The Little Bent-winged Bat is found along the eastern coast and ranges of NSW and QLD. This species prefers moist to wet eucalypt forests, dry sclerophyll forest, melaleuca swamps and other coastal ecosystems. This species is known to roost within caves, culverts, bridges, drains etc.	Negligible One record of this species exists within 10 km of the subject land. There is no potential habitat for this species in the subject land.



Species Name	EPBC Act Status	BC Act Status	Description (Distribution and Habitat)	Likelihood of Occurrence
<i>Miniopterus orianae oceanensis</i> Large Bent-winged Bat		V1	The Large Bent-winged Bat is found along the east and north-west coasts of Australia. This species primarily roosts within caves but is known to also utilise man-made structures such as drains, tunnels and buildings.	Negligible Five records of this species within 10 km of the subject land. There is no potential habitat for this species in the subject land.
<i>Petauroides volans</i> Greater Glider	V	-	The greater glider is restricted to eastern Australia, occurring from the Windsor Tableland in north Queensland through to central Victoria, with an elevational range from sea level to 1200 m above sea level. The greater glider is an arboreal nocturnal marsupial, largely restricted to eucalypt forests and woodlands. It is primarily folivorous, and is typically found in highest abundance in taller, montane, moist eucalypt forests with relatively old trees and abundant hollows. The greater glider favours forests with a diversity of eucalypt species, due to seasonal variation in its preferred tree species	Negligible There is no potential habitat in the subject land for the species.
<i>Petaurus australis</i> Yellow-bellied Glider	V	V	The Yellow-bellied Glider is found along the eastern coast to the western slopes of the Great Dividing Range, from southern Queensland to Victoria. Occur in tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils. Forest type preferences vary with latitude and elevation; mixed coastal forests to dry escarpment forests in the north; moist coastal gullies and creek flats to tall montane forests in the south.	Negligible The species is not known to occur in the locality.
<i>Petrogale penicillate</i> Brush-tailed Rock-wallaby	V	E1	The Brush-tailed Rock-wallaby is found throughout eastern NSW. This species generally occurs close to rocky escarpments, outcrops and cliffs and shelters during the day in rock features such as within caves and under overhangs.	Negligible There is no potential habitat for this species in the subject land.
<i>Phascolarctos cinereus</i> Koala (combined populations of Qld, NSW and the ACT)	V	V1	In NSW, the Koala mainly occurs on the central and north coasts with some populations in the western region. Koalas feed almost exclusively on eucalypt foliage, and their preferences vary regionally. They are solitary with varying home ranges. In high quality habitat home ranges may be 1-2 hectare and overlap, while in semi-arid country they are usually discrete and around 100 ha.	Low There are no recent records of Koala in the subject land within 10 km of the subject land. Due to the historically highly fragmented and disturbed nature of the subject land, it is unlikely that the subject land would support foraging or breeding habitat for this species.

Species Name	EPBC Act Status	BC Act Status	Description (Distribution and Habitat)	Likelihood of Occurrence
<i>Pteropus poliocephalus</i> Grey-headed Flying Fox	V	-	<p>The Grey-headed Flying Fox occurs in the coastal belt from Rockhampton in central Queensland to Melbourne in Victoria. Whilst Brisbane, Newcastle, Sydney and Melbourne are occupied continuously, the species is widespread throughout their range during summer. In autumn, the species occupies coastal lowlands and is uncommon inland. In winter, the species congregates in coastal lowlands north of the Hunter Valley and is occasionally found on the south coast of NSW and on the northwest slopes (associated with flowering eucalypts of these areas).</p> <p>The Grey-headed Flying-fox requires foraging resources and roosting sites. It is a canopy-feeding frugivore and nectarivore, which utilises vegetation communities including rainforests, open forests, closed and open woodlands, Melaleuca swamps and Banksia woodlands.</p> <p>The Grey-headed Flying-fox roosts in aggregations of various sizes on exposed branches. Roost sites are typically located near water, such as lakes, rivers or the coast. The roost at Commonwealth Park in Canberra is the only known roost in the ACT and NSW Southern Tablelands region.</p>	<p>Low</p> <p>There are no camps (roost sites) in the subject land or locality. While the subject land contains potential food trees (mature scattered exotic orchard trees), it is unlikely that the subject land constitutes important foraging habitat for this species.</p>
<i>Saccolaimus flaviventris</i> Yellow-bellied Sheathtail-bat	-	V1	<p>The Yellow-bellied Sheathtail-bat occurs throughout NSW, utilising a range of habitats for foraging. This species prefers to roost within tree hollows, buildings and other man-made features. This species is known to breed from December to mid-March, with questionable seasonal movement patterns observed.</p>	<p>Negligible</p> <p>There is no potential habitat in the subject land for the species.</p>
<b>Plants</b>				
<i>Acacia bynoeana</i> Bynoe's Wattle	V	E1	<p>Occurs within central-eastern NSW, generally restricted to a small number of populations throughout the Hunter, Southern Highlands and Blue Mountains. Generally occurs within dry heath and dry sclerophyll forest ecosystems on sandy soils, usually within open and disturbed areas.</p>	<p>Negligible</p> <p>There is no potential habitat for this species in the subject land.</p>
<i>Bossiaea oligosperma</i> Few-seeded Bossiaea	V	V1	<p>Occurs in two disjunct populations, from the lower Blue Mountains to the Windellama Area near Goulburn. This species occurs in low woodland areas on loamy soils within the Windellama area.</p>	<p>Negligible</p> <p>All low woodland areas within the subject land have either been historically cleared or are highly disturbed and are unlikely to support habitat for this species.</p>

Species Name	EPBC Act Status	BC Act Status	Description (Distribution and Habitat)	Likelihood of Occurrence
<i>Diuris aequalis</i> Buttercup Doubletail	V	E	This species is found grassy sclerophyll woodland and forest, primarily in the ranges and tablelands, from Liverpool in the north to Braidwood in the south. Existing populations in the Southern Tablelands are small, disjunct and known from areas generally protected from livestock grazing.	Low Although marginally suitable habitat may exist within areas of the subject land with intact vegetation, the subject land is unlikely to support this species due past cultivation, grazing and other intensive land use.
<i>Dodonaea procumbens</i> Trailing Hop-bush	V	V1	Trailing Hop-bush is found in the dry areas of the Monaro, between Michelago and Dalgety where it occurs mostly in Natural Temperate Grassland or Snow Gum <i>Eucalyptus pauciflora</i> Woodland. A single known population occurs at Lake Bathurst (the northern-most occurrence of the species) where it occurs adjacent to the lake bed in grassland dominated by Corkscrew Grass <i>Austrostipa scabra</i> and Curly Sedge <i>Carex bichenoviana</i> . The species grows on sandy-clay soils in open bare patches where there is little competition from other species.  The species often occurs on roadside batters and does not persist in heavily grazed pastures.	Negligible There is no potential habitat for this species in the subject land.
<i>Eucalyptus aggregata</i> Black Gum	V	V1	Black Gum occurs on the central and southern tablelands of NSW, and in a small disjunct population in Victoria. In NSW, it occurs predominantly in the South Eastern Highlands Bioregion. The species is a small to medium-sized woodland tree which grows in grassy woodlands on alluvial soils in moist sites along creeks on broad, cold and poorly-drained flats and hollows. It commonly occurs with Candlebark <i>Eucalyptus rubida</i> , Ribbon Gum <i>E. viminalis</i> , and Snow Gum <i>E. pauciflora</i> , with a grassy understorey of River Tussock <i>Poa labillardieri</i> . Most populations are located on private land or road verges and travelling stock routes.	Negligible Suitable habitat for this species is not present in the subject land.

Species Name	EPBC Act Status	BC Act Status	Description (Distribution and Habitat)	Likelihood of Occurrence
<i>Eucalyptus macarthurii</i> Paddys River Box	E	E1	Paddys River Box occurs in the Moss Vale district of NSW at its northernmost extent and throughout the Southern Highlands to the south. This species primarily occurs within grassy woodlands on broad, cold flats and frost hollows.	Negligible Two planted individuals exist approximately two kilometres south of the subject land, however, the subject land is on the edge of the known distribution of this species. Due to the highly degraded nature of areas historically supporting box-gum woodland within the subject land, it is unlikely that suitable habitat remains.
<i>Lepidium aschersonii</i> Spiny Peppercross	V	V	<i>Lepidium aschersonii</i> is distinguished from other <i>Lepidium</i> species by the presence of tiny spines which give the mature plants an intricate appearance. Not widespread, occurring in the marginal central-western slopes and north-western plains regions of NSW (and potentially the south western plains). Found on ridges of gilgai clays dominated by Brigalow <i>Acacia harpophylla</i> , Belah <i>Casuarina cristata</i> , Buloke <i>Allocasuarina luehmanii</i> and Grey Box <i>Eucalyptus microcarpa</i> . In the south has been recorded growing in Bull Mallee <i>Eucalyptus behriana</i> .	Negligible The species is not known to occur in the locality and suitable habitat for this species is not present in the subject land.
<i>Lepidium hyssopifolium</i> Basalt Peppercross	E	-	This species is known from a few populations in NSW, Victoria and Tasmania. The Basalt Pepper-cross is known to establish on open, bare ground with limited competition from other plants. It was previously recorded from eucalypt woodland with a grassy ground cover, low open <i>Casuarina</i> woodland with a grassy ground cover and tussock grassland, however recently recorded localities have predominantly been in weed-infested areas of heavy modification, high degradation and high soil disturbance such as road and rail verges, on the fringes of developed agricultural land or in small reserves in agricultural land. Many populations are now generally found amongst exotic pasture grasses and beneath exotic trees.	Low Within NSW, this species occurs in very small, disjunct populations. Due to an ongoing grazing and slashing regime, and high lower stratum biomass throughout the subject land, it is unlikely that suitable habitat for this species is not present in the subject land.



Species Name	EPBC Act Status	BC Act Status	Description (Distribution and Habitat)	Likelihood of Occurrence
<i>Leucochrysum albicans</i> var. <i>tricolor</i> Hoary Sunray	E	-	The Hoary Sunray occurs from Queensland to Victoria and in Tasmania. In the ACT the species can be seen in spring in abundance on the roadside along Fairbairn Avenue and into Mt Ainslie Nature Reserve, on the western slopes of Mt Majura and adjacent to the Federal Highway road easement. In NSW it is distributed on the inland slopes and plains including grasslands and woodlands on the Monaro and is quite a common species along Old Cooma Road and other less modified areas south of Queanbeyan. The species is usually found in ungrazed and lightly grazed areas, along roadsides in particular. It appears to be very sensitive to grazing, but responds to disturbance as a coloniser and appears to tolerate mowing. Flowers spring to summer.	Low While this species is likely to be present in surrounding areas, the subject land is unlikely to support this species due past cultivation, grazing and other intensive land use.
<i>Persoonia oxycoccoides</i> A geebung	-	E1	<i>Persoonia oxycoccoides</i> occurs from Colo Vale in the north, to Tallong in the south. This species usually occurs within montane heath and dry sclerophyll forest.	Negligible One outlier record of this species exists from the locality from the late 1800s, with no individuals recorded since. It is unlikely that the subject land supports habitat for this species.
<i>Pomaderris cotoneaster</i> Cotoneaster Pomaderris	E	E1	Cotoneaster Pomaderris occurs in south-eastern Australia near Mudgee in the north, to far eastern Victoria in the south. This species exists across a range for vegetation communities, and is often recorded within rivers and escarpments, where populations may have historically been protected from fire. Populations tend to be scattered and disjunct and little is known about the finer ecological requirements of this species.	Negligible Due to the highly disturbed nature of the landscape within the subject land, and generally unsuitable topography for this species, it is unlikely that the subject land supports habitat for this species.
<i>Pomaderris pallida</i> Pale Pomaderris	V	V1	Pale Pomaderris has been recorded from near Kydra Trig, north-west of Nimmitabel, Tinderry Nature Reserve, and the Queanbeyan River. A record from Byadbo in Kosciuszko National Park has not been relocated. The main distribution is along the Murrumbidgee in the ACT. It was recorded recently in eastern Victoria. This species usually grows in shrub communities surrounded by Brittle Gum <i>Eucalyptus mannifera</i> and Red Stringybark <i>E. macrorhynca</i> or Black Cypress <i>Callitris endlicheri</i> woodland.	Negligible Due to the highly disturbed nature of the landscape within the subject land, and generally unsuitable topography for this species, it is unlikely that the subject land supports habitat for this species.

Species Name	EPBC Act Status	BC Act Status	Description (Distribution and Habitat)	Likelihood of Occurrence
<i>Prasophyllum petilum</i> Tarengo Leek Orchid	E	E1	<p>When first described in 1991, the Tarengo Leek Orchid was known only from the Hall Cemetery in the ACT. It has since been found at four sites in New South Wales: Captains Flat Cemetery, Ilford Cemetery, Steves Travelling Stock Route (TSR) at Delegate and the Tarengo TSR near Boorowa.</p> <p>The Tarengo Leek Orchid occurs on relatively fertile soils in grassy woodland or natural grassland. The three cemetery sites originally contained grassy woodland, dominated by Snow Gum <i>Eucalyptus pauciflora</i> and Black Gum <i>E. aggregata</i> at Captains Flat, and Blakely's Red Gum <i>E. blakelyi</i> and Yellow Box <i>E. melliodora</i> at Hall and Ilford. Both Tarengo TSR and Steves TSR are natural grasslands.</p> <p>The species is intolerant of grazing and this is considered to be the key reason it has been found only within cemeteries and TSRs, land from which grazing has been restricted.</p>	<p>Negligible</p> <p>There is no potential habitat in the subject land for the species.</p>
<i>Rhizanthella slateri</i> Eastern Australian Underground Orchid	E	V	<p>Occurs throughout eastern NSW, from south-east QLD to south-east NSW. This species is known from less than 10 populations in NSW. As this species is highly cryptic, little is known about its wider distribution and ecology.</p>	<p>Negligible</p> <p>No known vegetation formation associated with this species occurs within the subject land.</p>
<i>Rutidosis leptorrhynchoides</i> Button Wrinklewort	E	E1	<p>In the ACT and NSW, Button Wrinklewort occurs in box-gum woodland, secondary grassland derived from box-gum woodland or in natural temperate grassland. It prefers open spaces where it does not have to compete for light. It is known from several sites in the ACT, NSW and Victoria, where it is threatened by habitat loss, grazing and weed encroachment.</p>	<p>Negligible</p> <p>The species generally occurs within relatively undisturbed woodland and grasslands. The subject land is unlikely to support this species due past cultivation, grazing and other intensive land use.</p>
<i>Senecio macrocarpus</i> Large-fruit Groundsel	V	-	<p>The Large-fruit Groundsel is a small perennial plant endemic to south-eastern Australia. While most known populations occur within Victoria and South Australia, the species has been recorded within the NSW southern tablelands.</p> <p>This species occurs in a variety of habitats, including grasslands, shrublands and woodlands. The species is known to grow in association with Teatree and Kangaroo Grass populations, as well as Yellow Box woodlands.</p> <p>The species appears to be intolerant of grazing and agricultural pressures. Main loss of habitat is thought to be due to sheep grazing and pasture improvement of relevant habitat.</p>	<p>Negligible</p> <p>The species is not known to occur in the locality and was not recorded during surveys.</p>

Species Name	EPBC Act Status	BC Act Status	Description (Distribution and Habitat)	Likelihood of Occurrence
<i>Swainsona recta</i> Small purple-pea	E	E1	The Small Purple-pea occurs in the grassy understorey of woodlands and open forests dominated by Blakely's Red Gum, Yellow Box, Candlebark and Bundy. The species grows in association with understorey dominants that include Kangaroo Grass, Poa tussocks and spear-grasses. Plants die back in summer, surviving as rootstocks until they shoot again in autumn. The species is intolerant of grazing but generally tolerant of fire, which also enhances germination by breaking the seed coat and reducing competition from other species.	Negligible The species is not known to occur in the locality.
<i>Thesium australe</i> Austral Toadflax	V	V1	Found in very small to large populations scattered across eastern NSW, along the coast, and from the Northern to Southern Tablelands. Austral Toadflax is a root parasite that takes water and some nutrients from other plants, especially Kangaroo Grass. It is often found in damp sites in association with Kangaroo Grass but it is also found on other grass species at inland sites. Occurs on clay soils in grassy woodlands or coastal headlands.	Negligible The species generally occurs within relatively undisturbed woodland and grasslands. The subject land is unlikely to support this species due past cultivation, grazing and other intensive land use. Intact vegetation within the subject land is generally unsuitable for this species.
<b>Reptiles</b>				
<i>Aprasia parapulchella</i> Pink-tailed Worm-lizard	V	V	The Pink-tailed Worm-lizard is a fossorial species which lives beneath surface rocks and occupies ant burrows. It feed on ants, particularly their eggs and larvae. The species is thought to lay eggs within the ant nests and to use the rocks for thermoregulation. Key habitat features are: a cover of native grasses (particularly Kangaroo Grass), sparse or no tree cover, little or no leaf litter, and scattered small rocks, partially embedded in the soil surface.	Negligible The species has not been recorded in the locality and the subject land does not contain potential habitat for the species (i.e. rocky habitat).

Species Name	EPBC Act Status	BC Act Status	Description (Distribution and Habitat)	Likelihood of Occurrence
<i>Delma impar</i> Striped Legless Lizard	V	V1	The Striped Legless Lizard is patchily distributed in grasslands of south-eastern NSW, the ACT, north-eastern, central and south-western Victoria, and south-eastern South Australia. In the ACT and NSW Southern Tablelands region, the species is known to occur at four separate locations - in grassland areas of Gungahlin, Majura and Jerrabomberra Valleys, and Yarramundi Reach. Unsuitable habitat, roads and urban development separate these sites. Most areas where the species persists are thought to have had low to moderate levels of agricultural disturbance in the past and it has been suggested that ploughing in particular may be incompatible with the survival of the species. Until recently, the species was thought to inhabit only native grasslands dominated by species such as Tall Speargrass and Kangaroo Grass. In recent years, surveys have revealed the Striped Legless Lizard in many sites dominated by exotic grasses such as Phalaris, Serrated Tussock and Flatweed (R. Speirs pers. obs.). They have also been found in several secondary grassland sites, generally within two kilometres of primary grassland.	Negligible One historic record of this species exists within 10 km of the subject land. Due to the highly specialised nature of this species, the subject land does not contain potential habitat.
<i>Suta flagellum</i> Little Whip Snake	-	V	The Little Whip Snake is found within the Southern Tablelands and Southern Highlands of NSW. This species occurs in Natural Temperate Grasslands and Box-Gum Woodland, in both intact and derived native grassland conditions. A somewhat cryptic species, Little Whipsnake usually occupies well-drained hillsides, and requires loose rocks and logs for shelter.	Negligible One recent record of this species exists within 10 km of the subject land. Due to the extensive history of cultivation within the subject land and surrounding locality, the subject land does not contain potential habitat for this species.

Note: The brief species distribution and habitat descriptions provided in the above table are sourced from the threatened species online profiles, listing determinations and/or recovery plans prepared for the species by the Commonwealth Government and NSW Government. These resources and associated references are provided on the relevant government websites.



## Appendix B. Vegetation Survey Results Table

Species Name	Common Name	Status
<b>Exotic</b>		
<i>Bromus sp.</i>	Brome Grass	
<i>Cirsium vulgare</i>	Spear Thistle	
<i>Conyza sp.</i>	Fleabane	
<i>Crataegus monogyna</i>	Common Hawthorn	
<i>Cyperus Eragrostis</i>	Umbrella Sedge	
<i>Dactylis glomerata</i>	Cock's Foot	
<i>Eleusine tristachya</i>	Goose Grass	
<i>Eragrostis curvula</i>	African Lovegrass	
<i>Festuca arundinacea</i>	Tall Fescue	
<i>Holcus lanatus</i>	Yorkshire Fog	
<i>Hypochaeris radicata</i>	Flatweed	
<i>Lolium perenne</i>	Perennial Ryegrass	
<i>Lycium ferocissimum</i>	African Boxthorn	WoNS
<i>Nassella trichotoma</i>	Serrated Tussock	WoNS
<i>Paspalum dilatatum</i>	Paspalum Grass	
<i>Phalaris aquatica</i>	Phalaris	
<i>Plantago lanceolata</i>	Ribwort Plantain	
<i>Rubus fruticosus</i>	Blackberry	WoNS
<i>Rumex acetosella</i>	Sheep Sorrel	
<i>Setaria parviflora</i>	Pigeongrass	
<i>Sonchus sp.</i>	Milk/Sow Thistle	
<i>Trifolium sp.</i>	Clover	
<i>Vulpia sp.</i>	Rat's Tail Fescue	
<b>Native</b>		
<i>Acacia decurrens</i>	Green Wattle	
<i>Acacia paradoxa</i>	Kangaroo Thorn	
<i>Anthosachne scabra</i>	Common Wheat Grass	
<i>Aristida ramosa</i>	Purple wiregrass	
<i>Austrostipa densiflora</i>	Fox-tail Speargrass	
<i>Austrostipa scabra</i>	Rough Spear-grass	
<i>Carex appressa</i>	Tall Sedge	
<i>Einadia nutans</i>	Nodding saltbush	
<i>Epilobium billardierianum</i>	Glabrous Willow Herb	
<i>Eucalyptus blakelyi</i>	Blakely's Red Gum	
<i>Eucalyptus macrorhynca</i>	Red Stringybark	
<i>Eucalyptus mannifera</i>	Brittle Gum	
<i>Eucalyptus rossii</i>	Scribbly Gum	
<i>Euchiton sp.</i>	Cudweed	

Species Name	Common Name	Status
<i>Juncus australis</i>	Austral Rush	
<i>Juncus filicaulis</i>	Pinrush	
<i>Lomandra filiformis subsp. filiformis</i>	Wattle Mat-rush	
<i>Lomandra longifolia</i>	Spiny-head Mat-rush	
<i>Microlaena stipoides</i>	Weeping Grass	
<i>Persicaria prostrata</i>	Creeping Knotweed	
<i>Rytidosperma pallida</i>	Red-Anther Wallaby Grass	
<i>Rytidosperma sp.</i>	Wallaby Grass	
Number of Species		45
Number of Native Species		22
Number of Exotic Species		23
Number of High Threat Weeds		9
Number of WoNS		3

## Appendix C. Recorded Fauna Species

Scientific Name	Common Name	Classification	Exotic / Native
<i>Crinia signifera</i>	Common Eastern Froglet	Amphibia	Native
<i>Ardea pacifica</i>	White-necked Heron	Aves	Native
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo	Aves	Native
<i>Corvus coronoides</i>	Australian Raven	Aves	Native
<i>Eolophus roseicapilla</i>	Galah	Aves	Native
<i>Grallina cyanoleuca</i>	Magpie-lark	Aves	Native
<i>Gymnorhina tibicen</i>	Australian Magpie	Aves	Native
<i>Malurus cyaneus</i>	Superb Fairy-wren	Aves	Native
<i>Platycercus elegans</i>	Crimson Rosella	Aves	Native
<i>Strepera graculina</i>	Pied Currawong	Aves	Native
<i>Macropus giganteus</i>	Eastern grey kangaroo	Mammalia	Native