Hamilton Environmental Services
ABN: 89 108 410 911

TEST OF SIGNIFICANCE – WILLIAMS ROAD, TABLE TOP

blueprint PLANNING & DEVELOPMENT

Test of Significance – Williams Road, Table Top

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Cover Photo: Looking west along Williams Road.

TABLE OF CONTENTS

1. INTRODUCTION

In July 2022, Hamilton Environmental Services (HES) was engaged to undertake a Biodiversity Assessment and complete a Test of Significance under Part 7 Division 1 Section 7.3 of the *Biodiversity Conservation Act 2016* for the landholder of Williams Road, Table Top – The Diocese of Wagga – is planning a staged residential subdivision.

The majority of the proposed development area is within Biocertified Land, and the native vegetation losses associated with these areas has already been considered with other reporting.

Hamilton Environmental Services was engaged to undertake a biodiversity assessment of twelve areas where works were required as a consequence of subdivision footprint within C3 zoned land along Williams Road and on the eastern side of the proposed development, to ascertain the impact of these works on native vegetation and threatened species habitat (James Laycock pers. comm. 2022).

Field assessment of the proposed C3 work zones on site was conducted on the 28th July 2022 and 11th August 2022, and the R1 zone land area (i.e. the residential development area) was assessed on the 13th October 2022 for the purposes of data for the production of a *Tree Characteristics Memorandum* for the scattered trees across this site (Hamilton Environmental Services 2022), at all instances by Dr. Steve Hamilton, and the Version 1 report presented these findings.

Since this time, in a review of the Albury City Council (ACC) Local Environment Plan (LEP) by the Department of Planning and Environment (DPE), it was identified that for 12 new threatened species and new populations not previously known in the area – Magpie Goose, Dusky Woodswallow, Spotted Harrier, Varied Sittella, Black Falcon, Little Lorikeet, Little Eagle, Scarlet Robin, Flame Robin, Eastern False Pipistrelle, Grey-headed Flying-fox and Sloane's Froglet - there was not adequate provision for them in the current LEP. DPE suggest that the best way to address this issue would be for development applicants to identify impacts to the 12 new species through a Test of Significance (ToS). The test should be completed according to the Threatened Species ToS Guidelines (Office of Environment and Heritage [OEH] 2018). If, consistent with the Guidelines, the ToS finds impacts will be significant, the applicant should apply the Biodiversity Assessment Method to the whole development site and Council should require the applicant to prepare a Biodiversity Development Assessment Report (BDAR). The BDAR should encompass all proposed development and ancillary works, regardless of whether the development has been disaggregated into smaller or staged applications. On land covered by certification, predicted and candidate species other than the 12 new species could be removed from the BDAR.

In the context of the proposed development at Williams Road, Table Top, the indicates that the Version 1 ToS does not adequately address all 12 'new' threatened species on C3 zoned land, and has not addressed any of the 12 'new' threatened species on R1 zone land (Biocertified Land). As a consequence, ACC has asked for a revision of the ToS to include assessment of the impacts on these species, and given that the conclusion of this report is that a BDAR is not triggered, this Version 2 report provides that revision accordingly.

2. BACKGROUND

2.1 Consultant Background

Steve Hamilton (Dr.)

AssocDipAppBiol, BAppSc(AppBiol), MAppSc (RMIT), PhD (University of Melbourne), BAM accredited Assessor (DPIE NSW), Vegetation Quality Assessment Certified (DSE/DEPI/DELWP Victoria),Bush Broker Assessor (DELWP Victoria), Certificate IV in Training and Assessment.

Steve is an ecologist specialising in flora and fauna inventory, auditing, monitoring and surveying, as well as soil typing, analysis and mapping. He has 12 years consulting experience, associated with a range of ecological evaluations and monitoring processes across all of Victoria, and southern and western New South Wales, which includes assessing and mapping vegetation condition, vegetation type, targeted threatened species surveys, habitat quality assessment (in Victoria, Habitat Hectares assessment and 'Net Loss and Gain' evaluations), across the range of terrestrial, riparian and wetland ecosystems.

He has vast experience in the assessment of native vegetation and species, and habitat loss assessment, for irrigation, residential, infrastructure and mining (including sand, rock and ore extraction) developments, and the successful negotiation of the appropriate legislative, regulatory and statutory frameworks across the three levels of Government to provide suitable outcomes for clients across both States to allow developments to proceed. In Victoria, this involves the production of Net Loss Reports, Vegetation Offset Management Plans and Work Plans, and in NSW, reporting for potential native vegetation/habitat losses and threatened species threats in Development Applications (DAs), and in more detailed situations where Director General Requirements (or Secretary's Environmental Assessment Requirements; SEARs) are specified, Environmental Impact Statements (EISs) or Reviews of Environmental Factors (REFs).

Beyond statutory requirements and reporting, Steve is often called upon to provide technical reporting into particular issues, such as research/survey investigations into vegetation-soil-fauna management issues in natural areas or for development proposals, such as weed management surveys and strategies, kangaroo survey and management, potential mining pollution impacts, sustainability of timber resources, soil mapping and land capability assessment, ecosystem restoration, or revegetation design.

Prior to consulting, Steve spent 20 years as a senior teaching/research academic, and has more than 30 peer-reviewed papers and many technical reports, most focussing on the impacts of disturbance on the ecology and floristics of woodlands and grasslands.

2.2 Location and Description

The residential development on R1 zoned land and assessed works areas on C3 zoned land are located approximately 10 km north-east of Albury, and 1.5 km east of Ettamogah (Fig. 2-1).

2.2.1 R1 zoned land

The proposed staged multi-lot residential development occurs in three separate areas: a small area on the south-western corner of Table Top Road and Williams Road of 1.97 ha, an area of 23.1 ha north of Williams Road between Table Top Road and Wignall Road, and an area of 35.4 ha south of Williams Road between Table Top Road and Wignall Road (see Fig. 2-3).

The whole proposed development area on R1 zoned land is utilised for cropping, and as a consequence retains no native ground layer vegetation, but the area does retain mostly large remnant hollow-bearing scattered trees.

2.2.2 C3 zoned land

As indicated, twelve assessed areas are found on C3 zoned land, and the areas of assessment are a combination of treed and revegetation areas, adjacent to freehold land that has been mostly cleared of woody vegetation, and which is predominantly utilised for cropping.

These location of the twelve proposed works areas are shown in Fig. 2-2, and in more detail in Figures 4-1 to 4-12.

Seven of the proposed works areas (Areas 1 to 7) are found on the northern and/or southern side of Williams Road, with some of these areas crossing Williams Road and impacting on the road reserve, while Areas 8 and 9 are found on freehold land near the corner of Williams Road and Table Top Road, and Areas 10, 11 and 12, and found on the eastern edge of the proposed residential development (see Fig. 2-2).

There are four areas along Williams Road within proximity to Areas 3 and 4 that are mapped as having Biodiversity Value (see Fig. 2-2; Department of Planning and Environment [DPE] 2023f); significant care has been taken with the development layout to ensure that these Biodiversity Value mapped areas have been wholly avoided.

The Engineering Plan for the proposed residential subdivision can be seen in Fig. 2-3.

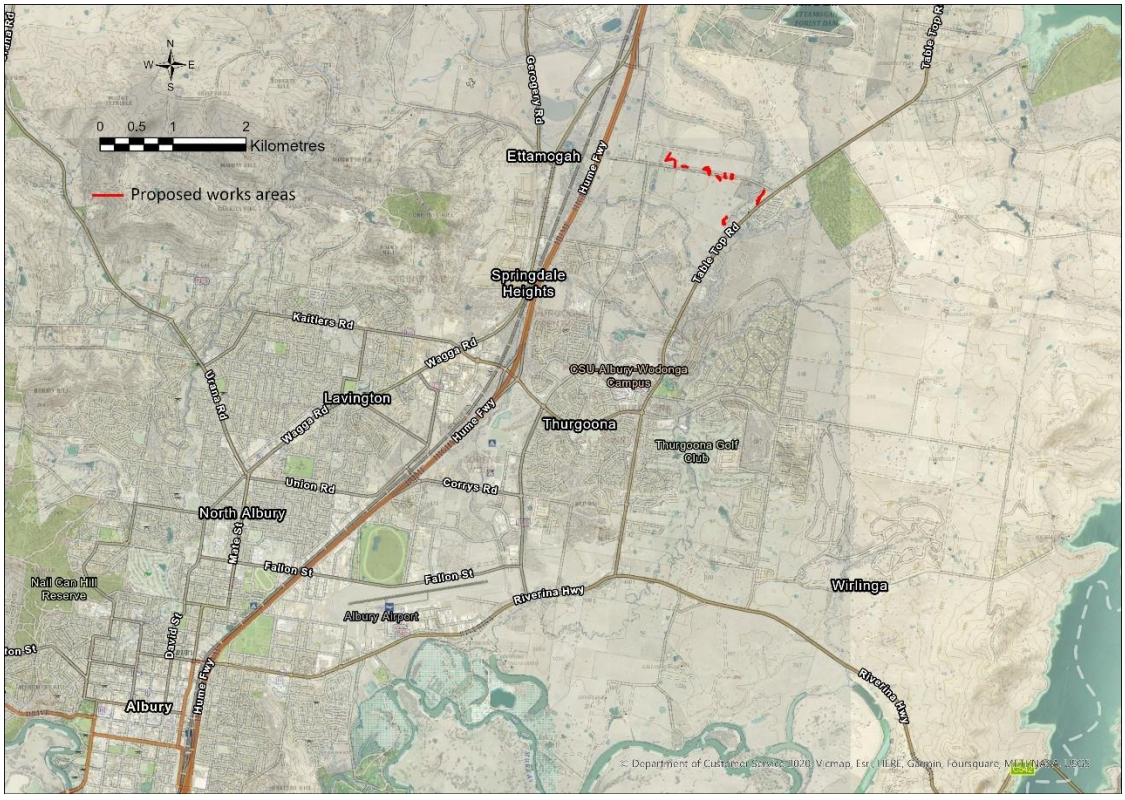


Figure 2-1 Aerial image of the location of the C3 zoned works area (in red) and the proposed residential development footprint (shown in white, and mostly on R1 zoned Biocertified land) within the district (ESRI Australia 2023).

The following describes the twelve proposed works areas in more detail:

- Area 1. This area of approximately 0.11 ha is a narrow strip of land in a 'V' shape, with all of the proposed works areas within an open cropped paddock north of Williams Road on freehold land. The area of this proposed works is cleared of woody vegetation and the ground layer vegetation is wholly introduced. There are two juvenile Blakely's Red Gum (*Eucalyptus blakelyi*) that are losses with the proposed development, There are some other scattered Blakely's Red Gum and White Box (*E. albens*) in fenced reserves immediately adjacent to this works area which will avoided with the proposed development (see Fig. 4-1);
- Area 2. This area of approximately 0.05 ha is a narrow strip of land with a north-south alignment north of Williams Road on freehold land. The northern section is cropped paddock, and is cleared of woody vegetation with a ground layer vegetation that is wholly introduced as in Area 1. There is a rectangular areas of approximately 0.02 ha in the southern section of this works area contiguous with the Williams Road reserve that contains a native vegetation ground layer with individuals and a dense patch of Blakely's Red Gum recruits embedded within it that will be losses with the development. There are also some scattered Blakely's Red Gum and Red Box (*E. polyanthemos*) in the fenced reserve to the immediately west of the works area, and an area of continuous tree canopy of Blakely's Red Gum, Red Box and Yellow Box (*E. melliodora*) in the adjacent Williams Road reserve; the vegetation in these adjacent areas will be mostly avoided with the proposed development (see Figures 4-2 and 4-3);
- Area 3. This area of approximately 0.05 ha is a narrow strip of land with an east-west alignment north of Williams Road on freehold land. This linear strip is centred on an existing dam that will be decommissioned with the proposed development (James Laycock pers. comm. 2022). The terrestrial areas to the east and west of this dam contain native vegetation ground layer of a total area of 0.02 ha will be losses as a consequence of the proposed development. A dense patch of Blakely's Red Gum recruits to the south-west of this works area will be wholly avoided with the proposed development (see Fig. 4-4);
- Area 4. This irregular shaped area of 0.19 ha is found on both sides of Williams Road and within both road reserves. The northern section is cropped paddock, and is cleared of woody vegetation with a ground layer vegetation that is wholly introduced. There is a rectangular area of approximately 0.02 ha contiguous with the northern Williams Road reserve that contains a native vegetation ground layer with individuals of mixed-age Blakely's Red Gum embedded within it that will be losses with the development. There are some scattered Blakely's Red Gum in the fenced reserve immediately south of the northern section of this works area which will avoided with the proposed development. The section of the works area within the southern road reserve is cleared of woody vegetation with a ground layer vegetation that is wholly introduced (see Fig. 4-5);
- Area 5. This rectangular area of 0.11 ha on freehold land on the southern side of Williams Road is cropped paddock, and is cleared of woody vegetation with a ground layer vegetation that is wholly introduced. There are some scattered Blakely's Red Gum in the fenced reserve immediately east of this works area, and White Box individuals found in the adjacent road reserve, all of which will be avoided with the proposed development (see Fig. 4-6);
- Area 6. This irregular shaped area of 0.06 ha is found on both sides of Williams Road and within both road reserves. The section north of Williams Road of 0.02 ha within a fenced reserve contains a native vegetation ground layer with individuals of juvenile Blakely's Red Gum embedded within it that will be losses with the development. Immature White Box and Red Box individuals within the road reserve will also be losses with the development - these road reserve sections have a ground layer vegetation that is wholly introduced. Other Red Box and White Box individuals adjacent to the proposed works area within the road reserve will be avoided with the proposed development. There is also a rectangular area of 0.037 ha east of this works area with a north-south alignment on both sides of Williams Road and within both road reserves, where

infrastructure will be established using under-boring (James Laycock pers. comm. 2022). There is no native vegetation at either end of this area, and so no losses will occur (see Fig. 4-7);

- Area 7. This irregular shaped area of 0.06 ha is found on both sides of Williams Road and within both road reserves. This works area is cleared of woody vegetation with a ground layer vegetation that is wholly introduced, with the exception of one juvenile Red Box individual, which will be a loss with the proposed development. There are some scattered Blakely's Red Gum and Red Box individuals found in the adjacent northern road reserve, all of which will be avoided with the proposed development – these reserves have a ground layer vegetation that is wholly introduced (see Fig. 4-8);
- Area 8. This area of approximately 0.05 ha is a narrow strip of land with a north-south alignment found on freehold land near the corner of Williams Road and Table Top Road. The works area is cropped paddock, and is cleared of woody vegetation with a ground layer vegetation that is wholly introduced. There are some scattered Blakely's Red Gum and White Box in the fenced reserve immediately west of this works area, and two Blakely's Red Gum east of the proposed works area within the paddock, all of which will be avoided with the proposed development (see Fig. 4-9);
- Area 9. This area of approximately 0.11 ha is a narrow and irregular-shaped strip of land with a north-south alignment found on freehold land near the corner of Williams Road and Table Top Road. The works area is cropped paddock, and is cleared of woody vegetation with a ground layer vegetation that is wholly introduced. There are some scattered Blakely's Red Gum in the fenced reserve immediately west of this works area, all of which will be avoided with the proposed development (see Fig. 4-10);
- Area 10. This rectangular area of 0.01 ha within a fenced reserve on the eastern boundary of the proposed residential development, retains some scattered Blakely's Red Gum, and a range of planted non-indigenous and indigenous native trees and shrubs in the fenced reserve, with a ground layer vegetation that is wholly introduced. A dense patch of Blakely's Red Gum recruits to the south-west of this works area, and a mature individual of the same species to the north-east, will be wholly avoided with the proposed development (see Fig. 4-11);
- Area 11. This area of approximately 0.06 ha is a narrow and crescent-shaped strip of land with a north-south alignment found on the eastern boundary of the proposed residential development. The works area is cropped paddock, and is cleared of woody vegetation with a ground layer vegetation that is wholly introduced. The adjacent fenced reserve to the east contains a dense patch of Blakely's Red Gum recruits to the north-east of the works area, and a range of planted non-indigenous and indigenous native trees and shrubs along the shared boundary, all of which will be wholly avoided with the proposed development (see Fig. 4-12);
- Area 12. This rectangular area of 0.05 ha within a fenced reserve on the eastern boundary of the proposed residential development, retains a range of planted non-indigenous and indigenous native trees and shrubs in the fenced reserve, with a ground layer vegetation that is wholly introduced. The fenced reserve does retain some scattered Blakely's Red Gum, all of which will be wholly avoided with the proposed development (see Fig. 4-12).

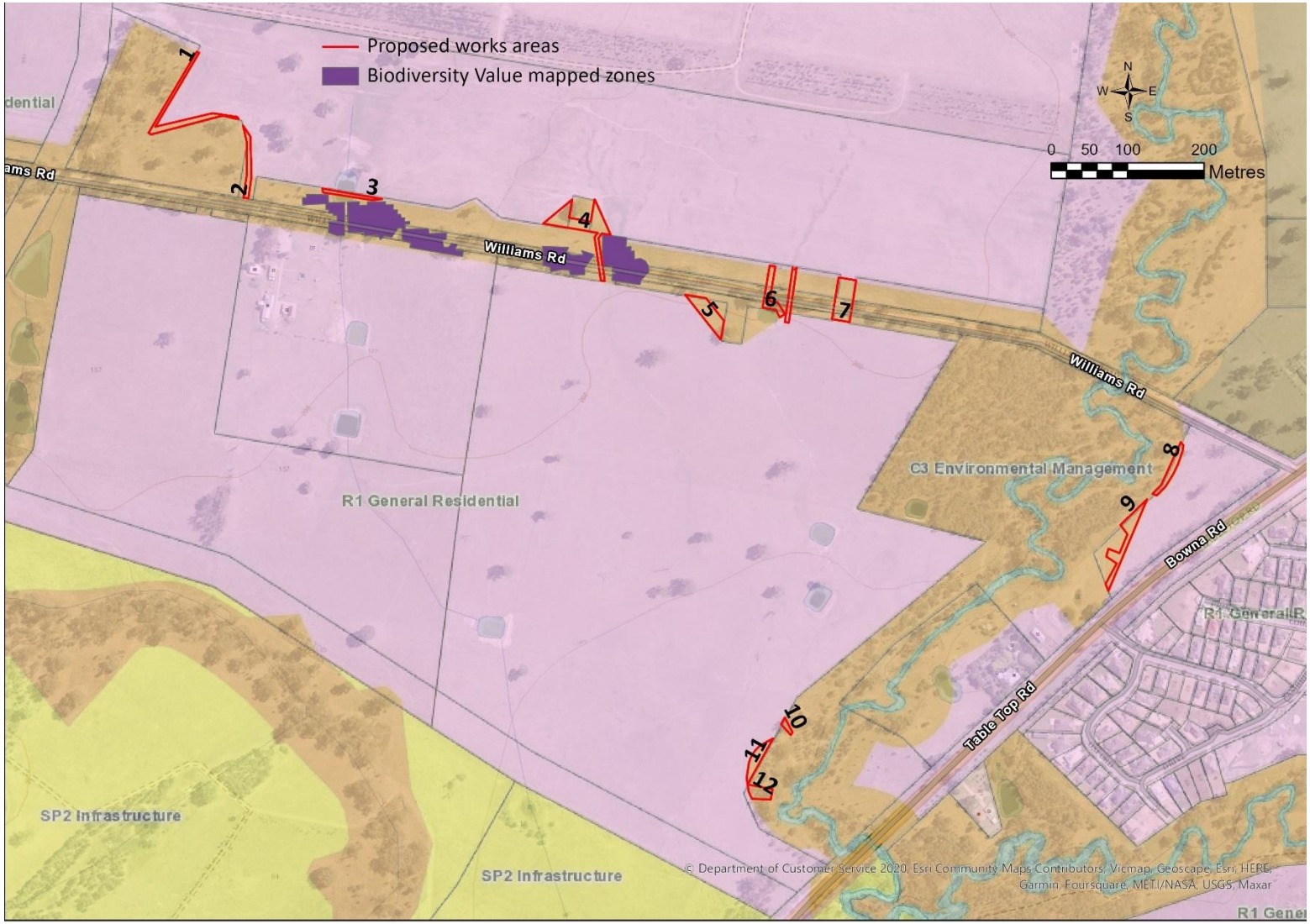
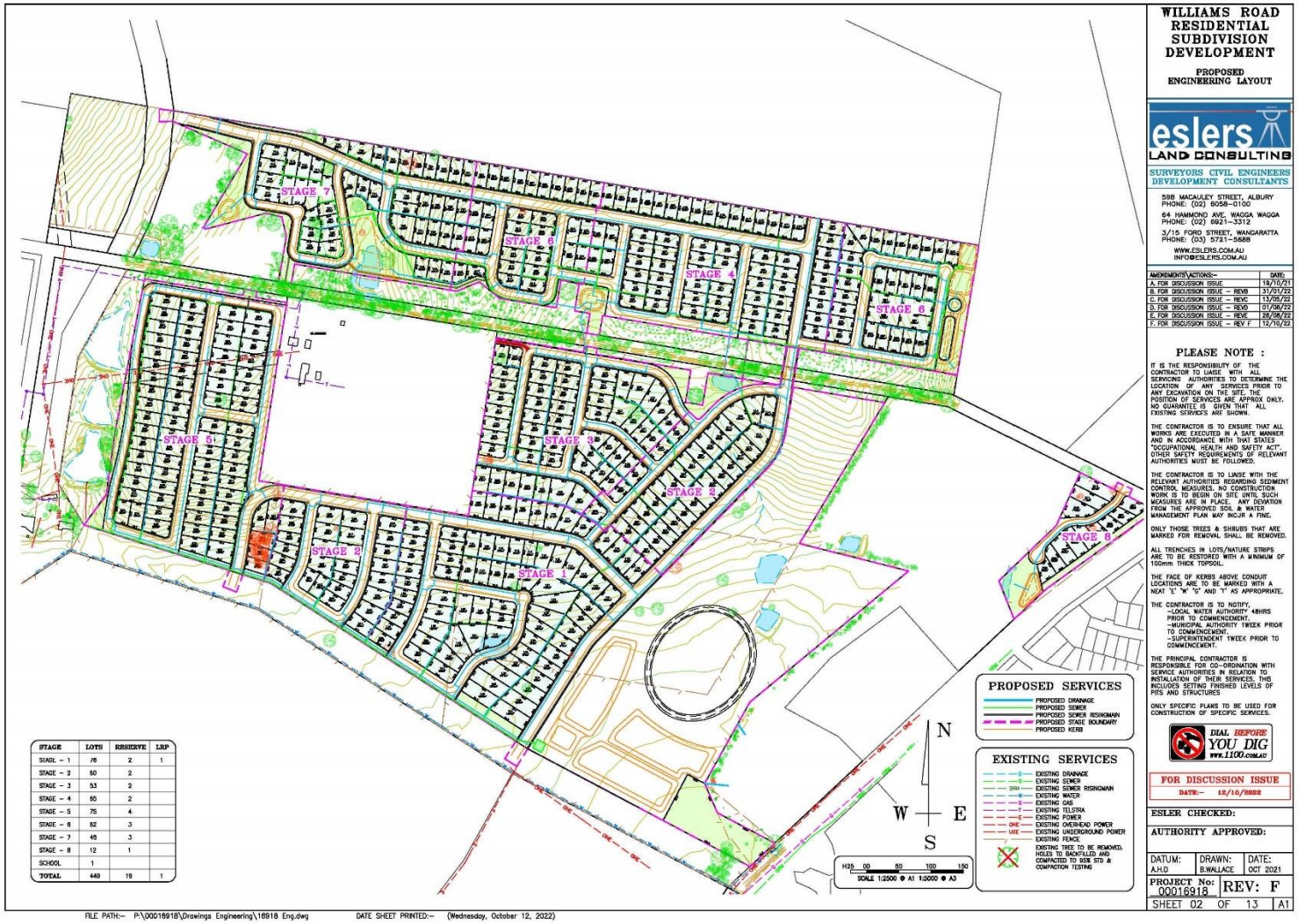


Figure 2-2 **Aerial image of the area of the proposed residential development on R1 zoned land , and the twelve proposed works areas for assessment on C3 zoned land, and relevant Biodiversity Value mapped areas (Image ESRI Australia 2022).**



STAGE	LOTS	RESERVE	LRP
STAGE – 1	78	2	1
STAGE – 2	50	2	
STAGE – 3	53	2	
STAGE – 4	65	2	
STAGE – 5	75	4	
STAGE – 6	52	3	
STAGE – 7	45	3	
STAGE – 8	12	1	
SCHOOL	1		
TOTAL	449	19	1

Figure 2-3 **Proposed Engineering Layout for proposed residential subdivision Williams Road Table Top (Eslers Land Consulting, Revision F, dated October 2021).**

3. METHODOLOGY

3.1 Desktop Review

The following desktop information was gathered prior to field assessment:

- Aerial imagery and base map from Land and Property Information New South Wales;
- Determination of a general species list for the area (Department of Planning and Environment [DPE] 2022a);
- Matters of National Significance reporting for the 10 km radius around the property (Department of Climate Change, Energy, the Environment and Water [DCCEEW] 2023);
- Flora, fauna and threatened species lists, sighting records and information for the district was obtained from *BioNet – Website of the Atlas of NSW Wildlife* (DPE 2023b).

3.2 General Site Assessment

On the 28th July 2022, Dr. Steve Hamilton (BAAS 18106) assessed the proposed works sites on C3 zoned land. On this day, air temperatures were between 10 and 12°C, the sky was overcast, and winds were calm (Bureau of Meteorology 2022).

On the 11th August 2022, Dr. Steve Hamilton (BAAS 18106) assessed the proposed works sites on C3 zoned land. On this day, air temperatures were between 12 and 13°C, the sky was clear, and winds were calm (Bureau of Meteorology 2022).

On the 13th October 2022, Dr. Steve Hamilton (BAAS 18106) assessed (i.e. the residential development area) for the purposes of data for the production of a *Tree Characteristics Memorandum* for the scattered trees across this site. On this day, air temperatures were between 12 and 15°C, the sky was clear, and winds were calm (Bureau of Meteorology 2023).

The R1 zone land area had also been observed on the 10th June, 8th and 22nd July, and 5th August 2021 as part of Sloane's Froglet surveys.

The R1 zone land area and the twelve assessed areas on C3 zoned land were traversed by foot, with continuous active searching was conducted over a total period of 15 hours.

In a general sense, the following assessments were undertaken in each zone:

- Vascular plant species were identified and noted according to zone, with an overall cover/abundance value recorded for each species in each zone completed post-field assessment (see Table 3-1);
- The species, location, diameter, health and basic hollow characteristics of all assessed tree individuals within the proposed works areas and within proximity to them, was recorded, and an image of the tree taken;
- Opportunistic recording of any fauna;
- Digital images across the site taken.

Two hundred and sixty (260) images were taken across the assessed area.

3.3 Taxonomy

3.3.1 Flora

Vascular plants that could not be identified in the field, specimens and images were collected for identification using the *Flora of New South Wales* (Harden 1990, 1991, 1992, 1993), and *PlantNet Flora On-line* (Royal Botanic Gardens Sydney 2022).

3.3.2 Fauna

Any fauna observed were recorded, with the nomenclature based variously on the compilations of Hero *et al.* (1991), Menkhorst (1995), Cogger (1996) and Simpson and Day (1998), utilising Triggs (1996) for identification using indirect methods, such as the presence of scats or tracks.

Table 3-1 Modified Braun-Blanquet scale applied to assessment to each vascular plant species identified.

Visual assessment of cover/abundance	
Symbol	*Description*
+	rare, cover < 5%
1	Uncommon, cover < 5 %
2	Very common, cover < 5 % or cover 5-25 % with any number of individuals
3	Cover 25-50 % with any number of individuals
4	Cover 50-75 % with any number of individuals
5	Cover 75-100 % with any number of individuals

4. EXISTING ENVIRONMENT

4.1 Vegetation

The inventory of species noted across the parcels and pertinent areas is recorded in Appendix A.

The whole proposed development area on R1 zoned land is utilised for cropping, and as a consequence retains no native ground layer vegetation, and was variously cultivated ground or crop when assessed, but the area does retain mostly large remnant hollow-bearing scattered trees of either Yellow Box and Blakely's Red Gum.

A total of 43 vascular plant species were recorded across the twelve assessed work areas on C3 zoned land; 24 of these species were introduced, and 19 were indigenous (Table 4-1; Appendix A).

Table 4-1 The number of indigenous and introduced species across the twelve proposed development work areas or in close proximity on C3 zoned land.

Area	Introduced species	Indigenous species	Total species
1	3	2	5
2	7	9	16
3	12	10	22
4	13	5	18
5	9	7	16
6	13	7	20
7	12	3	15
8	5	2	7

Area	Introduced species	Indigenous species	Total species
9	4	2	6
10 & 12	15	2	17
11	6	1	7
Total	**24**	**19**	**43**

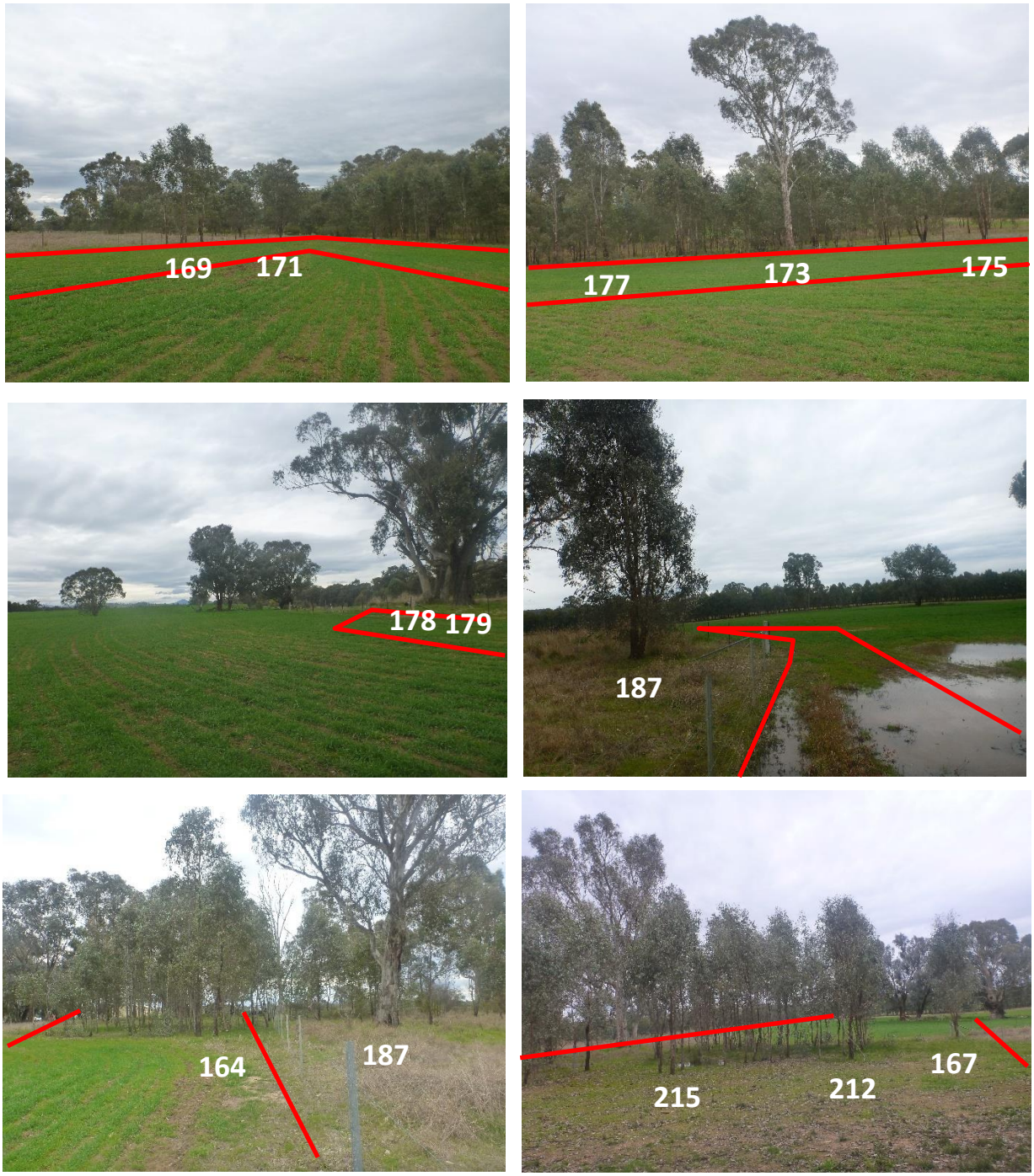


Plate 4-1 **Views across the assessed works areas on C3 zoned land: Area 1 (top and middle left), and Area 2 (middle right and bottom). Selected trees are numbered in white. The extent of the proposed works is shown as red lines. Images taken by author 27/7/22 or 11/8/22.**

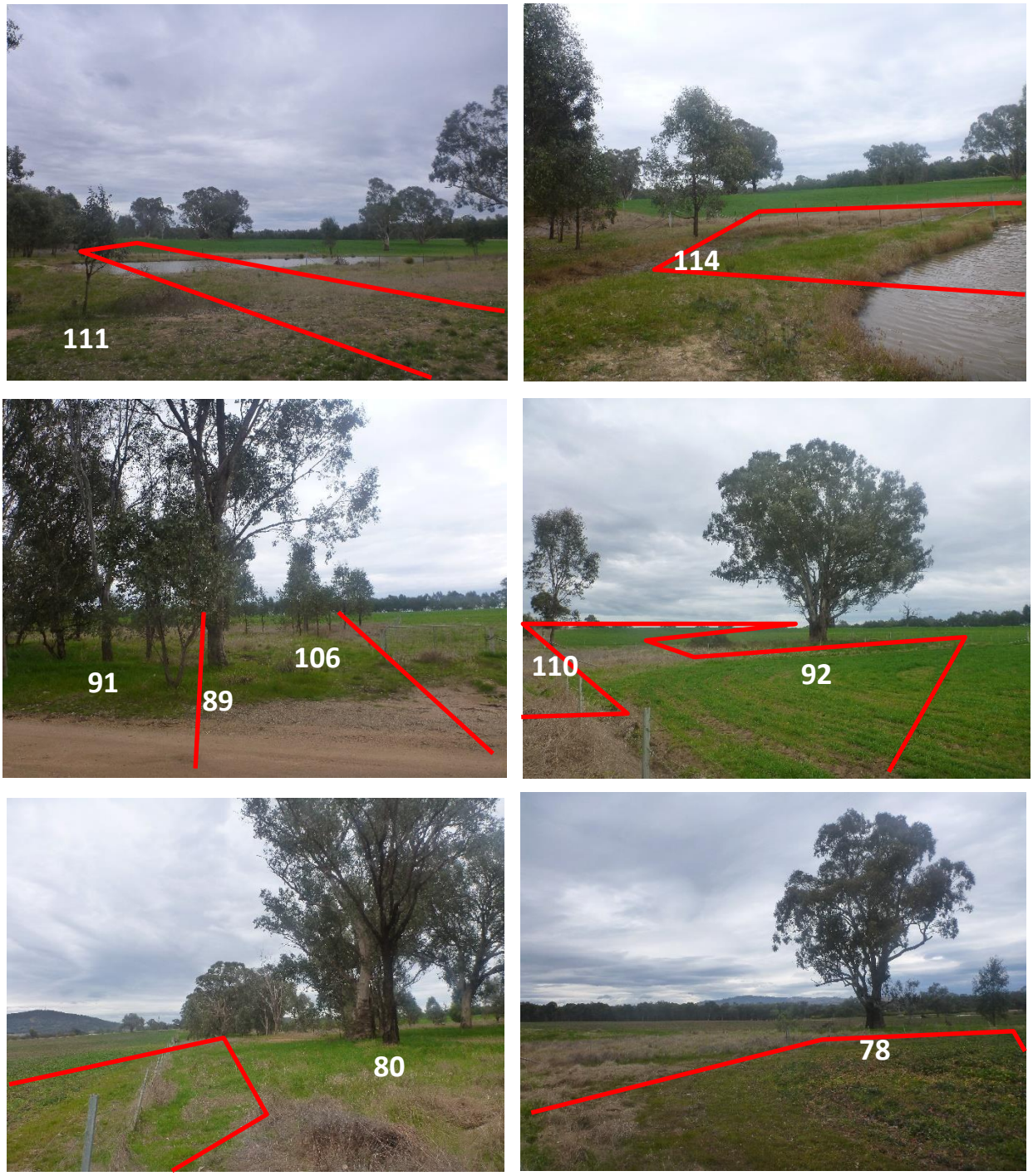


Plate 4-2 **Views across the assessed works areas on C3 zoned land: Area 3 (top), Area 4 (middle), and Area 5 (bottom). Selected trees are numbered in white. The extent of the proposed works is shown as red lines. Images taken by author 27/7/22 or 11/8/22.**

There were no rare or threatened species observed (after DPE 2023a).

As indicated, in Sec. 2.2, all twelve assessed areas are found on C3 zoned land. Seven of the proposed works areas (Areas 1 to 7) are found on the northern and/or southern side of Williams Road, with some of these areas crossing Williams Road and impacting on the road reserve, while Areas 8 and 9 are found on freehold land near the corner of Williams Road and Table Top Road, and Areas 10, 11 and 12, and found on the eastern edge of the proposed residential development (see Fig. 2-2).

Plate 4-3 **Views across the assessed works areas on C3 zoned land: Area 6 (top), Area 7 (middle), and Area 8 (bottom). Selected trees are numbered in white. The extent of the proposed works is shown as red lines. Images taken by author 27/7/22 or 11/8/22.**

As described in detail in Sec. 2.2, these areas are variable in shape and size, with considerable variation in the canopy species within the proposed development areas and immediately adjacent, and with a range of vegetation composition and abundance at ground level:

- Areas 1, 5, 8, 9 and 11 are located wholly on cropped land – at the time of assessment, either Wheat or Canola – while Areas 2 and 4 have northern sections of cropped land. All of these works areas have been cleared of woody vegetation with a ground layer vegetation that is wholly introduced, composed of introduced species in addition to the crop species such as Cat's Ear,

Paterson's Curse, Great Brome, Wild Oat, Onion-grass, Wimmera Ryegrass and Barley Grass (ranging from 60 to 95 % projective foliage cover; Appendix A);

- Areas 2, 3, 4 and 6 all maintain sections ('patches') of indigenous ground layer species (of 0.020, 0.017, 0.017 and 0.019 ha, respectively), with/without embedded indigenous canopy species individuals. The indigenous species observed in these patches included Rough Spear-grass, Tall Sedge, Curly Windmill Grass, *Juncus* sp., Blown Grass, Weeping Grass, Warrego Summer Grass, Snowgrass, and Wallaby-grasses (*Rytidosperma* spp.). The projective foliage cover of indigenous species within these patches ranged from 5 % projective foliage cover (Areas 4 and 6), to 10 % (Area 2) to 20 % (Area 3). These areas also contain a dominant cover of introduced cover with species such as Wild Oat, Capeweed, Great Brome, Paterson's Curse, Annual Veldt-grass, Barley Grass, Cat's Ear, Prickly Lettuce, Wimmera Ryegrass, Paspalum, Water Couch, Winter-grass, Onion-grass, Blackberry Nightshade and Milk Thistle, ranging from 60 to 85 % projective foliage cover (Appendix A);
- The fenced reserve and road reserve sections of Areas 4, 6, 7, 10 and 12 are wholly introduced species at ground level, and includes species such as Wild Oat, Capeweed, Great Brome, Paterson's Curse, Barley Grass, Cat's Ear, Prickly Lettuce, Wimmera Ryegrass, Paspalum, Water Couch, Winter-grass, Onion-grass, Blackberry Nightshade and Milk Thistle, ranging from 75 to 90 % projective foliage cover (Appendix A);
- Area 12 maintains within its footprint planted individuals of the indigenous Golden Wattle and Drooping Sheoak, and of a non-indigenous native Bottlebrush, and planted individuals of the indigenous species Silver Wattle in close proximity. Area 10 also has a planted non-indigenous native Bottlebrush in close proximity.

Based on the evidence provided by the available mapping and the extant remnant vegetation (remnant trees and some ground layer patches), it is likely that:

- Proposed works areas 1, 2, 8 and 9 on C3 zoned land, and the proposed subdivision block south of Williams Road and the corner block on Williams Road and Table Top Road, are former *Blakelys Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion* (NSW Plant Community Type (PCT) 277; Environment and Heritage 2012 and DPE 2023d);
- Proposed works areas 10 and 11 on C3 zoned land are former *Riparian Blakelys Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion* (PCT 278; Environment and Heritage 2012 and DPE 2023d);
- Proposed work areas 3, 4, 5, 6 and 7 on C3 zoned land, and the proposed subdivision block north of Williams Road, are modified *White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion* (PCT 266; Environment and Heritage 2012 and DPE 2023d).

Plate 4-4 **Views across the assessed works areas on C3 zoned land: Area 9 (top), Area 10 (middle), and Areas 11 (bottom left) and 12 (bottom right). Selected trees are numbered in white. The extent of the proposed works is shown as red lines. Images taken by author 27/7/22 or 11/8/22.**

4.2 Significant Trees

A total of 292 tree individuals were evaluated across the twelve assessed work areas on C3 zoned land or on the R1 zoned land, or in the immediate proximity to them, and the details on all of these individuals can be viewed in the table in Appendix C.

The location of all assessed trees can be seen across Figures 4-1 and 4-13; Figures 4-1 to 4-12 show the assessed trees in the 12 proposed work area on C3 zoned land, and Fig. 4-13 shows the assessed trees across the R1 zoned land and adjacent areas.

Construction projects that involve earthworks or soil disturbance can cause indirect losses of native vegetation that are retained during construction due to root damage and soil modification within the zone where roots occur. Of particular concern is the longer-term impact of soil compaction and excavation (e.g. trenching for pipelines) close to trees and the effects of this on immediate and longer-term tree health. Standards Australia (2009) has provided guidance and clarity on this issue, and has defined an acceptable distance for tree retention in order to prevent indirect losses of native vegetation during and after construction activities as a guiding principle. These designated Tree Protection Zones (TPZs) should be implemented for the duration of construction activities (Standards Australia 2009) as part of the development conditions.

A TPZ is a specific area above and below the ground, with a radius 12 times the Diameter at Breast Height (dbh; 1.3 m) of any individual tree; the TPZ of trees should be no less than 2 m or greater than 15 m, and it is recommended that physical barriers be erected to delineate the TPZs of retained trees during construction activities. Should a development impinge on the TPZ area for > 10 % of its area, the tree shall be considered a loss, and will have to be offset (Standards Australia 2009).

Note that in Figures 4-1 to 4-12, only TPZs for individuals > 20 cm dbh have been shown to avoid image clutter.

TPZs are not shown in Fig. 4-13.

- In regard to the assessed trees on the R1 zoned land of the residential subdivision:
    - Trees 183, 184, and 219 to 292 (76 trees) are on R1 zoned land;
    - Trees 228, 229, 231 to 234, 267 to 269 and 290 are on R1 zoned land, but will not be impacted by the proposed development (9 trees);
    - Of the 67 trees that are within the proposed development area;
        - A total of 31 of these trees are < 20 cm diameter at breast height (dbh);
        - A total of 29 of these are hollow-bearing trees;
        - A total of 8 of these are standing dead trees;
- In regard to the assessed trees relative to the footprint of each of the twelve proposed works areas on C3 zoned land, taking into account avoidance measures in design:
    - Trees 1 to 182, and 185 to 218 (216 trees), are on C3 zoned land;
    - In Area 1, Trees 169 and 171, both Blakely's Red Gum individuals with a diameter ≤ 20 cm diameter at breast height (dbh) will be losses with the proposed development – a determined loss by canopy extents of 0.001 ha (10 m^2). Adjacent Trees 170, 172 to 179 will all be avoided and retained, with either their TPZs not impinged, or impinged by < 10 % of their area;
    - In Area 2, Trees 142, 143, 146, 162 to 168, and Trees 189 to 218, are all within the proposed development footprint, and are all losses with the proposed development. All of these trees are recent recruits with a diameter of ≤ 20 cm dbh, contained within a native vegetation ground layer patch of 0.02 ha which has been previously described. In addition, Tree 147, a Red Box individual with a diameter of 40 cm dbh outside of the development footprint, despite being likely to be retained, will also be a deemed loss because its TPZ is impinged by > 10 % of its area (see Figures 2-2 and 2-3). This results in the total area of native vegetation loss at this site, based on patch dimension and canopy extent of Tree 147 outside of the patch, of 0.021 ha. Adjacent individuals to the proposed works area, namely Trees 129 to 141, 145, 148

to 161, and Tree 188, will all be avoided and retained, with either their TPZs not impinged, or impinged by < 10 % of their area;

- In Area 3, no trees will be removed as a consequence of the development. Tree 114 will be avoided and retained, with its TPZ impinged by < 10 % of its area. The TPZs of Trees 111, 112, 113 and Trees 115 to 128 will not be impinged (see Fig. 4-4);
- In Area 4, Trees 87, 88, 89, 99, 102, 103, 104, 105, 106 and 110, are all within the proposed development footprint, and are all losses with the proposed development. Tree 87 is a White Box individual of 38 cm dbh, and Trees 88, 89, 99, 102, 103, 104, 105, 106 and 110 are all recent recruits with a diameter of ≤ 20 cm dbh, with all but Trees 87, 88, 89 and 110 contained within a native vegetation ground layer patch of 0.017 ha which has been previously described. This results in the total area of native vegetation loss at this site, based on patch dimension and canopy extents outside of the patch, of 0.024 ha. Adjacent individuals to the proposed works area, namely Trees 82 to 86, 90 to 98, and Tree 100, will all be avoided and retained, with either their TPZs not impinged, or impinged by < 10 % of their area (see Fig. 4-5);
- In Area 5, no trees will be removed as a consequence of the development. Tree 81 will be avoided and retained, with its TPZ impinged by < 10 % of its area. The TPZs of Trees 78, 79, 80 and 81 will not be impinged (see Fig. 4-6);
- In Area 6, Trees 57, 59, 70, 71 and 75, are all within the proposed development footprint, and are all losses with the proposed development. Tree 59 is a White Box individual of 38 cm dbh, and Trees 57, 70, 71 and 75 are all recent recruits with a diameter of ≤ 30 cm dbh, with all but Trees 57 and 59 contained within a native vegetation ground layer patch of 0.019 ha which has been previously described. This results in the total area of native vegetation loss at this site, based on patch dimension and canopy extents outside of the patch, of 0.032 ha. Adjacent individuals to the proposed works area, namely Trees 58, 60 to 69, 72, 73, 74, 76 and 77, will all be avoided and retained, with either their TPZs not impinged, or impinged by < 10 % of their area. As indicated previously, there is also a rectangular area of 0.037 ha east of this works area with a north-south alignment on both sides of Williams Road and within both road reserves, where infrastructure will be established using under-boring under existing C3 zone vegetation (James Laycock pers. comm. 2022). There is no native vegetation at either end of this areas, and so no losses will occur (see Fig. 4-7);
- In Area 7, only Tree 53 – a Red Box individual of 20 cm dbh - will be removed as a consequence of the development – a determined loss by canopy extent of 0.001 ha (10 m^2). Trees 49 and 50 will be avoided and retained, with their TPZs impinged by < 10 % of their area. The TPZs of Trees 48, 51, 52, 54, 55 and 56 will not be impinged (see Fig. 4-8);
- In Area 8, no trees will be removed as a consequence of the development. Trees 182, 185 and 186 will be avoided and retained, with their TPZs impinged by < 10 % of their area. The TPZs of Trees 183 and 184 will not be impinged. The ground layer vegetation in this area is wholly introduced (see Fig. 4-9);
- In Area 9, no trees will be removed as a consequence of the development. Trees 180 will be avoided and retained, with its TPZ impinged by < 10 % of its area. The TPZ of Tree 181 will not be impinged. The ground layer vegetation in this area is wholly introduced (see Fig. 4-10);
- In Area 10, no trees will be removed as a consequence of the development. The TPZs of Trees 35 to 47 (Tree 46 is a planted Bottlebrush) will not be impinged. The ground layer vegetation in this area is wholly introduced (see Fig. 4-11);

- In Area 11, no trees will be removed as a consequence of the development. The TPZs of Trees 17 to 42 and Tree 47 will not be impinged. Trees 17 to 28 are planted Bottlebrush or Drooping Sheoak. The ground layer vegetation in this area is wholly introduced (see Fig. 4-12);
- In Area 12, 10 planted trees will be removed as a consequence of the development – Trees 2, 6, 7, 8, ,9, 10, and Trees 13 to 16, which are all planted Bottlebrush or Drooping Sheoak. These trees were forward plantings by the Albury-Wodonga Corporation using conservation funds, and therefore require assessment. The TPZ of indigenous Tree 1 will be avoided and retained, with its TPZ impinged by < 10 % of its area. The ground layer vegetation in this area is wholly introduced (see Fig. 4-12);
- In summary, there are losses of native vegetation at only 6 of the 12 assessed areas (Areas 1, 2, 3, 4, 6, and 7), with trees losses only at 5 areas (Areas 1, 2, 4, 6, and 7), resulting in a total of 59 indigenous trees likely to be losses, none of which are hollow-bearing, with 54 individuals having a dbh ≤ 20 cm, and the largest two individuals being 38 cm dbh. Ten planted non-indigenous and indigenous native trees are also proposed losses. The losses of the majority of these trees are those that are found embedded in native vegetation ground layer patches in Areas 2, 4 and 6;
- In total, there is 0.074 ha (740 m^2) in proposed losses of native vegetation ground layer patches with the development, and when the canopy extents of those trees proposed for loss outside of the ground layer patches is added, the determined total native vegetation loss is 0.096 ha (960 m^2).

4.3 Fauna

There were 8 species of fauna observed, all of which are indigenous.

Details of those species noted or inferred over the assessment period are detailed in Appendix B.

As described, the proposed development area on R1 zoned land is utilised for cropping, and as a consequence retains no native ground layer vegetation, but the area does retain mostly large remnant hollow-bearing scattered Blakely's Red Gum and Yellow Box trees.

As indicated previously, all twelve assessed works areas are found on C3 zoned land, and these works areas of assessment are a combination of treed and revegetation areas, adjacent to freehold land that has been mostly cleared of woody vegetation, and which is predominantly utilised for cropping; these areas are variable in shape and size, with considerable variation in the canopy species within the proposed development areas and immediately adjacent, and with a range of vegetation composition and abundance at ground level.

Not surprisingly, the indigenous fauna observed across the property is typically of those observed in such modified/cleared-rural environments, such as the indigenous Eastern Grey Kangaroo, Australian Magpie, Australian Raven, Crimson Rosella, Sulphur-crested Cockatoo, Willie Wagtail, Red-rumped Parrot and Noisy Miner. While some of these species utilise the edges of the cleared and cropped R1 zoned land, they tend to occur predominantly in the C3 zoned land within the proposed development area because of the enhanced habitat opportunities in these areas relative to the adjacent cleared paddocks.

Notwithstanding the stark difference between the C3 and R1 zoned areas in terms of the habitat resources, the lack of observed species diversity across the assessed C3 zoned areas is not surprising, given:

- The presence of the aggressive and territorial honeyeater Noisy Miner in abundance will result in most small and medium-sized indigenous birds being deterred from residence at the location;

- While the road reserves and adjacent fenced reserves do maintain significant if not continuous tree cover, with some planted shrubs in some locations, there is no effective understorey vegetation across the majority of the assessed areas, and the commensurate simplified vegetation structure, would considerably limit mammal, reptile, bat and bird species residency;
- While there are hollow-bearing trees along the road reserve, in adjacent fenced reserves, and in adjacent cleared freehold areas as scattered paddock trees, there is a lack of hollow-bearing trees within the assessed areas and in close proximity to them in most cases, and most of the tree individuals assessed are immature trees;
- The lack of fallen timber, which would considerably limit mammal, reptile, bat and bird species residency;
- Domination of the ground layer vegetation by introduced species across most of the assessed areas;
- the likely presence of feral animal populations such as foxes and feral cats, which would actively predate any ground-dwelling or near ground-dwelling species heavily.

Lake Hume is located 6.5 km to the east of the property, but retains no native vegetation along its boundary in this section of the storage; this effectively renders the area east of the property for up to 10 km as retaining no effective habitat for terrestrial fauna.

The drainage line to the immediate east of the site – and which is bounded by works Areas 9 to 12 - maintains a more-or-less continuous canopy of trees. Other than this remnant vegetation, Bowna Waters Reserve is the closest native vegetation block to the property and is 4.2 km north-east, and Bell's Reserve is 800 m east of the eastern-most areas; however, there is no continuous vegetation (tree) cover to either of these blocks. Regrettably, none of these blocks are connected to remnant vegetation in the broader landscape, and this tends to render the assessed areas as only low-moderately connected within the landscape; to underline this point, other than multiple Sloane's Froglet records, there are few threatened fauna species records within 2 km of the sites.

While the assessed works areas and adjacent land on C3 zoned land do contain some habitat for native fauna – albeit simplified and modified - the relative lack of connectivity to these areas will be a major obstacle to the movement of fauna to and from the area, and the low diversity of fauna observed on the site is unlikely to change substantially.

Sloane's Froglet

A targeted survey was conducted for Sloane's Froglet on the evenings of 10th June, 8th and 22nd July, and 5th August 2021 according to the survey guidelines outlined in Woolshed Thurgoona Landcare Group (2018). The areas surveyed for Sloane's Froglet on each occasion was guided by the potential Sloane's Froglet habitat mapping provided by DPE (David Hunter pers. comm. 2021); this mapping identified 64 areas of potential habitat, many of which are on the R1 zoned land, and these mapped areas are shown in Fig. 4-14.

All 64 mapped locations were surveyed, were all surveyed three times across the four evenings, and all areas were surveyed on each evening for a minimum of 5 minutes each after dusk.

Over the course of the survey period, Sloane's Froglet were recorded at several locations, with the data summarised below:

- Site 7 and 36 (on adjacent property). Site 7 is a large dam, and Site 36 is a depression inlet to Site 7. On three occasions, 25 to 50 calling male Sloane's Froglet were recorded;
- Site 9. This site is a large dam with no fringing vegetation. On one occasion, 1 to 5 calling male Sloane's Froglet were recorded;

- Site 11. This site is a shallow depression amidst the planted crop. On three occasions, 1 to 5 calling male Sloane's Froglet were recorded;
- Site 19. This site is a large dam with no fringing vegetation. On three occasions, 1 to 5 calling male Sloane's Froglet were recorded;
- Site 20. This site is a shallow depression that spreads from a planted crop area into a fenced reserve. On three occasions, 10 to 15 calling male Sloane's Froglet were recorded;
- Site 26 (outside of the development area). This site is a very large dam with minimal fringing vegetation. On one occasion, 1 to 5 calling male Sloane's Froglet were recorded;
- Site 40. This site is a very small shallow depression amidst the planted crop. On one occasion, 1 to 5 calling male Sloane's Froglet were recorded;
- Site 43. This site is a very small shallow depression amidst the planted crop. On two occasions, 1 to 5 calling male Sloane's Froglet were recorded;
- Site 54 (on adjacent property). This site is a shallow depression found in a fenced reserve. On three occasions, 1 to 5 calling male Sloane's Froglet were recorded;
- Site 56. This site is a shallow depression found in a fenced reserve. On three occasions, 1 to 5 calling male Sloane's Froglet were recorded;
- Site 58. This site is a shallow depression amidst the planted crop. On one occasion, 1 to 5 calling male Sloane's Froglet were recorded.

There were no records for the species at the other 52 sites over the survey period.

There were no other rare or threatened species of fauna observed or inferred across the assessed development areas (DPE 2023a).

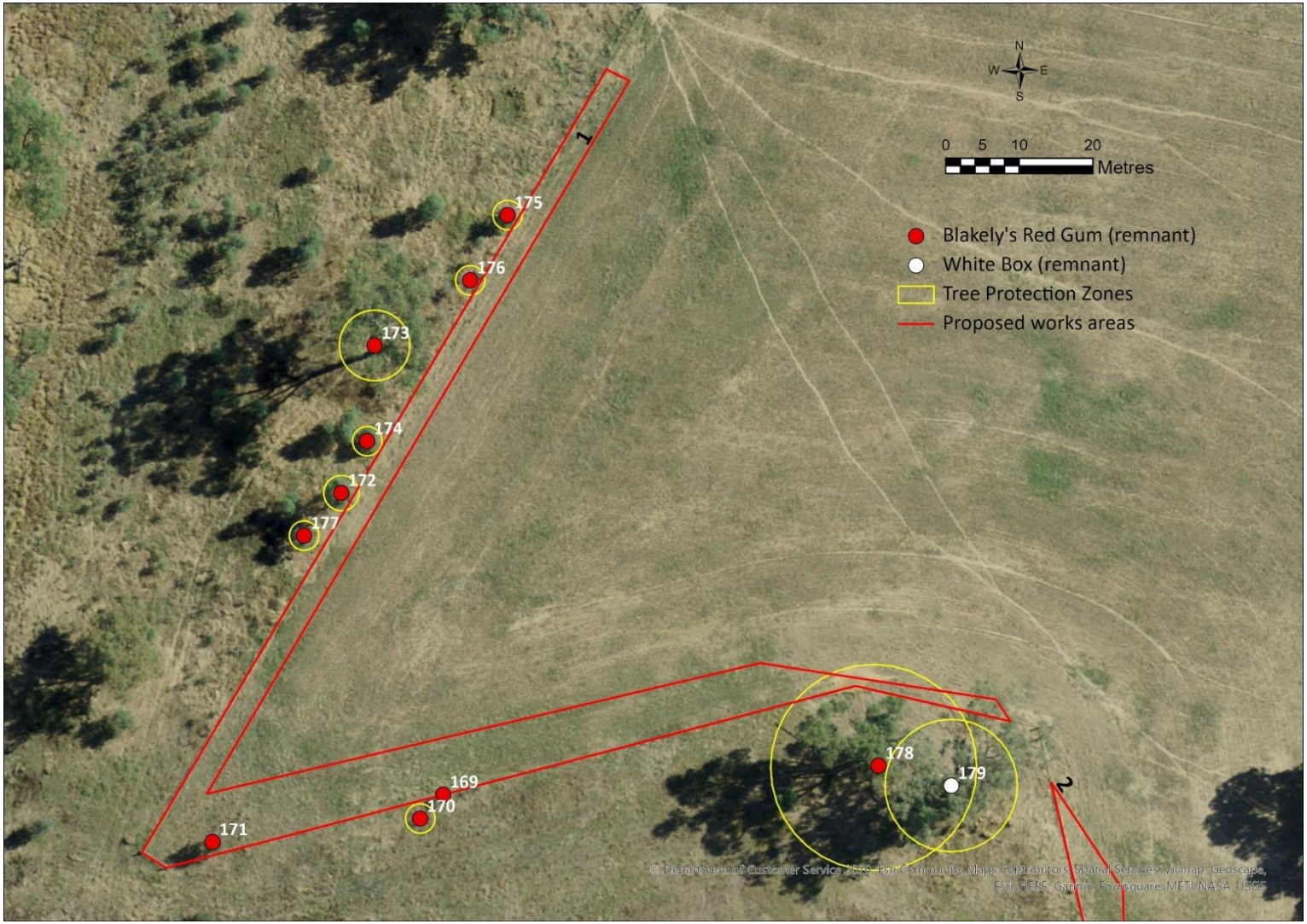


Figure 4-1 **Aerial image of proposed works Area 1 on C3 zoned land at Williams Road Table Top showing the location of assessed trees, and pertinent Tree Protection Zones; numbers are tree identifiers in the table in Appendix C. Note that only TPZs for individuals > 20 cm dbh have been shown to avoid image clutter (Image from ESRI Australia 2022).**

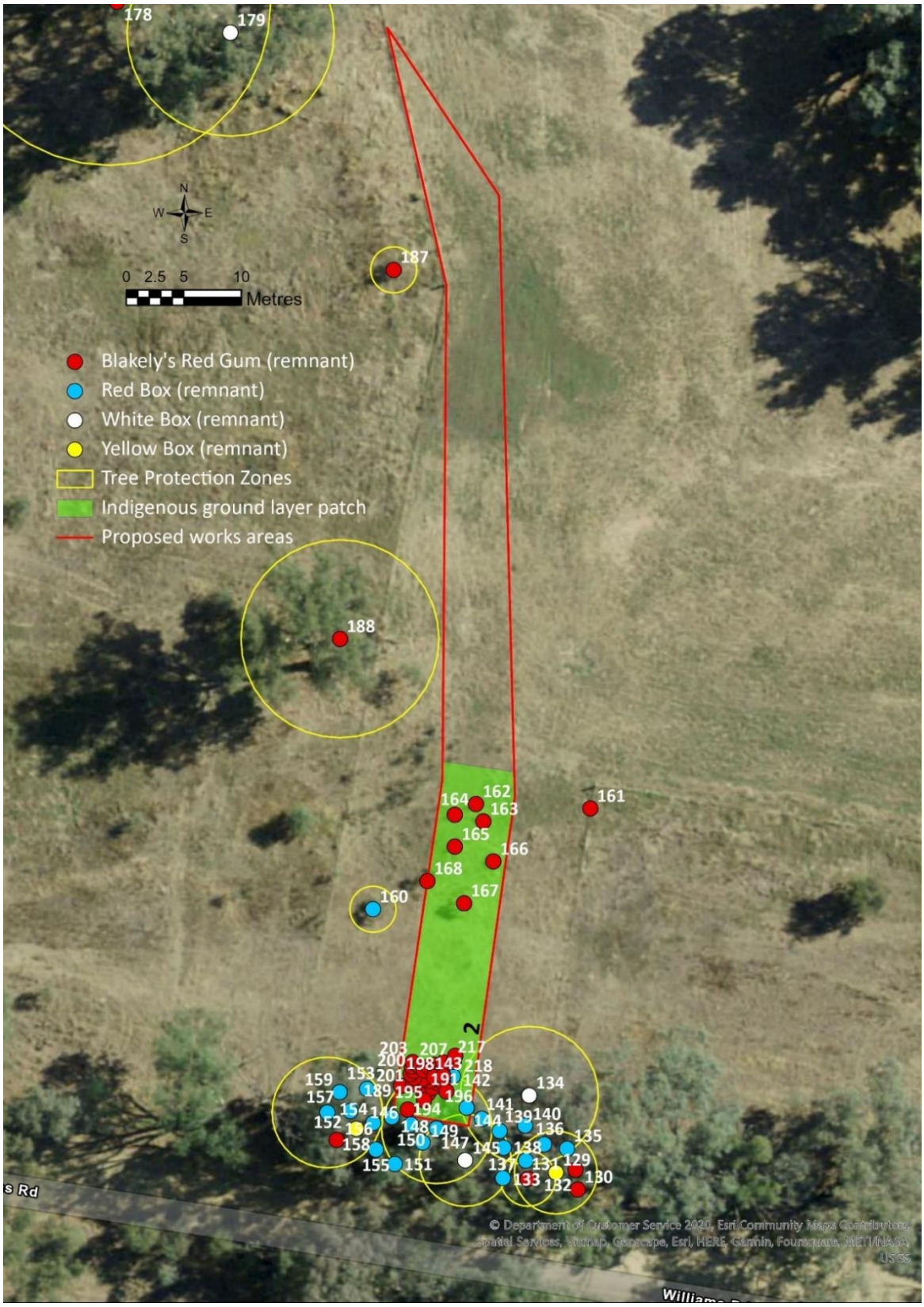


Figure 4-2 **Aerial image of proposed works Area 2 on C3 zoned land at Williams Road Table Top showing the location of assessed trees, and pertinent Tree Protection Zones; numbers are tree identifiers in the table in Appendix C. Note that only TPZs for individuals > 20 cm dbh have been shown to avoid image clutter. . Native vegetation ground layer patches proposed for removal are also shown (Image from ESRI Australia 2022).**

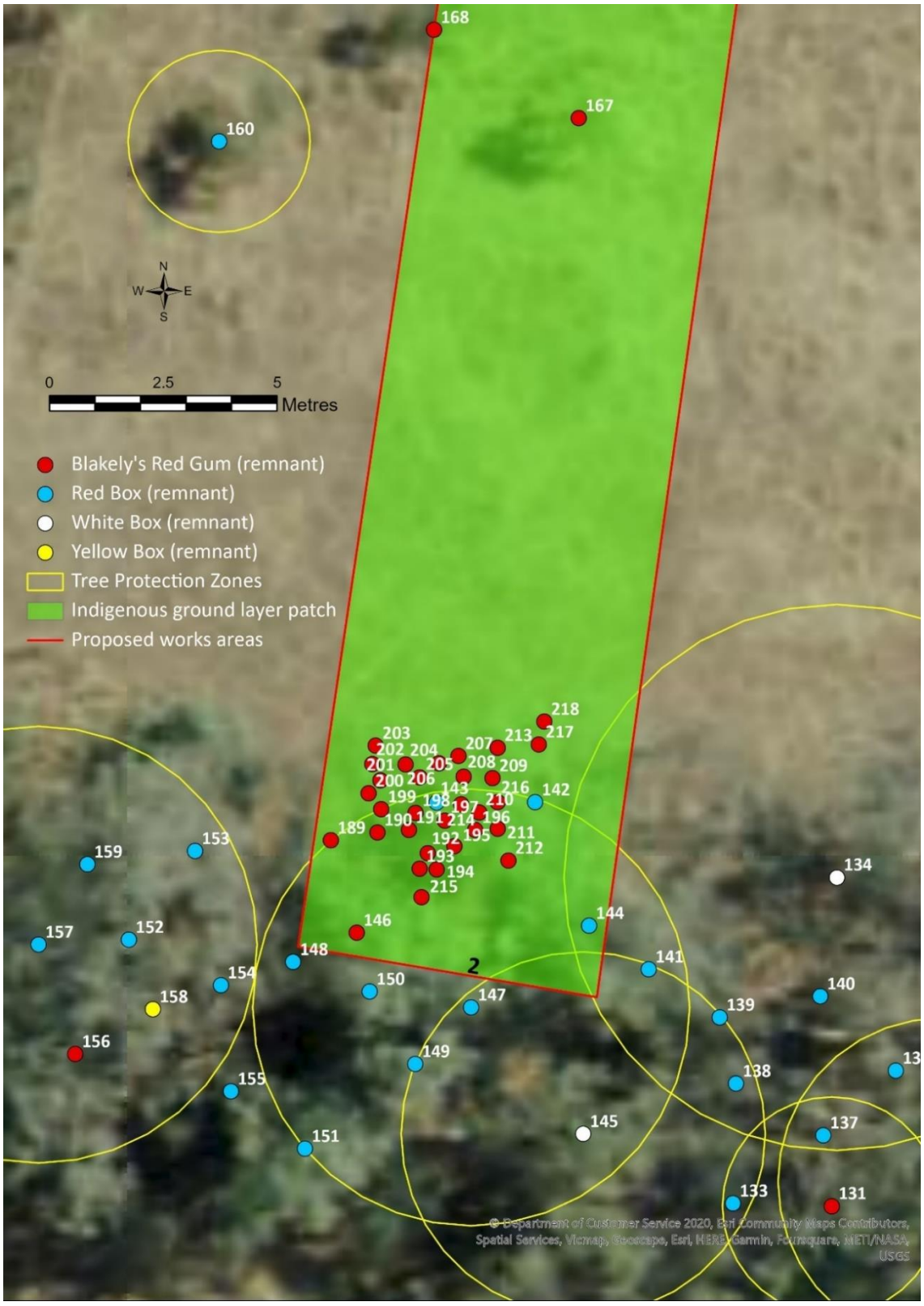


Figure 4-3 **Close-up aerial image of the southern section of the proposed works Area 2 on C3 zoned land at Williams Road Table Top showing the location of assessed trees, and pertinent Tree Protection Zones; numbers are tree identifiers in the table in Appendix C. Note that only TPZs for individuals > 20 cm dbh have been shown to avoid image clutter. Native vegetation ground layer patches proposed for removal are also shown (Image from ESRI Australia 2022).**

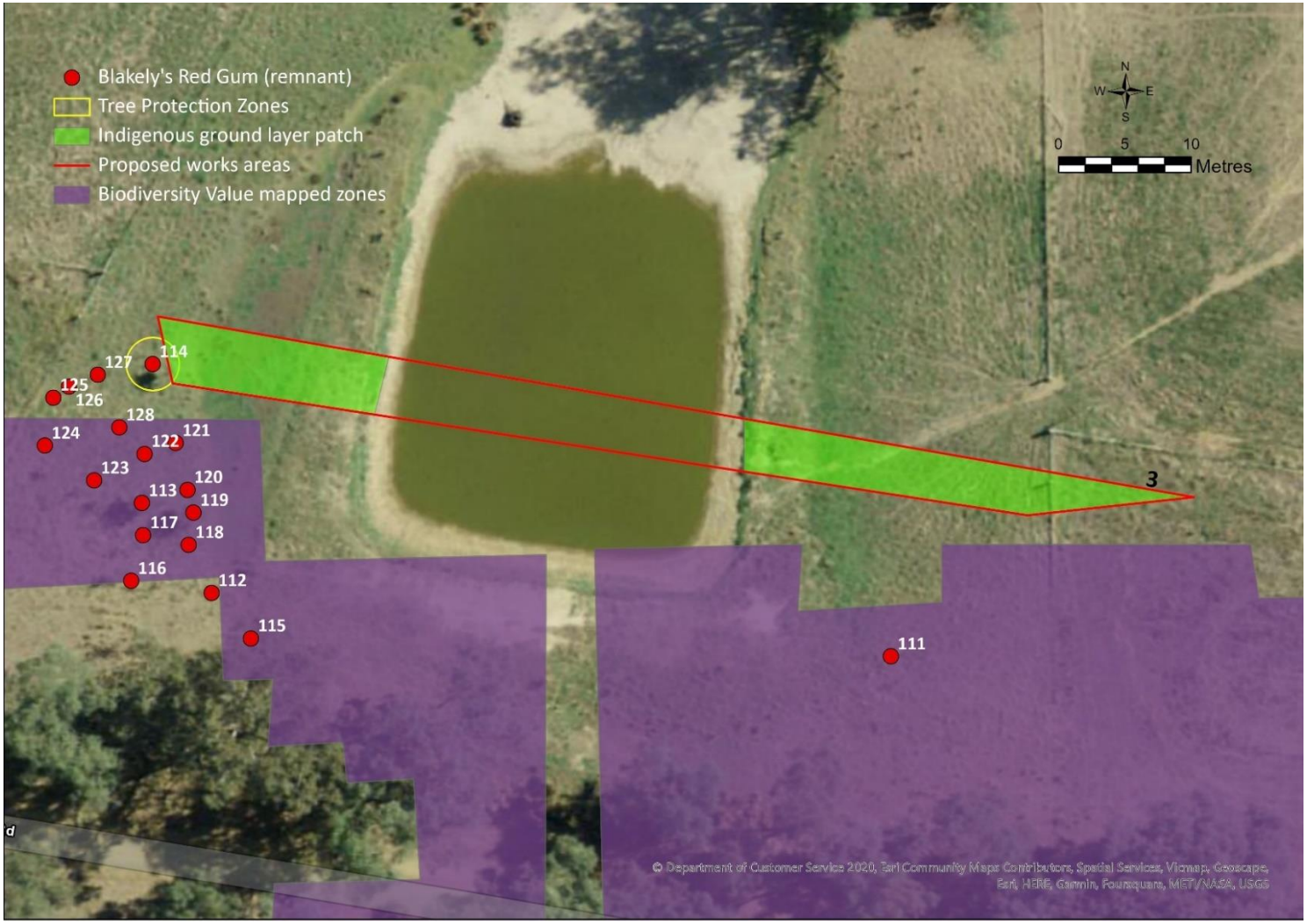


Figure 4-4 **Aerial image of proposed works Area 3 on C3 zoned land at Williams Road Table Top showing the location of assessed trees, and pertinent Tree Protection Zones; numbers are tree identifiers in the table in Appendix C. Note that only TPZs for individuals > 20 cm dbh have been shown to avoid image clutter. Native vegetation ground layer patches proposed for removal are also shown (Image from ESRI Australia 2022).**

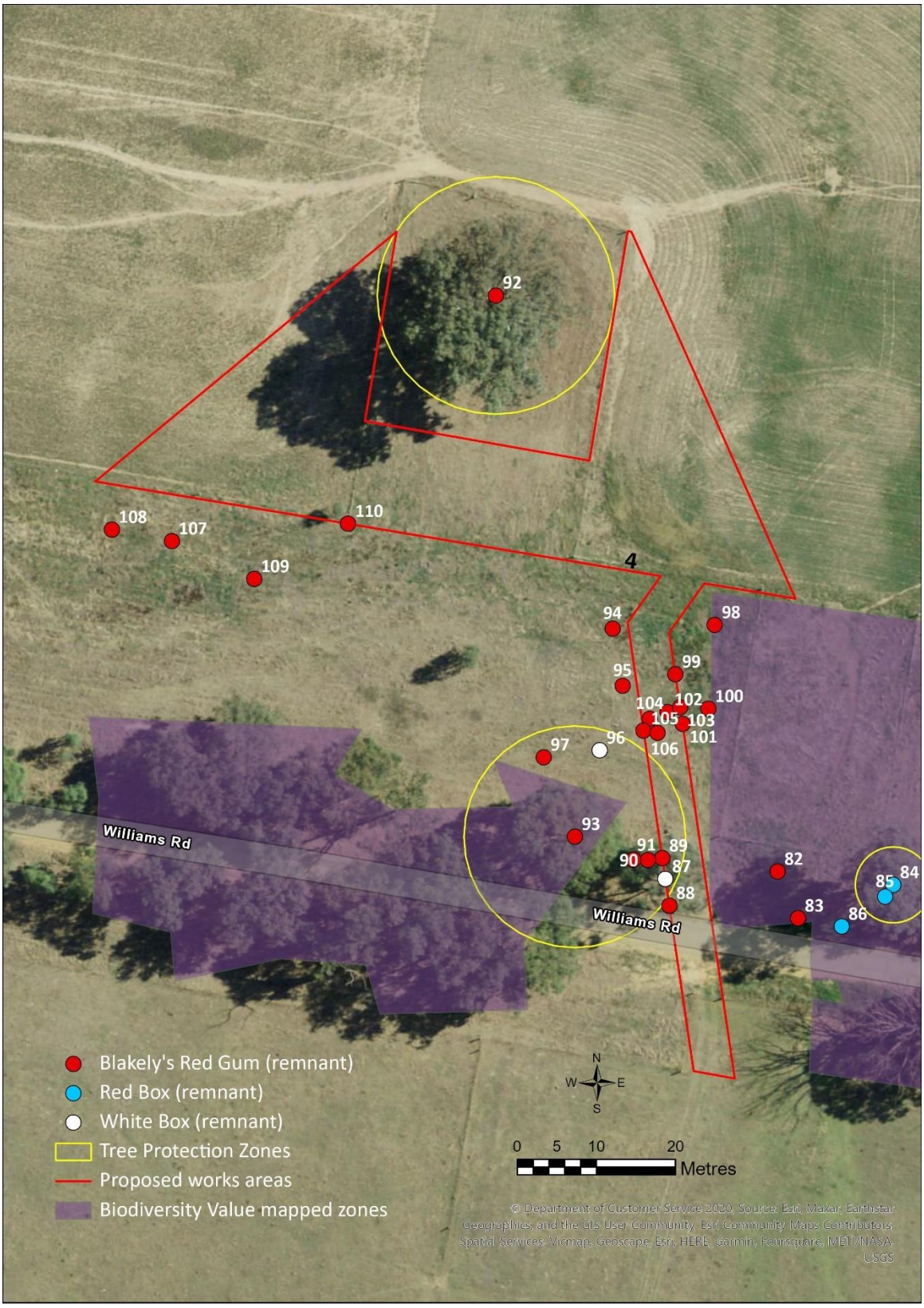


Figure 4-5 **Aerial image of proposed works Area 4 on C3 zoned land at Williams Road Table Top showing the location of assessed trees, and pertinent Tree Protection Zones; numbers are tree identifiers in the table in Appendix C. Note that only TPZs for individuals > 20 cm dbh have been shown to avoid image clutter. Native vegetation ground layer patches proposed for removal are also shown (Image from ESRI Australia 2022).**

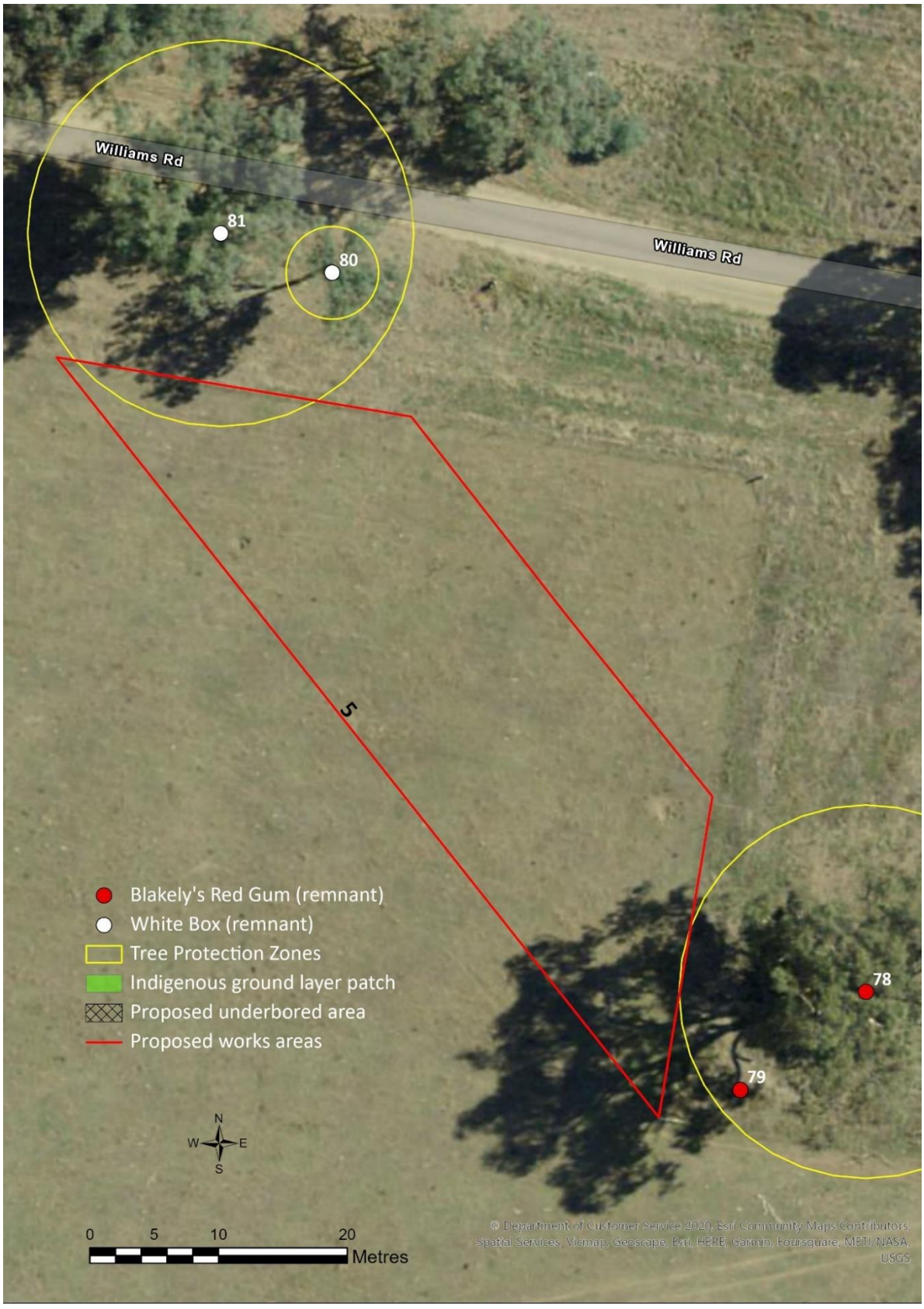


Figure 4-6 **Aerial image of proposed works Area 5 on C3 zoned land at Williams Road Table Top showing the location of assessed trees, and pertinent Tree Protection Zones; numbers are tree identifiers in the table in Appendix C. Note that only TPZs for individuals > 20 cm dbh have been shown to avoid image clutter (Image from ESRI Australia 2022).**

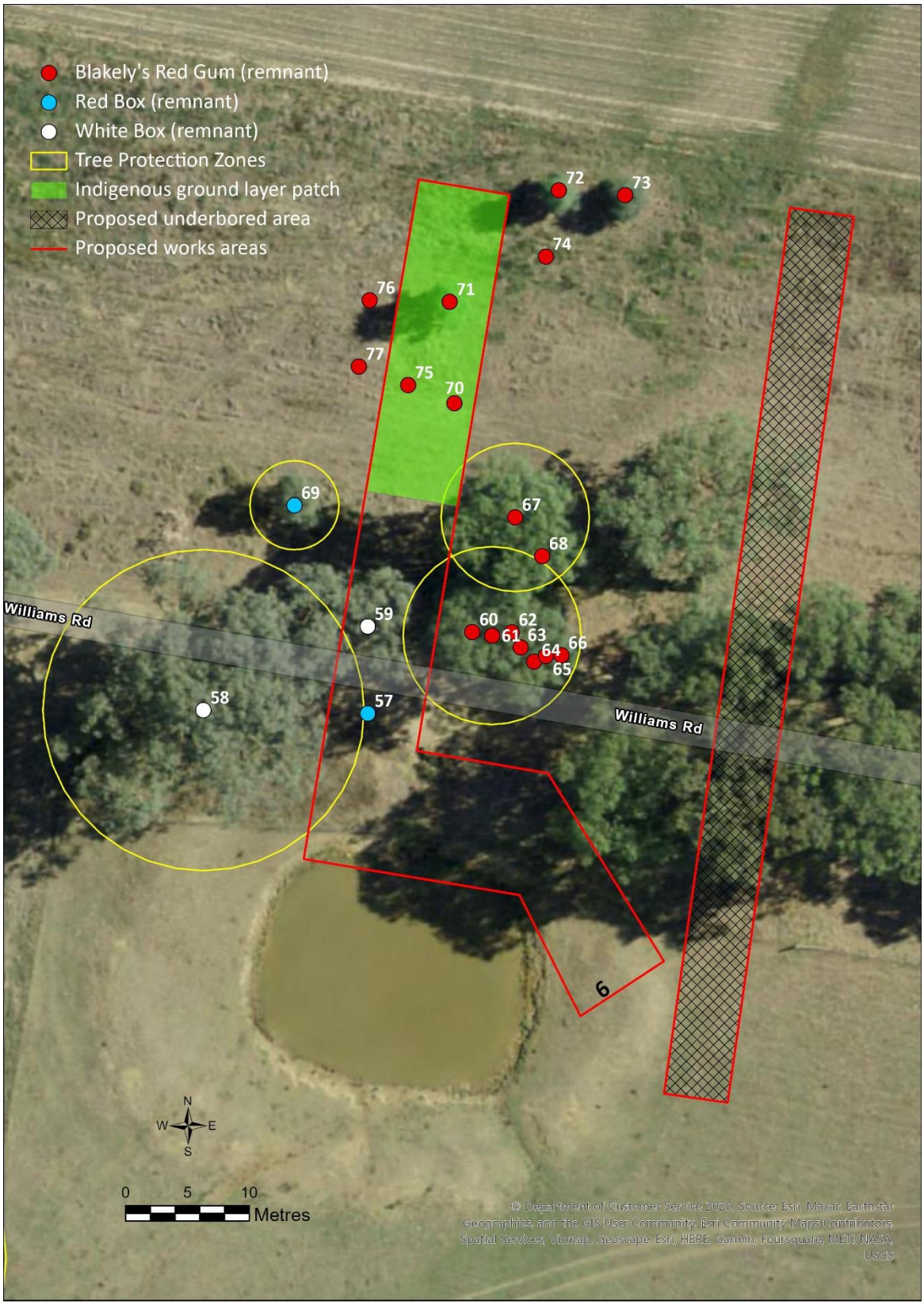


Figure 4-7 **Aerial image of proposed works Area 6 on C3 zoned land at Williams Road Table Top showing the location of assessed trees, and pertinent Tree Protection Zones; numbers are tree identifiers in the table in Appendix C. Note that only TPZs for individuals > 20 cm dbh have been shown to avoid image clutter. Native vegetation ground layer patches proposed for removal are also shown (Image from ESRI Australia 2022).**

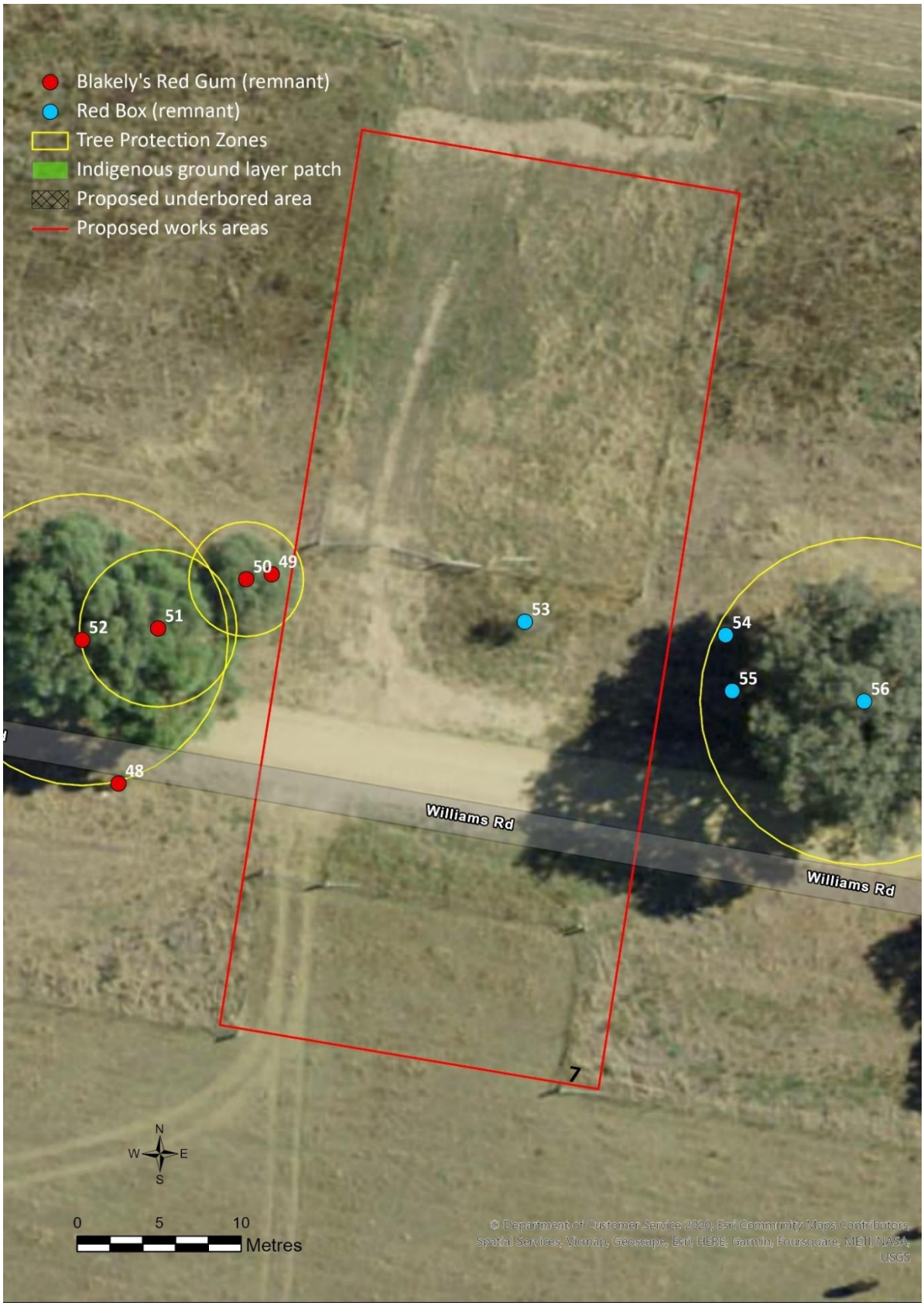


Figure 4-8 **Aerial image of proposed works Area 7 on C3 zoned land at Williams Road Table Top showing the location of assessed trees, and pertinent Tree Protection Zones; numbers are tree identifiers in the table in Appendix C. Note that only TPZs for individuals > 20 cm dbh have been shown to avoid image clutter (Image from ESRI Australia 2022).**

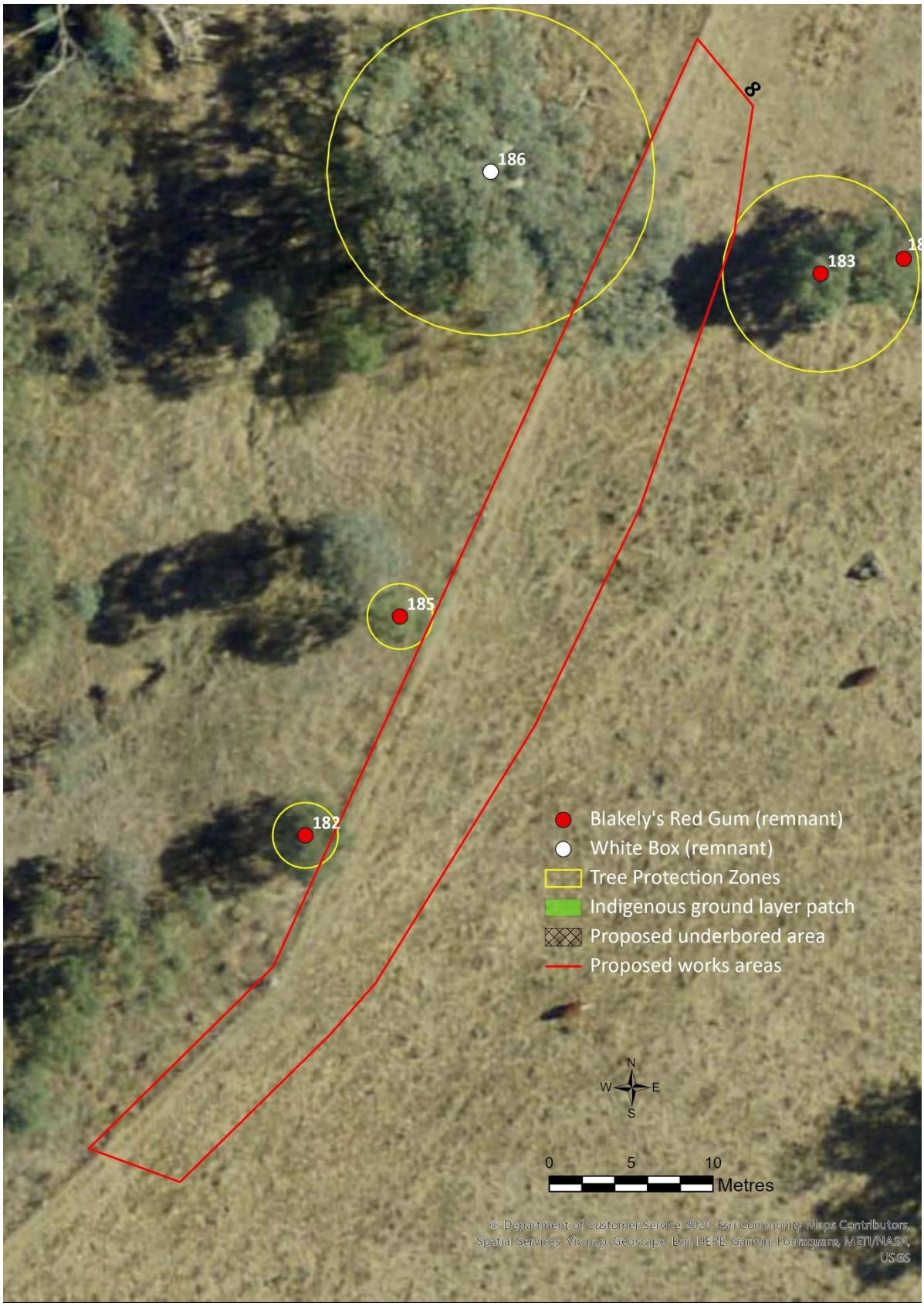


Figure 4-9 **Aerial image of proposed works Area 8 on C3 zoned land at Williams Road Table Top showing the location of assessed trees, and pertinent Tree Protection Zones; numbers are tree identifiers in the table in Appendix C. Note that only TPZs for individuals > 20 cm dbh have been shown to avoid image clutter (Image from ESRI Australia 2022).**

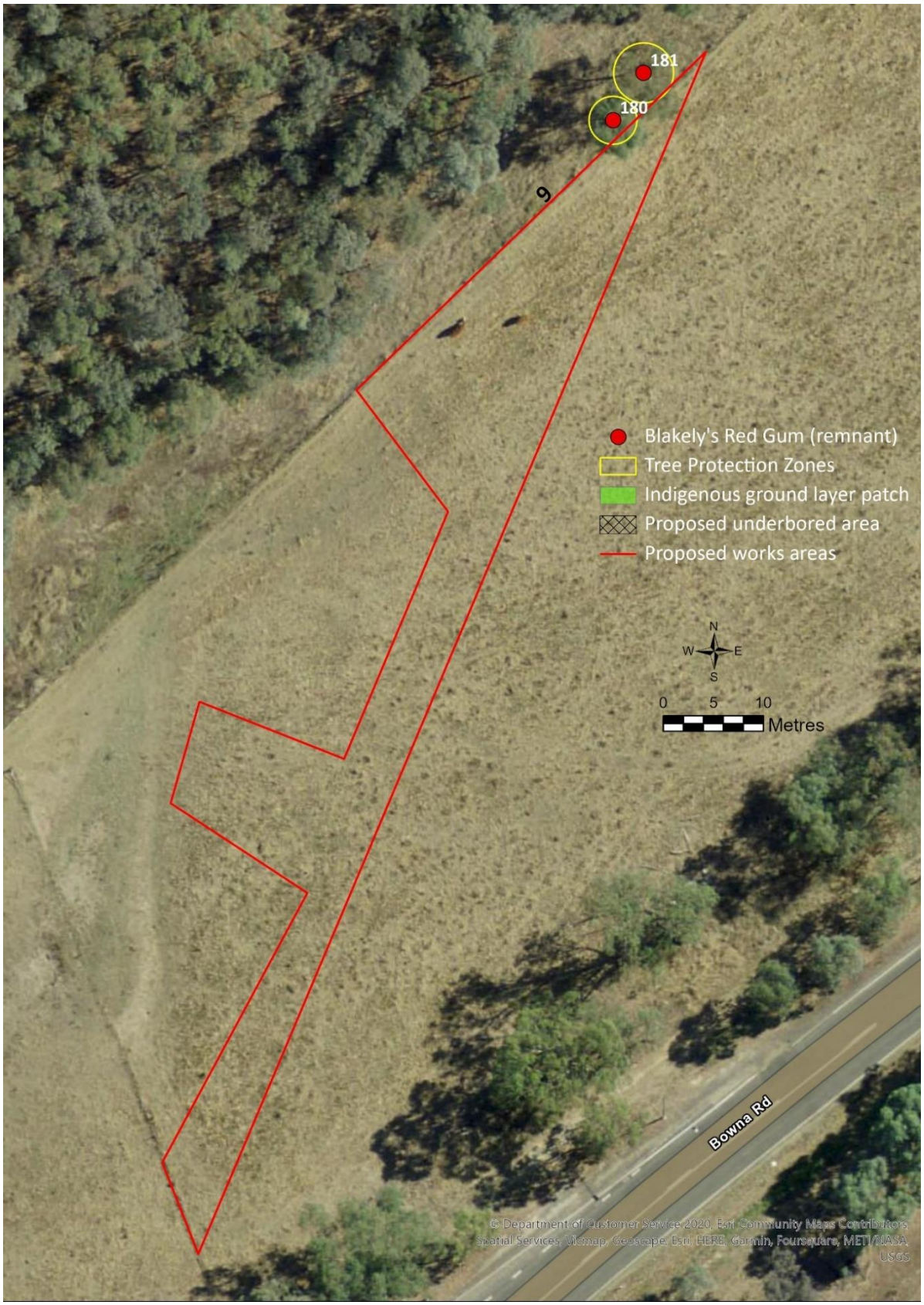


Figure 4-10 **Aerial image of proposed works Area 9 on C3 zoned land at Williams Road Table Top showing the location of assessed trees, and pertinent Tree Protection Zones; numbers are tree identifiers in the table in Appendix C. Note that only TPZs for individuals > 20 cm dbh have been shown to avoid image clutter (Image from ESRI Australia 2022).**

Figure 4-11 **Aerial image of proposed works Area 10 on C3 zoned land at Williams Road Table Top showing the location of assessed trees, and pertinent Tree Protection Zone; numbers are tree identifiers in the table in Appendix C. Note that only TPZs for individuals > 20 cm dbh have been shown to avoid image clutter (Image from ESRI Australia 2022).**

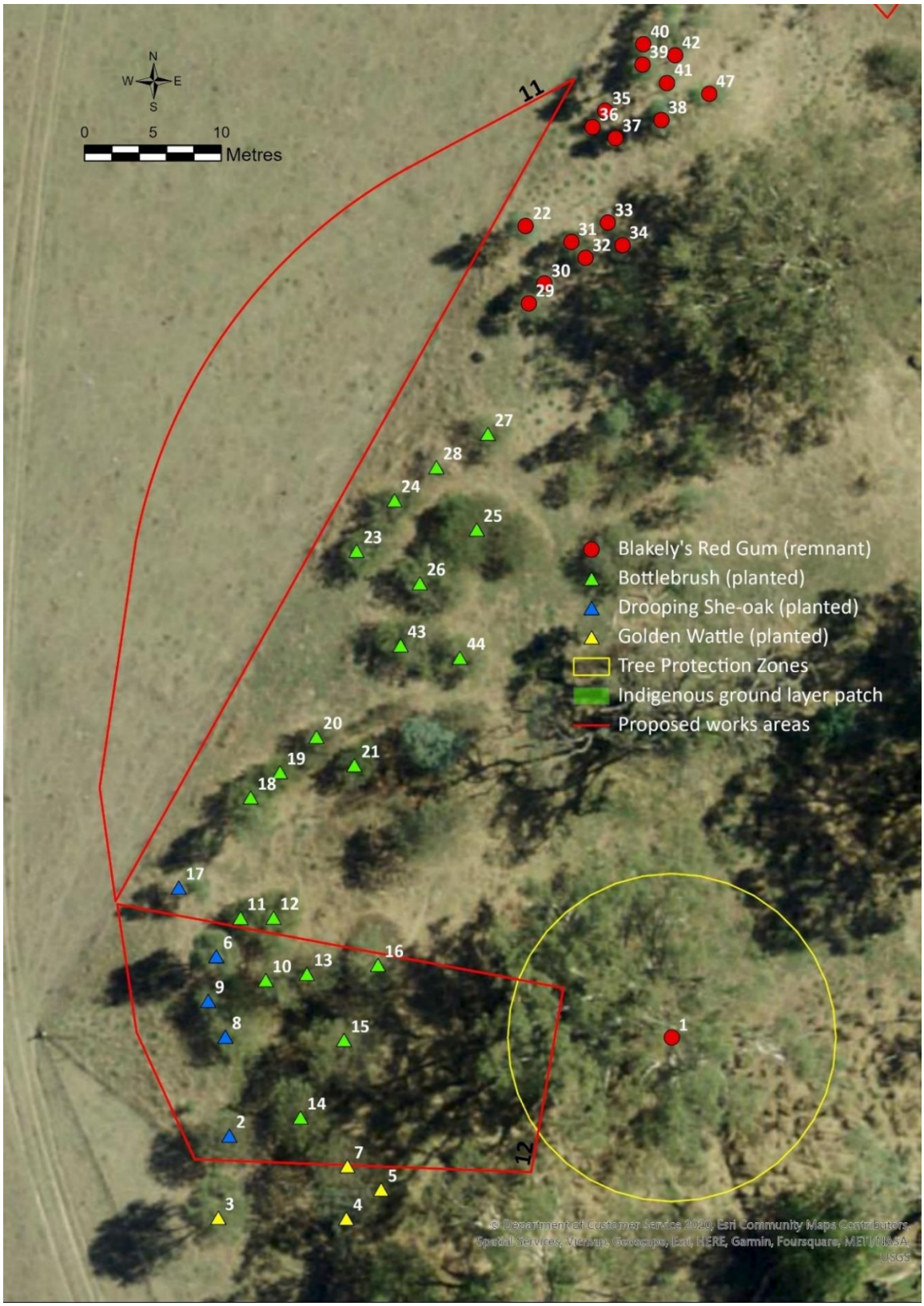


Figure 4-12 **Aerial image of proposed works Areas 11 and 12 on C3 zoned land at Williams Road Table Top showing the location of assessed trees, and pertinent Tree Protection Zones; numbers are tree identifiers in the table in Appendix C. Note that only TPZs for individuals > 20 cm dbh have been shown to avoid image clutter (Image from ESRI Australia 2022).**

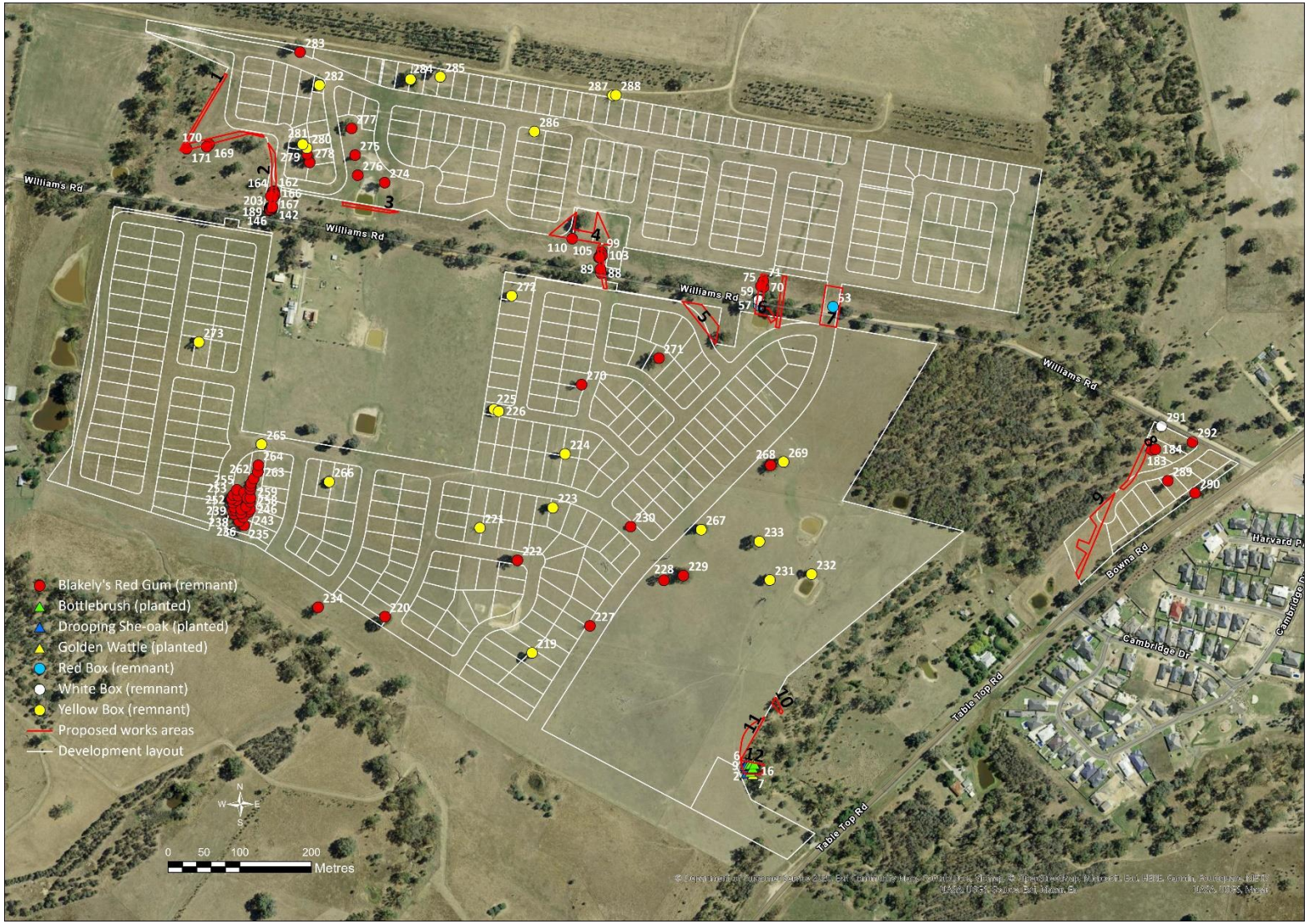


Figure 4-12 **Aerial image of the assessed trees on the R1 zoned land of the residential subdivision at Williams Road Table Top showing the location of assessed trees; numbers are tree identifiers in the table in Appendix C (Image from ESRI Australia 2023).**

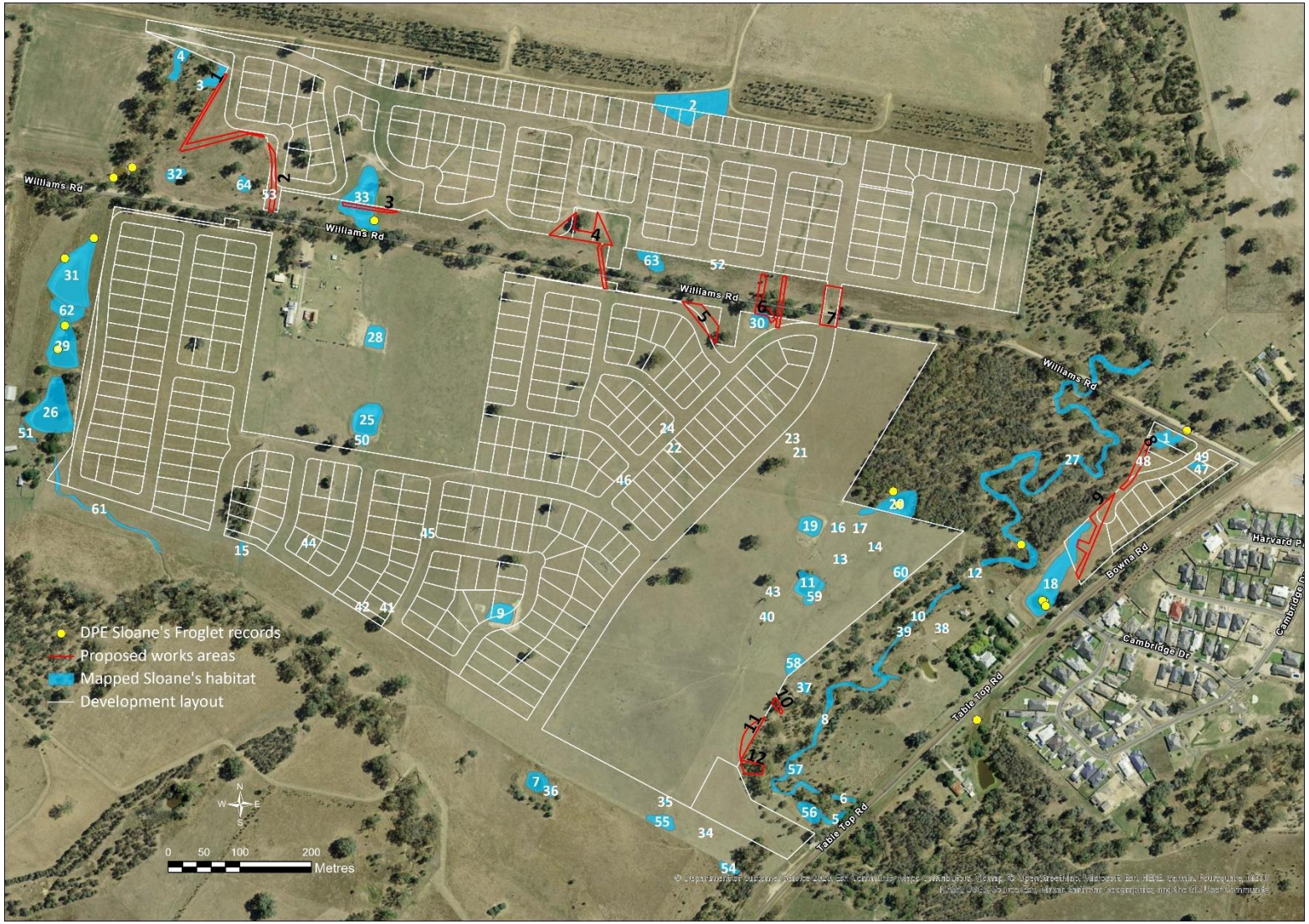


Figure 4-14 **Mapped Sloane's Froglet habitat areas relative to the proposed residential development and Sloane's Froglet records (species records from DPE 2023a; mapping data from David Hunter pers. comm. 2021; image from ESRI Australia 2023).**

4.4 Threatened Species and Communities

4.4.1 Threatened community likelihood

Matters of National Environmental Significance searching reveals that the nationally critically endangered *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland* community, and the nationally endangered *Grey Box Grassy Woodlands and Derived Native Grasslands of South-eastern Australia,* and the *Weeping Myall Woodlands* communities occur within a 10 km radius of the sites (DCCEEW 2023).

Threatened Ecological Communities (TECs) are listed in the schedules of the *Biodiversity Conservation Act 2016*. Several TECs are considered to occur within the district of the proposed alignment: *Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions,* the *Allocasuarina luehmannii Woodland in the Riverina and Murray-Darling Depression Bioregions,* the *Sandhill Pine Woodland in the Riverina, Murray-Darling Depression and NSW South Western Slopes Bioregions,* and *White Box Yellow Box Blakely's Red Gum Woodland* (known as Grassy Box Gum Woodland) are all listed as *Endangered* under the Act (DPE 2023b).

As stated previously, based on the evidence provided by the available mapping and the extant remnant vegetation (remnant trees and some ground layer patches), it is likely that:

- Proposed works areas 1, 2, 8 and 9 on C3 zoned land, and the proposed subdivision block south of Williams Road and the corner block on Williams Road and Table Top Road, are former *Blakelys Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion* (PCT 277; Environment and Heritage 2012 and DPE 2023d);
- Proposed works areas 10 and 11 on C3 zoned land are former *Riparian Blakelys Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion* (PCT 278; Environment and Heritage 2012 and DPE 2023d);
- Proposed work areas 3, 4, 5, 6 and 7 on C3 zoned land, and the proposed subdivision block north of Williams Road, are modified *White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion* (PCT 266; Environment and Heritage 2012 and DPE 2023d).

Grassy Box Gum Woodland

The critically endangered Grassy Box Gum Woodland (formally referred to as the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland) is characterised by a species-rich understorey of native tussock grasses, herbs and scattered shrubs, and the dominance, or prior dominance, of White Box, Yellow Box and Blakely's Red Gum trees (Department of Environment, Heritage, Water and the Arts [DEHWA] 2006).

In regard to the presence of the TEC on-site, individuals and patches of mixed-age Blakely's Red Gum, White Box and Yellow Gum exist within six of the assessed works areas on C3 zoned land (Areas 1, 2, 3, 4, 6 and 7), but there is only indigenous understorey in a few small patches (Areas 2, 3, 4 and 6). According to DEHWA (2006), areas in which an overstorey exists without a substantially native understorey are degraded and are no longer a viable part of the ecological community. Although some indigenous species may remain, in most of these areas the indigenous understorey is effectively irretrievable, and in order for an area to be included in the listed ecological community, a patch must have a predominantly indigenous understorey (DEHWA 2006).

As indicated, the whole proposed development area on R1 zoned land is utilised for cropping, and as a consequence retains no native ground layer vegetation, and was variously cultivated ground or crop when assessed, but the area does retain mostly large remnant hollow-bearing scattered trees of either Yellow Box and Blakely's Red Gum.

On this basis, given that even in the four small patches of indigenous ground layer introduced species dominate and indigenous plant diversity is low, all 12 assessed works areas on C3 zoned land, and all parts of the R1 zoned land of the proposed development are not included within the listed critically endangered ecological community on this basis.

As indicated above, as the area of the proposed development is not included within the listed critically endangered ecological community because it has no indigenous understorey (DEHWA 2006), an assessment of the critically endangered Significant Impact Criteria under the *EPBC Act 1999* does not apply in this instance.

However, at an NSW level, the key habitat attributes for the threatened *White Box Yellow Box Blakely's Red Gum Woodland* community to be considered to be present are less prescriptive than the Commonwealth definitions. According to the NSW profile for this community (DPE 2023g), the vegetated C3 zoned land, despite maintaining minimal indigenous understorey, does retain various age classes of trees, patches of regrowth and old trees with hollows in the immediate vicinity of these sites, and that this adjacent remnant vegetation is important wildlife habitat for insectivorous and nectar feeding birds. Disturbed remnants – such as several of the assessed works sites on C3 zoned land and the vegetation adjacent to the assessed sites (also C3 zoned land) - are considered to form part of the community, including where the vegetation would respond to assisted natural regeneration (DPE 2023g). On this basis, proposed works areas on C3 zoned land Areas 2 to 7 (or parts of them) – all in the Williams Road vicinity - would fit the key habitat attributes of the threatened *White Box Yellow Box Blakely's Red Gum Woodland* community, and the development footprints of each of these areas would be considered part of the *White Box Yellow Box Blakely's Red Gum Woodland* threatened community.

4.4.2 Threatened species likelihood

As indicated, a targeted survey was conducted for Sloane's Froglet on the evenings of 10th June, 8th and 22nd July, and 5th August 2021 according to the survey guidelines outlined in Woolshed Thurgoona Landcare Group (2018). The areas surveyed for Sloane's Froglet on each occasion was guided by the potential Sloane's Froglet habitat mapping provided by DPE (David Hunter pers. comm. 2021); this mapping identified 64 areas of potential habitat, many of which on the R1 zoned land, and over the course of the survey period, Sloane's Froglet were recorded at 11 locations across both the C3 and R1 zoned land of the proposed development site, or in adjacent areas (see Sec 4.3).

There were no other rare or threatened species under the *Biodiversity Conservation Act 2016* observed at the site (DPE 2023a).

The likelihood of presence for all recorded threatened species within a 10 km radius of the site has been considered (DPE 2023a).

The location of records of the twelve new threatened species - – Magpie Goose, Dusky Woodswallow, Spotted Harrier, Varied Sittella, Black Falcon, Little Lorikeet, Little Eagle, Scarlet Robin, Flame Robin, Eastern False Pipistrelle, Grey-headed Flying-fox and Sloane's Froglet – relative to the proposed development area can be seen in Fig. 4-15.

BioNet – Website of the Atlas of NSW Wildlife and *Matters of National Environmental Significance* searches revealed that there were records or predicted occurrences of twenty nine (29) threatened fauna species within a 10 km radius of the site (DPE 2023a, DCCEEW 2023; Appendix D).

BioNet – Website of the Atlas of NSW Wildlife and *Matters of National Environmental Significance* revealed that there was one (1) record or predicted occurrence of threatened flora species within a 10 km radius of the site (DPE 2023a, DCCEEW 2023; Appendix D).

Figure 4-15 **The location of records for the twelve new threatened species - Magpie Goose, Dusky Woodswallow, Spotted Harrier, Varied Sittella, Black Falcon, Little Lorikeet, Little Eagle, Scarlet Robin, Flame Robin, Eastern False Pipistrelle, Grey-headed Flying-fox and Sloane's Froglet – relative to the location of the proposed residential subdivision (data from DPE 2023a; image from ESRI Australia 2023).**

The likelihood of the presence of these species and their likelihood of utilisation of the proposed development area was considered, and rated based on the prevailing habitat and habitat quality of the site, the low-moderate landscape connectivity, currency of known records for species, and the habitat and habitat quality preferences of the species (Appendix D).

Of these species, twenty three threatened fauna and the threatened flora species were considered not likely to occur within either the C3 or R1 zoned lands of the proposed development area or to utilise it because of the following issues (or combination of them):

- The currency of records (e.g. Black Falcon, Barking Owl, Grey Falcon, Spotted Harrier, Turquoise Parrot, Varied Sittella);
- the connectivity of the site through clearing of habitat to areas of known past occurrence (e.g. Barking Owl, Black Falcon, Black-chinned Honeyeater, Brown Treecreeper, Diamond Firetail, Gang-gang Cockatoo, Grey-headed Flying-fox, Hooded Robin, Little Eagle, Koala, Painted Honeyeater, Regent Honeyeater, Purple-crowned Lorikeet, Southern Bell Frog, Swift Parrot, Speckled Warbler, Turquoise Parrot, Varied Sittella);
- the lack of a suitable community/habitat type (e.g. Floating Swamp Wallaby-grass, Eastern False Pipistrelle, Grey Falcon, Koala, Magpie Goose, Southern Bell Frog, Varied Sittella);
- disturbance to, and simplification of, the site (e.g. Bush Stone-curlew).

Given that Sloane's Froglet is a known species on site, another five species of fauna – Squirrel Glider, Little Lorikeet, Dusky Woodswallow, Scarlet Robin and Flame Robin - are considered to have some likelihood to utilise the habitat provided by the C3 zoned land areas – and not the R1 zoned land - with specific particular reference to the twelve proposed development works areas (Appendix A).

Assessment of Significance

Part 7 Division 1 Section 7.3 of the *Biodiversity Conservation Act 2016* sets out five parameters that a determining authority must consider in deciding whether an activity is likely to have a significant effect on threatened species, populations, or ecological communities, or their habitats.

As previously described, the proposed staged multi-lot residential development occurs in three separate areas: a small area on the south-western corner of Table Top Road and Williams Road of 1.97 ha, an area of 23.1 ha north of Williams Road between Table Top Road and Wignall Road, and an area of 35.4 ha south of Williams Road between Table Top Road and Wignall Road. The whole proposed development area on R1 zoned land is utilised for cropping, and as a consequence retains no native ground layer vegetation, but the area does retain mostly large remnant hollow-bearing scattered trees of either Yellow Box and Blakely's Red Gum.

As indicated, all twelve assessed works areas are found on C3 zoned land. Seven of the proposed works areas (Areas 1 to 7) are found on the northern and/or southern side of Williams Road, with some of these areas crossing Williams Road and impacting on the road reserve, while Areas 8 and 9 are found on freehold land near the corner of Williams Road and Table Top Road, and Areas 10, 11 and 12, and found on the eastern edge of the proposed residential development. Seven of the proposed works areas (Areas 1 to 7) are found on the northern and/or southern side of Williams Road, with some of these areas crossing Williams Road and impacting on the road reserve, while Areas 8 and 9 are found on freehold land near the corner of Williams Road and Table Top Road, and Areas 10, 11 and 12, and found on the eastern edge of the proposed residential development.

There are four areas along Williams Road within proximity to Areas 3 and 4 that are mapped as having Biodiversity Value; significant care has been taken with the development layout to ensure that these Biodiversity Value mapped areas have been wholly avoided.

As described in detail in Sec. 2.2, these areas are variable in shape and size, with considerable variation in the canopy species within the proposed development areas and immediately adjacent, and with a range of vegetation composition and abundance at ground level:

- Areas 1, 5, 8, 9 and 11 are located wholly on cropped land – at the time of assessment, either Wheat or Canola – while Areas 2 and 4 have northern sections of cropped land. All of these works areas have been cleared of woody vegetation with a ground layer vegetation that is wholly introduced;
- Areas 2, 3, 4 and 6 all maintain sections ('patches') of indigenous ground layer species (of 0.020, 0.017, 0.017 and 0.019 ha, respectively), with/without embedded indigenous canopy species individuals. The projective foliage cover of indigenous species within these patches ranged from 5 % projective foliage cover (Areas 4 and 6), to 10 % (Area 2) to 20 % (Area 3). These areas also contain a dominant cover of introduced cover, ranging from 60 to 85 % projective foliage cover;
- The fenced reserve and road reserve sections of Areas 4, 6, 7, 10 and 12 are wholly introduced species at ground level, ranging from 75 to 90 % projective foliage cover;
- Area 12 maintains within its footprint planted individuals of the indigenous Golden Wattle and Drooping Sheoak, and of a non-indigenous native Bottlebrush, and planted individuals of the indigenous species Silver Wattle in close proximity. Area 10 also has a planted non-indigenous native Bottlebrush in close proximity.

While the assessed works areas and adjacent land on C3 zoned land do contain some habitat for native fauna – albeit simplified and modified - the relative lack of connectivity of these vegetated areas will be a major obstacle to the movement of fauna to and from the areas, and the low diversity of fauna observed on the site is unlikely to change substantially.

Three threatened communities, one threatened species of flora and twenty nine species of fauna have been recorded within a 10 km radius of the site (DPE 2023a), or are known or predicted to occur within 10 km of the site (DCCEEW 2023)(Appendix D).

Several of the assessed works areas on C3 zoned land meet the criteria of being part of the *White Box Yellow Box Blakely's Red Gum Woodland* threatened community.

One threatened species of fauna – Sloane's Froglet – has been recorded in close proximity to several of the assessed works areas on C3 zoned land and on R1 zoned land, and five other species of fauna – Dusky Woodswallow, Little Lorikeet, Scarlet Robin, Flame Robin and Squirrel Glider - are considered to have some likelihood to utilise the habitat provided by the C3 zoned land areas – and not the R1 zoned land - with specific particular reference to the twelve proposed development works areas (Appendix A).

One species of flora and twenty three species of fauna were not considered likely to occur at the sites or utilise the sites (Appendix D).

The application of the five parameters of Section 7.3 of the *Biodiversity Conservation Act 2016* in the following section specifically addresses the potential effects of the development on the one threatened community and six threatened fauna species that were considered to have potential to utilise the native vegetation and potential habitats in proximity to the twelve proposed development works areas on C3 land; because of the extent of clearing and modification of habitat on the R1 zoned land, and the low-moderate connectivity of the site, it is considered highly unlikely that five of the threatened fauna considered to have the potential to utilise the C3 zoned land - Squirrel Glider, Little Lorikeet, Dusky Woodswallow, Scarlet Robin and Flame Robin – would ever utilise the R1 zoned land. Clearly, Sloane's Froglet has been recorded on the R1 zoned land.

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Grassy Box Gum Woodland

1 (a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

Not applicable.

1 (b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:

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

At an NSW level, the key habitat attributes for the threatened *White Box Yellow Box Blakely's Red Gum Woodland* community to be considered to be present are less prescriptive than the Commonwealth definitions. According to the NSW profile for this community (DPE 2023g), while the R1 zoned land does not meet the profile for a representative of this community, the vegetated C3 zoned land, despite maintaining minimal indigenous understorey, does retain various age classes of trees, patches of regrowth and old trees with hollows in the immediate vicinity of these sites, and that this adjacent remnant vegetation is important wildlife habitat for insectivorous and nectar feeding birds. Disturbed remnants – such as several of the assessed works sites on C3 zoned land and the vegetation adjacent to these assessed sites (also C3 zoned land) - are considered to form part of the community, including where the vegetation would respond to assisted natural regeneration (DPE 2023g). On this basis, proposed works areas on C3 zoned land Areas 2 to 7 (or parts of them) – all in the Williams Road vicinity - would fit the key habitat attributes of the threatened *White Box Yellow Box Blakely's Red Gum Woodland* community, and the development footprints of each of these areas would be considered part of the *White Box Yellow Box Blakely's Red Gum Woodland* threatened community.

The R1 zoned area of the proposed development is Biocertified Land, and the native vegetation losses associated with these areas has already been considered with other reporting. The proposed development of R1 zoned land will result in the loss of 67 remnant trees either in small patches or scattered across the area, of which 29 are hollow-bearing trees.

As indicated, the proposed development will result in the loss of 59 indigenous trees, none of which are hollow-bearing, with 54 of these individuals having a dbh ≤ 20 cm, and the largest two individuals being 38 cm dbh. These trees are found at only 5 of the twelve assessed sites, and most of these trees are found embedded within modified and low diversity native ground layer patches. The resulting total loss of native vegetation has been determined to be 0.096 ha (960 m^2), and given the condition of the proposed losses, the community will not be at risk of extinction because of the action.

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

At an NSW level, the key habitat attributes for the threatened *White Box Yellow Box Blakely's Red Gum Woodland* community to be considered to be present are less prescriptive than the Commonwealth definitions. According to the NSW profile for this community (DPE 2023g), while the R1 zoned land does not meet the profile for a representative of this community, the vegetated C3 zoned land, despite maintaining minimal indigenous understorey, does retain various age classes of trees, patches of regrowth and old trees with hollows in the immediate vicinity of these sites, and that this

adjacent remnant vegetation is important wildlife habitat for insectivorous and nectar feeding birds. Disturbed remnants – such as several of the assessed works sites on C3 zoned land and the vegetation adjacent to these assessed sites (also C3 zoned land) - are considered to form part of the community, including where the vegetation would respond to assisted natural regeneration (DPE 2023g). On this basis, proposed works areas on C3 zoned land Areas 2 to 7 (or parts of them) – all in the Williams Road vicinity - would fit the key habitat attributes of the threatened *White Box Yellow Box Blakely's Red Gum Woodland* community, and the development footprints of each of these areas would be considered part of the *White Box Yellow Box Blakely's Red Gum Woodland* threatened community.

The R1 zoned area of the proposed development is Biocertified Land, and the native vegetation losses associated with these areas has already been considered with other reporting. The proposed development of R1 zoned land will result in the loss of 67 remnant trees either in small patches or scattered across the area, of which 29 are hollow-bearing trees.

As indicated, the proposed development will result in the loss of 59 indigenous trees, none of which are hollow-bearing, with 54 of these individuals having a dbh ≤ 20 cm, and the largest two individuals being 38 cm dbh. These trees are found at only 5 of the twelve assessed sites, and most of these trees are found embedded within modified and low diversity native ground layer patches. The resulting total loss of native vegetation has been determined to be 0.096 ha (960 m^2), and given the condition of the proposed losses, the community will not be at any further risk that its local occurrence is likely to be placed at risk of extinction because of the action.

1 (c) in relation to the habitat of a threatened species or ecological community:

(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and

At an NSW level, the key habitat attributes for the threatened *White Box Yellow Box Blakely's Red Gum Woodland* community to be considered to be present are less prescriptive than the Commonwealth definitions. According to the NSW profile for this community (DPE 2023g), while the R1 zoned land does not meet the profile for a representative of this community, the vegetated C3 zoned land, despite maintaining minimal indigenous understorey, does retain various age classes of trees, patches of regrowth and old trees with hollows in the immediate vicinity of these sites, and that this adjacent remnant vegetation is important wildlife habitat for insectivorous and nectar feeding birds. Disturbed remnants – such as several of the assessed works sites on C3 zoned land and the vegetation adjacent to these assessed sites (also C3 zoned land) - are considered to form part of the community, including where the vegetation would respond to assisted natural regeneration (DPE 2023g). On this basis, proposed works areas on C3 zoned land Areas 2 to 7 (or parts of them) – all in the Williams Road vicinity - would fit the key habitat attributes of the threatened *White Box Yellow Box Blakely's Red Gum Woodland* community, and the development footprints of each of these areas would be considered part of the *White Box Yellow Box Blakely's Red Gum Woodland* threatened community.

The R1 zoned area of the proposed development is Biocertified Land, and the native vegetation losses associated with these areas has already been considered with other reporting. The proposed development of R1 zoned land will result in the loss of 67 remnant trees either in small patches or scattered across the area, of which 29 are hollow-bearing trees.

As indicated, the proposed development will result in the loss of 59 indigenous trees, none of which are hollow-bearing, with 54 of these individuals having a dbh ≤ 20 cm, and the largest two individuals being 38 cm dbh. These trees are found at only 5 of the twelve assessed sites, and most of these trees are found embedded within modified and low diversity native ground layer patches. The resulting total loss of native vegetation has been determined to be 0.096 ha (960 m^2), and given the condition of the proposed losses, the community will not be at any risk of further modification because of the action, and the quality of the habitat for threatened fauna will not be significantly impacted.

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

At an NSW level, the key habitat attributes for the threatened *White Box Yellow Box Blakely's Red Gum Woodland* community to be considered to be present are less prescriptive than the Commonwealth definitions. According to the NSW profile for this community (DPE 2023g), while the R1 zoned land does not meet the profile for a representative of this community, the vegetated C3 zoned land, despite maintaining minimal indigenous understorey, does retain various age classes of trees, patches of regrowth and old trees with hollows in the immediate vicinity of these sites, and that this adjacent remnant vegetation is important wildlife habitat for insectivorous and nectar feeding birds. Disturbed remnants – such as several of the assessed works sites on C3 zoned land and the vegetation adjacent to these assessed sites (also C3 zoned land) - are considered to form part of the community, including where the vegetation would respond to assisted natural regeneration (DPE 2023g). On this basis, proposed works areas on C3 zoned land Areas 2 to 7 (or parts of them) – all in the Williams Road vicinity - would fit the key habitat attributes of the threatened *White Box Yellow Box Blakely's Red Gum Woodland* community, and the development footprints of each of these areas would be considered part of the *White Box Yellow Box Blakely's Red Gum Woodland* threatened community.

The R1 zoned area of the proposed development is Biocertified Land, and the native vegetation losses associated with these areas has already been considered with other reporting. The proposed development of R1 zoned land will result in the loss of 67 remnant trees either in small patches or scattered across the area, of which 29 are hollow-bearing trees.

As indicated, the proposed development will result in the loss of 59 indigenous trees, none of which are hollow-bearing, with 54 of these individuals having a dbh ≤ 20 cm, and the largest two individuals being 38 cm dbh. These trees are found at only 5 of the twelve assessed sites, and most of these trees are found embedded within modified and low diversity native ground layer patches. The resulting total loss of native vegetation has been determined to be 0.096 ha (960 m^2), and given the condition and location of the proposed losses, it is unlikely that the action will result in habitat fragmentation or isolation.

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

At an NSW level, the key habitat attributes for the threatened *White Box Yellow Box Blakely's Red Gum Woodland* community to be considered to be present are less prescriptive than the Commonwealth definitions. According to the NSW profile for this community (DPE 2023g), while the R1 zoned land does not meet the profile for a representative of this community, the vegetated C3 zoned land, despite maintaining minimal indigenous understorey, does retain various age classes of trees, patches of regrowth and old trees with hollows in the immediate vicinity of these sites, and that this

adjacent remnant vegetation is important wildlife habitat for insectivorous and nectar feeding birds. Disturbed remnants – such as several of the assessed works sites on C3 zoned land and the vegetation adjacent to these assessed sites (also C3 zoned land) - are considered to form part of the community, including where the vegetation would respond to assisted natural regeneration (DPE 2023g). On this basis, proposed works areas on C3 zoned land Areas 2 to 7 (or parts of them) – all in the Williams Road vicinity - would fit the key habitat attributes of the threatened *White Box Yellow Box Blakely's Red Gum Woodland* community, and the development footprints of each of these areas would be considered part of the *White Box Yellow Box Blakely's Red Gum Woodland* threatened community.

The R1 zoned area of the proposed development is Biocertified Land, and the native vegetation losses associated with these areas has already been considered with other reporting. The proposed development of R1 zoned land will result in the loss of 67 remnant trees either in small patches or scattered across the area, of which 29 are hollow-bearing trees.

As indicated, the proposed development will result in the loss of 59 indigenous trees, none of which are hollow-bearing, with 54 of these individuals having a dbh ≤ 20 cm, and the largest two individuals being 38 cm dbh. These trees are found at only 5 of the twelve assessed sites, and most of these trees are found embedded within modified and low diversity native ground layer patches. The resulting total loss of native vegetation has been determined to be 0.096 ha (960 m^2), and given the condition of the proposed losses, the long-term survival of the community in the locality will not be affected.

1 (d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly):

No such declaration has been made for the area.

1 (e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

Key threatening processes are listed in the *Biodiversity Conservation Act 2016*.

The proposed development will result in one key threatening process in regard to the threatened community – *Loss of native vegetation*.

Sloane's Froglet

A targeted survey was conducted for Sloane's Froglet on the evenings of 10th June, 8th and 22nd July, and 5th August 2021 according to the survey guidelines outlined in Woolshed Thurgoona Landcare Group (2018). The areas surveyed for Sloane's Froglet on each occasion was guided by the potential Sloane's Froglet habitat mapping provided by DPE (David Hunter pers. comm. 2021); this mapping identified 64 areas of potential habitat, many of which are on the R1 zoned land, and these mapped areas are shown in Fig. 4-14.

All 64 mapped locations were surveyed, were all surveyed three times across the four evenings, and all areas were surveyed on each evening for a minimum of 5 minutes each after dusk.

Over the course of the survey period, Sloane's Froglet were recorded at eleven locations, with the data summarised below:

- Site 7 and 36 (on adjacent property). Site 7 is a large dam, and Site 36 is a depression inlet to Site 7. On three occasions, 25 to 50 calling male Sloane's Froglet were recorded;
- Site 9. This site is a large dam with no fringing vegetation. On one occasion, 1 to 5 calling male Sloane's Froglet were recorded;

- Site 11. This site is a shallow depression amidst the planted crop. On three occasions, 1 to 5 calling male Sloane's Froglet were recorded;
- Site 19. This site is a large dam with no fringing vegetation. On three occasions, 1 to 5 calling male Sloane's Froglet were recorded;
- Site 20. This site is a shallow depression that spreads from a planted crop area into a fenced reserve. On three occasions, 10 to 15 calling male Sloane's Froglet were recorded;
- Site 26 (outside of the development area). This site is a very large dam with minimal fringing vegetation. On one occasion, 1 to 5 calling male Sloane's Froglet were recorded;
- Site 40. This site is a very small shallow depression amidst the planted crop. On one occasion, 1 to 5 calling male Sloane's Froglet were recorded;
- Site 43. This site is a very small shallow depression amidst the planted crop. On two occasions, 1 to 5 calling male Sloane's Froglet were recorded;
- Site 54 (on adjacent property). This site is a shallow depression found in a fenced reserve. On three occasions, 1 to 5 calling male Sloane's Froglet were recorded;
- Site 56. This site is a shallow depression found in a fenced reserve. On three occasions, 1 to 5 calling male Sloane's Froglet were recorded;
- Site 58. This site is a shallow depression amidst the planted crop. On one occasion, 1 to 5 calling male Sloane's Froglet were recorded.

There were no records for the species at the other 52 sites over the survey period.

Sloane's Froglet require the following preferred characteristics in seasonal wetlands for breeding (after Knight 2014):

- Habitat water depth. Calling male Sloane's Froglets are typically found in areas of shallow water ranging from depths of 10 to 310 mm;
- Habitat hydrology - length and season of inundation. Waterbodies need to contain water from mid to late-Autumn, and for at least three months after the Winter breeding period finishes (i.e. at least until the end of October);
- Habitat accessibility. Movement of Sloane's Froglet into and out of wetlands can be helped by ensuring that batter slopes to water level are typically 1 to 4 %, with a maximum acceptable slope of 18 %;
- Habitat size. Large robust colonies of Sloane's Froglet are typically found in wetlands greater than 3,000 m^2 in area;
- Habitat vegetation. Ideal Sloane's Froglet breeding habitat includes emergent wetland species that have a stem diameter of less than 5 mm (e.g. Common Spike-rush, *Eleocharis acuta*). Plant species with a larger stem diameter e.g., *Typha* and *Phragmites* species, should not be planted.

There are numerous potential habitat sites on the R1 zoned land that is proposed for development – Sites 1, 2, 9, 22, 24, 41, 42, 44, 45, 46, 47 and 49. Of these sites, as described above, only Site 9 had Sloane's Froglet recorded at it. – the other 12 sites will be removed with the development.

While there are mapped potential habitat areas near most of the twelve works sites on C3 zoned land, the only proposed works areas coincident with mapped potential habitat sites on C3 zoned land are:

- Area 3, which bisects an existing stock dam, which is mapped as Site 33. The 2021 species survey did not record the species at this location. The records for the species are from 2017 and 2019, and are immediately south of the proposed works area in a shallow depression that is formed between the dam wall and Williams Road;

- Area 6 is adjacent to a stock dam that is Site 30, which is an existing stock dam. The 2021 species survey did not record the species at this location;
- Site 53 is a shallow depression adjacent to the native ground layer patch of Area 2. The 2021 species survey did not record the species at this location.

The works at Area 6 are unlikely to have any impact on the mapped Site 30, and similarly the works at Area 6 will not impacted on the mapped Site 53. The works at Area 3 are likely to create a 'split' with a secondary wall, and this is unlikely to impact on the shallow depression habitat south of the area where the species has been previously recorded.

Given the sites where Sloane's Froglet were recorded, only Site 9 – a large dam with no fringing vegetation - is on proposed development area in R1 zoned land, and there were no proposed works areas on C3 zoned land near sites where Sloane's Froglet were recorded. Therefore, the other 10 sites where Sloane's Froglet were recorded in the 2021 survey – Sites 11, 19, 20, 26, 40, 43, 54, 56 and 58 – will be avoided.

1 (a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

A total of 64 potential habitat sites for Sloane's Froglet are found across and adjacent to the C3 and R1 zoned land of the proposed development area, of which 13 will be directly impacted and lost with the proposed development, all of them on R1 zoned land. Only one of these sites - Site 9, a large dam with no fringing vegetation – had Sloane's Froglet recorded within it during the 2021 survey.

While there are mapped potential habitat areas near most of the twelve sites, the only proposed works areas on C3 zoned land coincident with mapped potential habitat sites – none of which had Sloane's Froglet recorded at during the 2021 survey - are:

- Area 3, which bisects an existing stock dam, which is mapped as Site 33. The 2021 species survey did not record the species at this location. The records for the species are from 2017 and 2019, and are immediately south of the proposed works area in a shallow depression that is formed between the dam wall and Williams Road;
- Area 6 is adjacent to a stock dam that is Site 30, which is an existing stock dam. The 2021 species survey did not record the species at this location;
- Site 53 is a shallow depression adjacent to the native ground layer patch of Area 2. The 2021 species survey did not record the species at this location.

The works at Area 6 are unlikely to have any direct impact on the mapped Site 30, and similarly the works at Area 6 will not directly impact on the mapped Site 53. The works at Area 3 are likely to create a 'split' with a secondary wall, and this is unlikely to directly impact on the shallow depression habitat south of the area where the species has been previously recorded.

With only one potential habitat site with a known record of the species to be removed, with 12 other potential habitat sites where the species was not recorded to also be removed, and the remaining 51 mapped potential habitat sites across or near the proposed development area being retained, the risk of the developments having an adverse direct or indirect effect on the life cycle of Sloane's Froglet is small.

1 (b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:

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

Not applicable.

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

Not applicable.

1 (c) in relation to the habitat of a threatened species or ecological community:

(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and

A total of 64 potential habitat sites for Sloane's Froglet are found across and adjacent to the C3 and R1 zoned land of the proposed development area, of which 13 will be directly impacted and lost with the proposed development, all of them on R1 zoned land. Only one of these sites - Site 9, a large dam with no fringing vegetation – had Sloane's Froglet recorded within it during the 2021 survey.

While there are mapped potential habitat areas near most of the twelve sites, the only proposed works areas on C3 zoned land coincident with mapped potential habitat sites – none of which had Sloane's Froglet recorded at during the 2021 survey - are:

- Area 3, which bisects an existing stock dam, which is mapped as Site 33. The 2021 species survey did not record the species at this location. The records for the species are from 2017 and 2019, and are immediately south of the proposed works area in a shallow depression that is formed between the dam wall and Williams Road;
- Area 6 is adjacent to a stock dam that is Site 30, which is an existing stock dam. The 2021 species survey did not record the species at this location;
- Site 53 is a shallow depression adjacent to the native ground layer patch of Area 2. The 2021 species survey did not record the species at this location.

The works at Area 6 are unlikely to have any direct impact on the mapped Site 30, and similarly the works at Area 6 will not directly impact on the mapped Site 53. The works at Area 3 are likely to create a 'split' with a secondary wall, and this is unlikely to directly impact on the shallow depression habitat south of the area where the species has been previously recorded.

With only one potential habitat site with a known record of the species to be removed, with 12 other potential habitat sites where the species was not recorded to also be removed, and the remaining 51 mapped potential habitat sites across or near the proposed development area being retained, the risk of the development having an adverse effect on the available habitat for the Sloane's Froglet is small.

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

A total of 64 potential habitat sites for Sloane's Froglet are found across and adjacent to the C3 and R1 zoned land of the proposed development area, of which 13 will be directly impacted and lost with the proposed development, all of them on R1 zoned land. Only one of these sites - Site 9, a large dam with no fringing vegetation – had Sloane's Froglet recorded within it during the 2021 survey.

While there are mapped potential habitat areas near most of the twelve sites, the only proposed works areas on C3 zoned land coincident with mapped potential habitat sites – none of which had Sloane's Froglet recorded at during the 2021 survey - are:

- Area 3, which bisects an existing stock dam, which is mapped as Site 33. The 2021 species survey did not record the species at this location. The records for the species are from 2017 and 2019, and are immediately south of the proposed works area in a shallow depression that is formed between the dam wall and Williams Road;
- Area 6 is adjacent to a stock dam that is Site 30, which is an existing stock dam. The 2021 species survey did not record the species at this location;
- Site 53 is a shallow depression adjacent to the native ground layer patch of Area 2. The 2021 species survey did not record the species at this location.

The works at Area 6 are unlikely to have any direct impact on the mapped Site 30, and similarly the works at Area 6 will not directly impact on the mapped Site 53. The works at Area 3 are likely to create a 'split' with a secondary wall, and this is unlikely to directly impact on the shallow depression habitat south of the area where the species has been previously recorded.

With only one potential habitat site with a known record of the species to be removed, with 12 other potential habitat sites where the species was not recorded to also be removed, and the remaining 51 mapped potential habitat sites across or near the proposed development area being retained; the development will not result in any further isolation or fragmentation effects for the species.

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

A total of 64 potential habitat sites for Sloane's Froglet are found across and adjacent to the C3 and R1 zoned land of the proposed development area, of which 13 will be directly impacted and lost with the proposed development, all of them on R1 zoned land. Only one of these sites - Site 9, a large dam with no fringing vegetation – had Sloane's Froglet recorded within it during the 2021 survey.

While there are mapped potential habitat areas near most of the twelve sites, the only proposed works areas on C3 zoned land coincident with mapped potential habitat sites – none of which had Sloane's Froglet recorded at during the 2021 survey - are:

- Area 3, which bisects an existing stock dam, which is mapped as Site 33. The 2021 species survey did not record the species at this location. The records for the species are from 2017 and 2019, and are immediately south of the proposed works area in a shallow depression that is formed between the dam wall and Williams Road;
- Area 6 is adjacent to a stock dam that is Site 30, which is an existing stock dam. The 2021 species survey did not record the species at this location;
- Site 53 is a shallow depression adjacent to the native ground layer patch of Area 2. The 2021 species survey did not record the species at this location.

The works at Area 6 are unlikely to have any direct impact on the mapped Site 30, and similarly the works at Area 6 will not directly impact on the mapped Site 53. The works at Area 3 are likely to create a 'split' with a secondary wall, and this is unlikely to directly impact on the shallow depression habitat south of the area where the species has been previously recorded.

With only one potential habitat site with a known record of the species to be removed, with 12 other potential habitat sites where the species was not recorded to also be removed, and the remaining 51 mapped potential habitat sites across or near the proposed development area being retained; the development will not result in any impact on habitat that is important for the long-term **s**urvival of populations of the species.

1 (d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly):

No such declaration has been made for the area.

1 (e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

Key threatening processes are listed in the *Biodiversity Conservation Act 2016*.

The loss of one habitat site where the species has been recorded where no native vegetation is present does not match any key threatening process according to the *Biodiversity Conservation Act 2016*.

Other than Sloane's Froglet, another five threatened fauna that may utilise the native vegetation of the C3 zoned land adjacent to the proposed development sites – of which Dusky Woodswallow, Flame Robin, Little Lorikeet and Scarlet Robin are 4 of the 12 new threatened species have been considered are being considered in the following section collectively. As all of them have been recorded recently within reasonable proximity, and all have similar issues in regard to their likely usage of the site, given its low quality, low-moderate connectedness , and position on the fringe of development, this is considered a prudent action rather than providing a lengthy and repetitive response for each of the following individual species – Dusky Woodswallow, Flame Robin, Little Lorikeet, Scarlet Robin and Squirrel Glider.

1 (a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

The R1 zoned area of the proposed development is Biocertified Land, and the native vegetation losses associated with these areas has already been considered with other reporting. The proposed development of R1 zoned land will result in the loss of 67 remnant trees either in small patches or scattered across the area, of which 29 are hollow-bearing trees. Notwithstanding the low-moderate landscape connectivity, it is considered that while four of the 12 new threatened species may utilise the edges of the cleared and cropped R1 zoned land, if they were found in the proposed development area it would be within the C3 zoned land because of the enhanced habitat opportunities in these areas relative to the adjacent cleared paddocks.

Therefore, it is considered that none of the 12 new threatened species would utilise the R1 zoned land of the proposed development area.

In regard to the C3 zoned land, the proposed development will result in the loss of 59 indigenous trees, none of which are hollow-bearing, with 54 of these individuals having a dbh ≤ 20 cm, and the largest two individuals being 38 cm dbh. These trees are found at only 5 of the twelve assessed sites, and most of these trees are found embedded within modified and low diversity native ground layer patches. The resulting total loss of native vegetation has been determined to be 0.096 ha (960 m^2), and given the simplified structure of the proposed loss areas and with no removal of any hollow-bearing trees, these species will not be at risk of extinction because of the action.

1 (b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:

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

Not applicable.

(ii) is likely to substantially and adversely modify the composition of the ecological

community such that its local occurrence is likely to be placed at risk of extinction,

Not applicable.

1 (c) in relation to the habitat of a threatened species or ecological community:

(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and

The R1 zoned area of the proposed development is Biocertified Land, and the native vegetation losses associated with these areas has already been considered with other reporting. The proposed development of R1 zoned land will result in the loss of 67 remnant trees either in small patches or scattered across the area, of which 29 are hollow-bearing trees. Notwithstanding the low-moderate landscape connectivity, it is considered that while four of the 12 new threatened species may utilise the edges of the cleared and cropped R1 zoned land, if they were found in the proposed development area it would be within the C3 zoned land because of the enhanced habitat opportunities in these areas relative to the adjacent cleared paddocks.

Therefore, it is considered that none of the 12 new threatened species would utilise the R1 zoned land of the proposed development area.

In regard to the C3 zoned land, the proposed development will result in the loss of 59 indigenous trees, none of which are hollow-bearing, with 54 of these individuals having a dbh ≤ 20 cm, and the largest two individuals being 38 cm dbh. These trees are found at only 5 of the twelve assessed sites, and most of these trees are found embedded within modified and low diversity native ground layer patches. The resulting total loss of native vegetation has been determined to be 0.096 ha (960 m^2), and given the simplified structure of the proposed loss areas and with no removal of any hollow-bearing trees, this outcome is unlikely to impact on the quality of the habitat for the threatened fauna.

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

The R1 zoned area of the proposed development is Biocertified Land, and the native vegetation losses associated with these areas has already been considered with other reporting. The proposed development of R1 zoned land will result in the loss of 67 remnant trees either in small patches or scattered across the area, of which 29 are hollow-bearing trees. Notwithstanding the low-moderate landscape connectivity, it is considered that while four of the 12 new threatened species may utilise the edges of the cleared and cropped R1 zoned land, if they were found in the proposed development area it would be within the C3 zoned land because of the enhanced habitat opportunities in these areas relative to the adjacent cleared paddocks.

Therefore, it is considered that none of the 12 new threatened species would utilise the R1 zoned land of the proposed development area.

In regard to the C3 zoned land, the proposed development will result in the loss of 59 indigenous trees, none of which are hollow-bearing, with 54 of these individuals having a dbh ≤ 20 cm, and the largest two individuals being 38 cm dbh. These trees are found at only 5 of the twelve assessed sites, and most of these trees are found embedded within modified and low diversity native ground layer patches. The resulting total loss of native vegetation has been determined to be 0.096 ha (960 m^2), and given the simplified structure of the proposed loss areas and with no removal of any hollow-bearing trees, this outcome is unlikely to result in habitat fragmentation or isolation because of the action.

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to

the long-term survival of the species or ecological community in the locality,

The R1 zoned area of the proposed development is Biocertified Land, and the native vegetation losses associated with these areas has already been considered with other reporting. The proposed development of R1 zoned land will result in the loss of 67 remnant trees either in small patches or scattered across the area, of which 29 are hollow-bearing trees. Notwithstanding the low-moderate landscape connectivity, it is considered that while four of the 12 new threatened species may utilise the edges of the cleared and cropped R1 zoned land, if they were found in the proposed development area it would be within the C3 zoned land because of the enhanced habitat opportunities in these areas relative to the adjacent cleared paddocks.

Therefore, it is considered that none of the 12 new threatened species would utilise the R1 zoned land of the proposed development area.

In regard to the C3 zoned land, the proposed development will result in the loss of 59 indigenous trees, none of which are hollow-bearing, with 54 of these individuals having a dbh ≤ 20 cm, and the largest two individuals being 38 cm dbh. These trees are found at only 5 of the twelve assessed sites, and most of these trees are found embedded within modified and low diversity native ground layer patches. The resulting total loss of native vegetation has been determined to be 0.096 ha (960 m^2), and given the simplified structure of the proposed loss areas and with no removal of any hollow-bearing trees, this outcome is unlikely to impact the long-term survival of any of the threatened fauna species because of the action.

1 (d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly):

No such declaration has been made for the area.

1 (e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

Key threatening processes are listed in schedules of the *Biodiversity Conservation Act 2016*.

The proposed development will result one key threatening process – *Loss of native vegetation*.

5. LIKELIHOOD OF SIGNIFICANT IMPACT

5.1 Sloane's Froglet

A targeted survey was conducted for Sloane's Froglet on the evenings of 10th June, 8th and 22nd July, and 5th August 2021 according to the survey guidelines outlined in Woolshed Thurgoona Landcare Group (2018). The areas surveyed for Sloane's Froglet on each occasion was guided by the potential Sloane's Froglet habitat mapping provided by DPE (David Hunter pers. comm. 2021); this mapping identified 64 areas of potential habitat, many of which are on the R1 zoned land, and these mapped areas are shown in Fig. 4-14.

All 64 mapped locations were surveyed, were all surveyed three times across the four evenings, and all areas were surveyed on each evening for a minimum of 5 minutes each after dusk.

Over the course of the survey period, Sloane's Froglet were recorded at eleven locations, with the data summarised below:

- Site 7 and 36 (on adjacent property). Site 7 is a large dam, and Site 36 is a depression inlet to Site 7. On three occasions, 25 to 50 calling male Sloane's Froglet were recorded;

- Site 9. This site is a large dam with no fringing vegetation. On one occasion, 1 to 5 calling male Sloane's Froglet were recorded;
- Site 11. This site is a shallow depression amidst the planted crop. On three occasions, 1 to 5 calling male Sloane's Froglet were recorded;
- Site 19. This site is a large dam with no fringing vegetation. On three occasions, 1 to 5 calling male Sloane's Froglet were recorded;
- Site 20. This site is a shallow depression that spreads from a planted crop area into a fenced reserve. On three occasions, 10 to 15 calling male Sloane's Froglet were recorded;
- Site 26 (outside of the development area). This site is a very large dam with minimal fringing vegetation. On one occasion, 1 to 5 calling male Sloane's Froglet were recorded;
- Site 40. This site is a very small shallow depression amidst the planted crop. On one occasion, 1 to 5 calling male Sloane's Froglet were recorded;
- Site 43. This site is a very small shallow depression amidst the planted crop. On two occasions, 1 to 5 calling male Sloane's Froglet were recorded;
- Site 54 (on adjacent property). This site is a shallow depression found in a fenced reserve. On three occasions, 1 to 5 calling male Sloane's Froglet were recorded;
- Site 56. This site is a shallow depression found in a fenced reserve. On three occasions, 1 to 5 calling male Sloane's Froglet were recorded;
- Site 58. This site is a shallow depression amidst the planted crop. On one occasion, 1 to 5 calling male Sloane's Froglet were recorded.

There were no records for the species at the other 52 sites over the survey period.

There are numerous potential habitat sites on the R1 zoned land that is proposed for development – Sites 1, 2, 9, 22, 24, 41, 42, 44, 45, 46, 47 and 49. Of these sites, as described above, only Site 9 had Sloane's Froglet recorded at it – the other 12 sites will be removed with the development.

While there are mapped potential habitat areas near most of the twelve works sites on C3 zoned land, the only proposed works areas coincident with mapped potential habitat sites on C3 zoned land are:

- Area 3, which bisects an existing stock dam, which is mapped as Site 33. The 2021 species survey did not record the species at this location. The records for the species are from 2017 and 2019, and are immediately south of the proposed works area in a shallow depression that is formed between the dam wall and Williams Road;
- Area 6 is adjacent to a stock dam that is Site 30, which is an existing stock dam. The 2021 species survey did not record the species at this location;
- Site 53 is a shallow depression adjacent to the native ground layer patch of Area 2. The 2021 species survey did not record the species at this location.

The works at Area 6 are unlikely to have any impact on the mapped Site 30, and similarly the works at Area 6 will not impacted on the mapped Site 53. The works at Area 3 are likely to create a 'split' with a secondary wall, and this is unlikely to impact on the shallow depression habitat south of the area where the species has been previously recorded.

Given the sites where Sloane's Froglet were recorded, only Site 9 – a large dam with no fringing vegetation - is on proposed development area in R1 zoned land, and there were no proposed works areas on C3 zoned land near sites where Sloane's Froglet were recorded. Therefore, the other 10

sites where Sloane's Froglet were recorded in the 2021 survey – Sites 11, 19, 20, 26, 40, 43, 54, 56 and 58 – will be avoided.

In regard to the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)* Significant Impact Criteria, an action is likely to have a significant impact on an endangered species if there is a real chance or possibility that it will (from DEHWA 2009):

- lead to a long-term decrease in the size of a population;
- reduce the area of occupancy of the species;
- fragment an existing population into two or more populations;
- adversely affect habitat critical to the survival of a species;
- disrupt the breeding cycle of a population;
- modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline;
- result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat;
- introduce disease that may cause the species to decline, or;
- interfere with the recovery of the species.

In regard to the impact of the development on Sloane's Froglet habitat, given the vegetation and habitat characteristics of the sites described, the proposed development will (from DEHWA 2009):

- Not lead to a long-term decrease in the size of a population. A total of 64 potential habitat sites for Sloane's Froglet are found across and adjacent to the C3 and R1 zoned land of the proposed development area, of which 13 will be directly impacted and lost with the proposed development, all of them on R1 zoned land. Only one of these sites - Site 9, a large dam with no fringing vegetation – had Sloane's Froglet recorded within it during the 2021 survey. Furthermore, the proposed works areas on C3 zoned land coincide with only three mapped potential habitat sites, and these species was not recorded at any of these sites in the 2021 survey. Two of these will not be directly impacted by the proposed works, and the third (Area 3) will likely create a 'split' with a secondary wall, and this is unlikely to directly impact on the shallow depression habitat south of the area where the species has been previously recorded;
- Result in no reduction in the area of occupancy of the species. A total of 64 potential habitat sites for Sloane's Froglet are found across and adjacent to the C3 and R1 zoned land of the proposed development area, of which 13 will be directly impacted and lost with the proposed development, all of them on R1 zoned land. Only one of these sites - Site 9, a large dam with no fringing vegetation – had Sloane's Froglet recorded within it during the 2021 survey. The proposed works areas on C3 zoned land coincide with only three mapped potential habitat sites, and these species was not recorded at any of these sites in the 2021 survey. Two of these will not be directly impacted by the proposed works, and the third (Area 3) will likely create a 'split' with a secondary wall, and this is unlikely to directly impact on the shallow depression habitat south of the area where the species has been previously recorded. Indeed, the 'split' in the dam may create potential habitat, augment and extend the available existing habitat for the species;
- Not fragment an existing population into two or more populations. With only one potential habitat site with a known record of the species to be removed, with 12 other small potential habitat sites where the species was not recorded to also be removed, and the remaining 51 mapped potential habitat sites across or near the proposed development area being retained, the risk of the developments fragmenting the existing population is small;

- Not result in any adverse effect to the habitat that will be critical to the survival of the species. With only one potential habitat site with a known record of the species to be removed, with 12 other potential habitat sites where the species was not recorded to also be removed, and the remaining 51 mapped potential habitat sites across or near the proposed development area being retained, the risk of the developments having an any adverse effect to the habitat of the species is small – indeed the site to be removed where the species has been recently recorded is a large dam with no fringing vegetation, and the other 12 potential habitat sites to be removed where the species has not been recently recorded are highly disturbed shallow depressions within annually cultivated and cropped paddocks;
- Result in no disruption to the breeding cycle. With only one potential habitat site with a known record of the species to be removed, with 12 other potential habitat sites where the species was not recorded to also be removed, and the remaining 51 mapped potential habitat sites across or near the proposed development area being retained, the risk of the developments causing any disruption to the breeding cycle of the species is small. As indicated, the site to be removed where the species has been recently recorded is a large dam with no fringing vegetation was found to have only 1-5 individuals, and the other 12 potential habitat sites to be removed where the species has not been recently recorded are highly disturbed shallow depressions within annually cultivated and cropped paddocks;
- Not modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline. With only one potential habitat site with a known record of the species to be removed, with 12 other potential habitat sites where the species was not recorded to also be removed, and the remaining 51 mapped potential habitat sites across or near the proposed development area being retained, the risk of the development causing any disruption to the breeding cycle of the species is small. As indicated, the site to be removed where the species has been recently recorded is a large dam with no fringing vegetation was found to have only 1-5 individuals, and the other 12 potential habitat sites to be removed where the species has not been recently recorded are highly disturbed shallow depressions within annually cultivated and cropped paddocks;
- Not result in invasive species that are harmful to an endangered species becoming established in the endangered species' habitat. The development will not result in the establishment of an invasive species;
- Not introduce disease that may cause the species to decline;
- Not interfere with the recovery of the species. With only one potential habitat site with a known record of the species to be removed, with 12 other potential habitat sites where the species was not recorded to also be removed, and the remaining 51 mapped potential habitat sites across or near the proposed development area being retained, the risk of the development causing any interference with the recovery of the species of the species is small.

5.2 Regent Honeyeater

The Regent Honeyeater (*Anthochaera phrygia*) is a medium-sized bird that can live up to 10 years in the wild, and is endemic to mainland south-east Australia. It has a patchy distribution which extends from south-east Queensland, through New South Wales and the Australian Capital Territory, to central Victoria. However, it is highly mobile, occurring only irregularly in most sites, and in variable numbers, often interspersed with long periods where there will be few observations anywhere (Department of the Environment [DoE] 2016).

The species is most commonly associated with Box-Ironbark eucalypt woodland and dry sclerophyll forest, but also inhabits riparian vegetation and lowland coastal forest. In addition it can be found in

a range of other habitats including remnant trees in farmland, roadside reserves and travelling stock routes, and in planted vegetation in parks and gardens (DoE 2016).

Principally a canopy nectar-feeder, it is reliant on select species of eucalypt and mistletoe which provide rich nectar flows. It is also known to feed on insects and spiders, as well as native and cultivated fruits (BirdLife Australia 2020).

Mature, large individual trees tend to be more important for foraging, as they are more productive, particularly on highly fertile sites and in riparian areas; trees in such areas tend to grow larger (and produce more flowers (Wilson and Bennett 1999).

Key foraging tree and mistletoe species for the Regent Honeyeater include (after DoE 2016):

- Mugga (or Red) Ironbark, *Eucalyptus sideroxylon*;
- Yellow Box, *E. melliodora*;
- White Box, *E. albens*;
- Yellow Gum, *E. leucoxylon*;
- Spotted Gum, *Corymbia maculata*;
- Swamp Mahogany, *E. robusta*;
- Needle-leaf Mistletoe, *Amyema cambagei* on River Sheoak, *Casuarina cunninghamiana*;
- Box Mistletoe, *A. miquelii*;
- Long-flower Mistletoe, *Dendropthoe vitellina*.

Historically, the species infrequently occurred in large aggregations at nectar sources, mostly during autumn and winter. The species was also known to roost communally in small groups or large flocks, in both mature trees and saplings, but only in trees with dense foliage. Foraging trees are rarely used as roosting sites. Larger aggregations (greater than 100 birds) have not been seen in recent times, as numbers are now likely to be too small to support such aggregations (DoE 2016).

The timing of breeding varies between regions, and appears to correspond with the flowering of key eucalypt and mistletoe species; however, breeding mostly occurs during spring and summer, from August to January. Nests are usually placed in the canopy of mature trees with rough bark, e.g. Ironbarks (various *Eucalyptus* spp.), Sheoaks (*Casuarina* and *Allocasaurina*) and Rough-barked Apple (*Angophora*)(Geering and French 1998).

There are 29 records of Regent Honeyeater within 10 km of the proposed development site; the most recent records of the species is in 2003 (DPE 2023a). The location of all of these records relative to the proposed development site is shown in Fig. 4-16.

The closest record is near the Table Top Road-Ettamogah Road intersection to the south in 2003 (DPE 2023a).

The majority of the C3 zoned land is mapped as Regent Honeyeater Important Habitat, as shown in Fig. 4-17 (from DPE 2023c).

The R1 zoned area of the proposed development is Biocertified Land, and the native vegetation losses associated with these areas has already been considered with other reporting. The proposed development of R1 zoned land will result in the loss of 67 remnant trees either in small patches or scattered across the area, of which 29 are hollow-bearing trees. Notwithstanding the low-moderate landscape connectivity, it is considered that Regent Honeyeater may utilise the edges of the cleared and cropped R1 zoned land, if they were found in the proposed development area it would be within the C3 zoned land because of the enhanced habitat opportunities in these areas relative to the adjacent cleared paddocks.

Therefore, it is considered that Regent Honeyeater would not utilise the R1 zoned land of the proposed development area.

In regard to the C3 zoned land, the proposed development will result in the loss of 59 indigenous trees, none of which are hollow-bearing, with 54 of these individuals having a dbh ≤ 20 cm, and the largest two individuals being 38 cm dbh. These trees are found at only 5 of the twelve assessed sites, and most of these trees are found embedded within modified and low diversity native ground layer patches. The resulting total loss of native vegetation has been determined to be 0.096 ha (960 m^2), and given the simplified structure of the proposed loss areas and with no removal of any hollow-bearing trees.

Notwithstanding that there have been no local records of the species since 2003, as indicated previously, the minimisation of loss in the C3 zoned land confined to mostly juvenile trees combined with the low-moderate landscape connectivity, there is expected to be no impact of this development on Regent Honeyeater.

Figure 4-16 Regent Honeyeater records within 10 km of the proposed development areas (from DPE 2023a).

In regard to the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)* Significant Impact Criteria, an action is likely to have a significant impact on a critically endangered species if there is a real chance or possibility that it will (from DEHWA 2009):

- lead to a long-term decrease in the size of a population;
- reduce the area of occupancy of the species;
- fragment an existing population into two or more populations;
- adversely affect habitat critical to the survival of a species;
- disrupt the breeding cycle of a population;

Figure 4-17 **Aerial imagery of Regent Honeyeater Important Habitat relative to the development layout and proposed works areas (mapping layer from DPE 2023c; aerial image from ESRI Australia 2023).**

- modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline;
- result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat;
- introduce disease that may cause the species to decline, or;
- interfere with the recovery of the species.

In regard to the impact of the proposed development on the Commonwealth threatened species Regent Honeyeater, the proposed development will (from DEHWA 2009):

- The proposed development of R1 zoned land will result in the loss of 67 remnant trees either in small patches or scattered across the area, of which 29 are hollow-bearing trees. Notwithstanding the low-moderate landscape connectivity, it is considered that Regent Honeyeater may utilise the edges of the cleared and cropped R1 zoned land, if they were found in the proposed development area it would be within the C3 zoned land because of the enhanced habitat opportunities in these areas relative to the adjacent cleared paddocks. However, as there have been no local records of the species since 2003, and the minimisation of loss in the C3 zoned land is confined to mostly juvenile trees combined with the low-moderate landscape connectivity, will not lead to a long-term decrease in the size of a population;
- Result in no reduction in the area of occupancy of the species. The proposed development of R1 zoned land will result in the loss of 67 remnant trees either in small patches or scattered across the area, of which 29 are hollow-bearing trees, and on C3 zoned land the loss of 59 mostly juvenile remnant trees. However, as there have been no local records of the species since 2003, and the minimisation of loss in the C3 zoned land combined with the low-moderate landscape connectivity, the development will not result in any significant reduction in the area of occupancy of the species;
- Not fragment an existing population into two or more populations. The proposed development of R1 zoned land will result in the loss of 67 remnant trees either in small patches or scattered across the area, of which 29 are hollow-bearing trees, and on C3 zoned land the loss of 59 mostly juvenile remnant trees. However, as there have been no local records of the species since 2003, and the minimisation of loss in the C3 zoned land combined with the low-moderate landscape connectivity, the proposed development will not result in any further fragmentation of the habitat of the species, and will certainly not fragment the existing population into two or more populations;
- Not result in any adverse effect to the habitat that will be critical to the survival of the species. The proposed development is not expected to have any significant impact on adjacent habitat. The proposed development of R1 zoned land will result in the loss of 67 remnant trees either in small patches or scattered across the area, of which 29 are hollow-bearing trees, and on C3 zoned land the loss of 59 mostly juvenile remnant trees. However, as there have been no local records of the species since 2003, and the minimisation of loss in the C3 zoned land combined with the low-moderate landscape connectivity, the development will not result in any adverse effect to the habitat that will be critical to the survival of the species;
- Result in no disruption to the breeding cycle. The proposed development of R1 zoned land will result in the loss of 67 remnant trees either in small patches or scattered across the area, of which 29 are hollow-bearing trees, and on C3 zoned land the loss of 59 mostly juvenile remnant trees. However, as there have been no local records of the species since 2003, and the minimisation of loss in the C3 zoned land combined with the low-moderate landscape connectivity, the development will not result in any disruption to the breeding cycle;

- Not modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline. The proposed development of R1 zoned land will result in the loss of 67 remnant trees either in small patches or scattered across the area, of which 29 are hollow-bearing trees, and on C3 zoned land the loss of 59 mostly juvenile remnant trees. However, as there have been no local records of the species since 2003, and the minimisation of loss in the C3 zoned land combined with the low-moderate landscape connectivity, the proposed development will not impact any adjacent habitat or its quality or reduce its availability;
- Not result in invasive species that are harmful to endangered species becoming established in the endangered species' habitat. The Noisy Miner – a key threatening species – is already dominant on the site;
- Not introduce disease that may cause the species to decline;
- Not interfere with the recovery of the species. The proposed development of R1 zoned land will result in the loss of 67 remnant trees either in small patches or scattered across the area, of which 29 are hollow-bearing trees, and on C3 zoned land the loss of 59 mostly juvenile remnant trees. However, as there have been no local records of the species since 2003, and the minimisation of loss in the C3 zoned land combined with the low-moderate landscape connectivity, the proposed development is not expected to interfere with the recovery of the species.

6. ASSESSMENT OF IMPACTS

Several iterations in the detailed design of the proposed subdivision have occurred through amended plans to avoid and minimise impacts to C3 zoned land.

As outlined in S. 2.2 of this report, the part of the subject land zoned R1 – General Residential, is declared to be Biocertified land. Under the provisions of the *Biodiversity Conservation Act 2016*, the proposed development on biodiversity certified land is taken not to significantly impact listed values under the Act. As described in Sec. 2.2, the Version 1 ToS does not adequately address all 12 'new' threatened species on C3 zoned land, and has not addressed any of the 12 'new' threatened species on R1 zone land (Biocertified Land). As a consequence, ACC has asked for a revision of the ToS to include assessment of the impacts on these species, and given that the conclusion of this report is that a BDAR is not triggered, this Version 2 report provides that revision accordingly.

6.1 Construction impacts

6.1.1 Vegetation loss

The proposed works will have a direct and indirect impact on vegetation communities and fauna habitat in the subject land as a result of habitat removal and temporary disturbance to groundcover.

As described in Sec. 6.1.1., based on the evidence provided by the available mapping and the extant remnant vegetation (remnant trees and some ground layer patches), it is likely that:

- Proposed works areas 1, 2, 8 and 9 on C3 zoned land, and the proposed subdivision block south of Williams Road and the corner block on Williams Road and Table Top Road, are former *Blakelys Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion* (PCT 277; Environment and Heritage 2012 and DPE 2023d). It is estimated that 94 % of this PCT has been cleared (DPE 2023c);
- Proposed works areas 10 and 11 on C3 zoned land are former *Riparian Blakelys Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion* (PCT

278; Environment and Heritage 2012 and DPE 2023d). It is estimated that 80 % of this PCT has been cleared (DPE 2023c);

- Proposed work areas 3, 4, 5, 6 and 7 on C3 zoned land, and the proposed subdivision block north of Williams Road, are modified *White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion* (PCT 266; Environment and Heritage 2012 and DPE 2023d). It is estimated that 94 % of this PCT has been cleared (DPE 2023c).

Table 6-1 below describes the extent and units of vegetation to be impacted by the proposed development; only small areas of each of the three PCTs are proposed for removal on either Biocertified or non-certified land, and 67 scattered trees are proposed for removal on Biocertified land, of which 29 are hollow-bearing.

Impacts on Biocertified land is not required to be assessed under the *Biodiversity Conservation Act 2016*.

Table 6-1 Vegetation impacts.

Impacted woodland (generally on C3 zoned land)			
Vegetation	*Area in subject land (ha)*	*Area in development footprint (ha)*	*Percentage impacted of total area*
PCT 277	3.32	0.256 – Biocertified land 0.0 – non-certified land 0.256 – area total	7.7
PCT 278	4.15	0.0 – Biocertified land 0.064 – non-certified land 0.064 – area total	1.5
PCT 266	3.98	0.056 – Biocertified land 0.0 – non-certified land 0.056 – area total	1.4
Box Gum Woodland TEC	11.45	0.312 – Biocertified land 0.064 – non-certified land 0.376 – area total	3.3
Impacted trees (outside of woodland area – generally on R1 zoned land)			
Tree type	*Number in subject land*	*Number in development footprint*	*Percentage impacted*
Scattered indigenous trees	76	67	88
Hollow-bearing trees	35	29	83

6.1.2 Threatened Ecological Communities

As indicated in Sec. 4.4.1, Critically Endangered Box Gum Woodland (*Biodiversity Conservation Act 2016*) occurs within the subject land, with all represented PCTs on the subject land – PCT 266, PCT 277 and PCT 278 – all considered part of this TEC.

In regard to the presence of the TEC on-site, individuals and patches of mixed-age Blakely's Red Gum, White Box and Yellow Gum exist within six of the assessed works areas on C3 zoned land (Areas 1, 2, 3, 4, 6 and 7), but there is only indigenous understorey in a few small patches (Areas 2, 3, 4 and 6). The whole proposed development area on R1 zoned land is utilised for cropping, and as a consequence retains no native ground layer vegetation, and was variously cultivated ground or crop when assessed, but the area does retain mostly large remnant hollow-bearing scattered trees of either Yellow Box and Blakely's Red Gum.

At an NSW level, the key habitat attributes for the threatened *White Box Yellow Box Blakely's Red Gum Woodland* community to be considered to be present are less prescriptive than the Commonwealth definitions. According to the NSW profile for this community (DPE 2023g), the vegetated C3 zoned land, despite maintaining minimal indigenous understorey, does retain various age classes of trees, patches of regrowth and old trees with hollows in the immediate vicinity of these sites, and that this adjacent remnant vegetation is important wildlife habitat for insectivorous and nectar feeding birds. Disturbed remnants – such as several of the assessed works sites on C3 zoned land and the vegetation adjacent to the assessed sites (also C3 zoned land) - are considered to form part of the community, including where the vegetation would respond to assisted natural regeneration (DPE 2023g). On this basis, proposed works areas on C3 zoned land Areas 2 to 7 (or parts of them) – all in the Williams Road vicinity - would fit the key habitat attributes of the threatened *White Box Yellow Box Blakely's Red Gum Woodland* community, and the development footprints of each of these areas would be considered part of the *White Box Yellow Box Blakely's Red Gum Woodland* threatened community.

While Table 6-1 shows that 0.312 ha of the TEC would be cleared on Biocertified land, and only 0.064 ha on non-certified land (C3 zoned land). Clearing of 0.376 ha of *Biodiversity Conservation Act 2016* listed Box Gum Woodland would be a minor reduction in the extent of this CEEC, where less than 0.001 % of the mapped local occurrence of this TEC would be impacted. A minor increase to fragmentation and isolation of Box Gum Woodland within the locality will occur because of the loss of area. However, within the subject site, over 96 % of this TEC would be retained within the subject land.

Clearing impacts to, and adjacent to areas identified as Box Gum Woodland can modify the vegetation community through the introduction and spread of weed species. Clearing can also lead to a reduction in diversity of plant species present within patches of Box Gum Woodland

The overall impacts of the proposal on the assessed ecological community under the *Biodiversity Conservation Act 2016* are considered manageable. A significant impact is considered highly unlikely, based on the following conclusion that the proposed works are unlikely to lead to or cause the local extinction of this TEC.

A ToS under the *Biodiversity Conservation Act 2016* has been completed for Box Gum woodland in Sec. 4.4.3. This assessment concluded a significant impact is not considered likely to occur as a consequence of the proposed development.

6.1.3 Threatened species

There are potential impacts to a range of threatened species, ecological communities, and populations due to impacts on potential foraging, roosting, breeding, and nesting habitat.

Sec. 4.4.2 and Appendix D described the consideration of the likelihood of the presence of any recorded threatened species within a 10 km radius of the site, including the twelve new threatened species - – Magpie Goose, Dusky Woodswallow, Spotted Harrier, Varied Sittella, Black Falcon, Little Lorikeet, Little Eagle, Scarlet Robin, Flame Robin, Eastern False Pipistrelle, Grey-headed Flying-fox and Sloane's Froglet.

Within the development footprint, all areas of habitat present within R1 zoned land are considered to not have a significant impact under the *Biodiversity Conservation Act 2016* – with the exception in this instance of the 12 'new' species listed. As such, only species with the potential to occur within the development footprint and be impacted by the removal of habitat present that are listed as threatened under the Commonwealth *EPBC Act* were assessed in detail – these being Sloane's Froglet and Regent Honeyeater. A Likelihood of Significant Impact test under the *EPBC Act* was completed for these species and can be seen is Sec. 5, which concluded that a significant impact to either of the species is not considered likely to occur as a consequence of the proposed development.

After this consideration, based on the prevailing habitat and habitat quality of the sites, the low-moderate landscape connectivity, the currency of known records for species, and the habitat and habitat quality preferences of the species, twenty three threatened fauna and the threatened flora species were considered not likely to occur within either the C3 or R1 zoned lands of the proposed development area or to utilise it because of the following issues (or combination of them):

- The currency of records (e.g. Black Falcon, Barking Owl, Grey Falcon, Spotted Harrier, Turquoise Parrot, Varied Sittella);
- the connectivity of the site through clearing of habitat to areas of known past occurrence (e.g. Barking Owl, Black Falcon, Black-chinned Honeyeater, Brown Treecreeper, Diamond Firetail, Gang-gang Cockatoo, Grey-headed Flying-fox, Hooded Robin, Little Eagle, Koala, Painted Honeyeater, Regent Honeyeater, Purple-crowned Lorikeet, Southern Bell Frog, Swift Parrot, Speckled Warbler, Turquoise Parrot, Varied Sittella);
- the lack of a suitable community/habitat type (e.g. Floating Swamp Wallaby-grass, Eastern False Pipistrelle, Grey Falcon, Koala, Magpie Goose, Southern Bell Frog, Varied Sittella);
- disturbance to, and simplification of, the site (e.g. Bush Stone-curlew).

Given that Sloane's Froglet is a known species on site, another five species of fauna – Squirrel Glider, Little Lorikeet, Dusky Woodswallow, Scarlet Robin and Flame Robin - are considered to have some likelihood to utilise the habitat provided by the C3 zoned land areas – and not the R1 zoned land - with specific particular reference to the twelve proposed development works areas (Appendix A).

A ToS under the *Biodiversity Conservation Act 2016* has been completed for these five species and Sloane's Froglet separately in Sec. 4.4.3 – this ToS has assessed the threats to all species on C3 zoned land, including the 12 'new' species, and has considered the threats to the 12 'new' species only on Biocertified land (R1 zoned land). This assessment concluded a significant impact to any of the species is not considered likely to occur as a consequence of the proposed development.

6.1.4 Aquatic habitat

The Seven Mile Creek runs east-west to the immediate south of the proposed development, and a north-south drain age line on C3 zoned land bisects the main two blocks of proposed development from the small block on the corner of Williams Road and Table Top Road.

Heavy metals and hydrocarbon-based contaminants have the potential to cause serious harm to the ecology of any creek system, including fish kills, harm to other fauna, and damage to vegetation. The proposal is not likely to use substantial quantities of chemicals or fuels. Likely chemicals and fuels include minor amounts of diesel, unleaded petrol, lubricating oils, and hydraulic oils and fluids for maintenance. Refuelling and storing of chemicals pollutants would occur away from waterways and sensitive environmental areas. Any spills near the creeks would likely be in small amounts, such as from leakages, hose failures and accidents. The magnitude of the impact would be minor, and level of impact is negligible.

Indirect impacts to the waterway could occur from stormwater run-off carrying pollutants downstream from the work site. All construction activities occurring in vicinity of a creek bed would have stringent containment measures in place to safeguard any accidental spill.

One dam is proposed to be removed with the proposed development – Site 9, where Sloane's Froglet was recorded during the survey in 2021. Appropriate mitigation measures to minimise the impact on these species have been listed in Sec. 7.

6.1.5 Priority weeds

The spread of priority weeds may occur during the construction of the proposal. One priority weed was identified during the field survey, Blackberry (*Rubus fruticosus* sp. Complex). This species requires treatments to mitigate risk of spread under the *Biosecurity Act 201*5. Detailed information on managing these species can be sought from the *Noxious and Environmental Weed Control Handbook* (Department of Primary Industries [DPI] 2015).

6.1.6 Assessment of the proposal against the BOS thresholds

This assessment considers the potential for the subdivision proposal to impact upon biodiversity. According to the provisions of the *Biodiversity Conservation Act 2016*, a subdivision assessment must also account for any *future* clearing necessary to enable the future development of the lots. Table 6-2 shows that the assessment has determined the Biodiversity Offset Scheme (BOS) thresholds would not be triggered and a BDAR is not required to accompany the Development Application.

Table 6-2 Performance of the proposed development when the thresholds for the entry to the BOS are considered.

<table>
<tr><th colspan="2">Threshold</th><th>Application to the proposal</th><th>Threshold exceeded ?</th></tr>
<tr><td colspan="2">The development is likely to significantly affect threatened species, populations or ecological communities, or their habitats</td><td>No significant effects on threatened species, populations or ecological communities are considered likely</td><td>No</td></tr>
<tr><td colspan="2">The clearing of native vegetation, or other action prescribed, on land identified on the Biodiversity Values (BV) map</td><td>No land identified on the BV map occurs within the development footprint (refer to Sec. 4.1 and Figures 4-1 to 4-12)</td><td>No</td></tr>
<tr><td colspan="2">The development is in an area of Outstanding Biodiversity Value</td><td>None occur on the subject land</td><td>No</td></tr>
<tr><td colspan="4">The development exceeds the BOS Area Threshold</td></tr>
<tr><td>Minimum lot size associated with the property</td><td>Threshold for clearing of native vegetation</td><td rowspan="5">The clearing threshold for the proposal is 1 ha or more, where the C3 zoned land under the Albury LEP 2010 has a minimum lot size of 450 m^2.Based on the subdivision plan, 0.087 ha of native vegetation is proposed to be cleared to be cleared within the C3 zone. This is below the BOS threshold for this minimum lot size. All other areas of native vegetation to be cleared occur within Biocertified land and are not subject to the BOS.</td><td rowspan="5">No. The proposed clearing impacts are below the threshold</td></tr>
<tr><td>1 ha or less</td><td>>0.25 ha</td></tr>
<tr><td>1 ha to less than 40 ha</td><td>>0.5 ha</td></tr>
<tr><td>40 ha to less than 1,000 ha</td><td>>1ha</td></tr>
<tr><td>1,000 ha or more</td><td>>1 ha</td></tr>
</table>

6.2 Operational Impacts

Impacts after construction, particularly on C3 zoned land, are an important to consider as a result of the proposed residential subdivision. As part of the requirements of zoning land as C3 Environmental Management, ACC require the management of these areas to either maintain or improve these areas for future use. As part of this there will be direct and indirect pressures to these areas after residential construction is complete, including:

- Foot traffic, with local residents gravitating towards and utilising nearby natural areas, if such areas were left unfenced. This may include dog walking, bushwalkers, bike riders, environmental vandals, etc.;
- Introduction of pets- cats and dogs in particular adding pressure on local native species through predation, disturbance of foraging and breeding habitat. The presence of these animals can be a deterrent for local populations of native species to persist or move between other areas of habitat;
- Exotic plant encroachment - specifically, from the spread of seed or vegetative material from garden plants in nearby residential areas;
- Light pollution - by adjacent residential areas, including streetlights, house lights, and local traffic;
- Noise pollution, by adjacent residential areas from introduction of traffic, outdoor activities, and general household noise;
- Water pollution, by adjacent residential areas, including run off, with the potential to include residues from activities such as herbicide use and cleaning of vehicles;
- Changes to the natural flow regime and degradation of natural waterways downstream from the increased flows largely from stormwater runoff;
- Erosion of downstream waterways from increased flows;
- Increase in water availability to downstream wetland areas – potential to change wetland habitat downstream;
- Air pollution - from adjacent residential areas, including local traffic.

In consideration of these operational impacts, the pertinent Key threatening processes under the *Biodiversity Conservation Act 2016* and the Commonwealth *EPBC Act* have been considered (see Sec. 6.3), and a range of related mitigation measures have been outlined to reduce these impacts (see Sec. 7).

6.3 Key threatening process

Key threatening processes relevant to the proposed development for operational and construction activities are listed below and discussed (Table 6-3).

Table 6-3 Key threatening processes and their relevance to the proposed development.

Biodiversity Conservation Act 2016	*EPBC Act*	Relevance
Clearing of native vegetation	Land clearance	The clearing of native vegetation is considered a major contributor to the loss of biodiversity. A total of 76 paddock trees will be removed from within the development footprint, within Biocertified land. Further to this, 59 juvenile trees will be removed in C3 zoned land, amounting to be 0.096 ha (960 m^2) of native vegetation extent. Impacts to native vegetation from the proposed works are considerable, but given they are located on Biocertified Land, for which the impacts of removal have been accounted for and offset in the original Certification Strategy for land zoned under the Albury Biodiversity Certification. Impacts to the C3 land by the proposal would lead to a minor impact for this process.
Loss of hollow-bearing trees		Twenty nine hollow-bearing trees will be removed by the proposed works. The proposed works are likely to exacerbate this process; however, given they are located on Biocertified land, the impacts of removal have been accounted for and offset in the original Certification Strategy. Mitigation measures have been recommended in relation to the removal of these trees.
Invasion and establishment of exotic vines and scramblers		The proposal has the potential to spread exotic species from the subject land to other parts of the study area through the transfer and introduction of plant material and soil on machinery. Mitigation measures have been recommended to prevent the spread of weeds on site.
Invasion of native plant communities by exotic perennial grasses		The understorey in the subject land already maintains a significant cover by exotic perennial grasses; however, weed spread will need to be minimised off-site by following mitigation measures.
Competition and grazing by feral European Rabbit (*Oryctolagus cuniculus*)	Competition and land degradation by European Rabbit	Disturbance to vegetation and soil may attract this species to the study area. However, as the majority of the study area is already disturbed agricultural land and roadside habitat it is expected the population numbers of European Rabbit will not increase.
Predation by European Red Fox (*Vulpes vulpes*)	Predation by European Red Fox (*Vulpes vulpes*)	Disturbance to native fauna and their habitat may attract this species to the study area or modify its current population density. However, as the majority of the study area is already disturbed agricultural land and roadside habitat it is expected the population numbers of European Red Fox will not increase.
Predation by Feral Cat (*Felis catus*)	Predation by Feral Cat	Disturbance to native fauna and their habitat may attract this species to the study area or modify its current population density. The proposal will result in over 700 residential dwellings, this is likely to increase the population of and predation by feral cats.

Biodiversity Conservation Act 2016	*EPBC Act*	Relevance
Removal of dead wood and dead trees		Eight large dead standing trees are to be impacted by the proposed works on Biocertified Land. Mitigation measures have been recommended
Alternation to the natural flow regimes of rivers, streams, floodplains & wetlands		The proposed works will only impact the natural flow regime of eleven ephemeral water bodies, and will not directly impact on the creek to the south or the drainage line that bisects the development. Therefore, the proposed works will not significantly increase the risk of this process.
Infection by Psittacine Circoviral (beak and feather) Disease affecting endangered psittacine species and populations	Psittacine Circoviral (beak and feather) Disease affecting endangered psittacine species	The proposed works are not considered likely to exacerbate this process. The proposed works will not increase the risk of this process.
Infection of frogs by amphibian chytrid causing the disease chytridiomycosis	Infection of frogs by amphibian chytrid causing the disease chytridiomycosis	The proposed works are not considered likely to exacerbate this process. The proposed works will not increase the risk of this process.

7. SAFEGUARDS AND MITIGATION MEASURES

A range of safeguards and mitigation measures to assist with minimising the impacts on biodiversity during vegetation removal, construction and maintenance works are shown in Table 7-1.

Table 7-1 Safeguards for protection of flora and fauna.

Impact	Environmental safeguards	Responsibility	Timing
Introduction and spread of priority weeds	Declared priority weeds should be managed according to the requirements stipulated by the *Biosecurity Act 2015*, and recommendations made by the local control authority *Murray Local Land Services and the Noxious and Environmental Weed Handbook* (DPI 2015), which contains details as to the management of specific noxious weeds.	Contractor	Construction Operation
	All weed material containing seed heads, weeds that contain toxins, and weeds that are able to reproduce vegetatively should be disposed of at an appropriate waste management facility or otherwise properly treated to prevent weed growth.	Contractor	Construction
	All herbicides should be used in accordance with the requirements on the label. Any person undertaking pesticide (including herbicide) application should be trained to do so and have the proper certificate of completion/competency or statement of attainment issued by a registered training organisation.	Contractor	Construction
Clearing of native vegetation	Prior to construction a pre-clearance survey would be undertaken by a suitably qualified ecologist for all woodland areas, planted trees, scattered trees and hollow-bearing trees 24-48 hours prior to clearing activities. The pre-clearance survey would include: • confirmation of presence/absence of hollows; • confirmation to vegetation to be retained or removed; • confirm presence/absence of nesting fauna.	Contractor	Prior to construction
	Prior to construction temporary fencing should be placed along the entire extent of the development footprint. This is recommended to ensure no impacts occur to land that has not been assessed under this ToS. Impacts include movement of plant equipment, vehicles and machinery.	Contractor	Prior to construction
	No stockpiling and ancillary facilities will be placed outside the assessed development footprint	Contractor	Construction
Removal of hollow-bearing tree	Clearing of hollow-bearing trees should be undertaken in accordance with the hollow-bearing tree clearing protocol outlined in F. A suitably qualified ecologist must be present for all clearing activities involving hollow-bearing trees.	Contractor	Prior to construction

Impact	Environmental safeguards	Responsibility	Timing
	Hollow bearing tree removal should not be undertaken during the breeding season of hollow-dependent species. Hollow bearing trees should be removed before the November breeding season of the Corben's Long-eared Bat as hollow-bearing trees may be utilised as maternity sites. Hollow bearing trees should be removed before the Gang-gang Cockatoo breeding season, between October and January, as hollow-bearing trees may be utilised as maternity sites.	Contractor	Prior to construction
	Hollow branches from felled tree should be cut into manageable lengths and should be relocated from within the development site to an adjacent area in consultation with ACC.	Contractor	Prior to construction
	Clearing of hollow-bearing trees should be undertaken in accordance with the hollow-bearing tree clearing protocol outlined in Appendix F. A suitably qualified ecologist must be present for all clearing activities involving hollow-bearing trees.	Contractor	Prior to construction
Fauna rescue	A suitably qualified ecologist will be present for all clearing of fauna habitat to ensurerescue and relocation of fauna species.	Contractor	Prior to construction
Unexpected threatened species finds	The site induction should include measures to make employees aware of potential threatened flora and fauna during works and understand the procedures if threatened fauna are detected by on-site staff, during the pre-clearance survey or clearing activities the following procedure would be followed: • Stop work; • Alert an Ecologist for assessment and possible re–location during works.	Contractor	Construction, Prior to construction
Clearing of planted and scattered trees	All mature trees to be removed within the development footprint should be cut into manageable lengths and relocated in adjacent natural areas in consultation with ACC.	Contractor	Construction
Fallen timber removal	All fallen timber within the subject land is to be relocated from the development site toan adjacent area in consultation with ACC.	Contractor	Prior to construction
Sloane's Froglet	• Construction of linear wetland system should be developed in line with the *Sloane's Froglet stormwater wetland design guidelines* (ACC and OEH 2019); • Installation of linear wetland system should take place prior to subdivision construction to allow for habitat connectivity for this species between potential populations; • Draining and drying or the dam would be completed outside the breeding season, and tadpole development season for this species. The breeding season for this species is July – September, tadpole development is considered to be September – December.	Contractor	Construction

Impact	Environmental safeguards	Responsibility	Timing
Dam	Prior to infill of the existing dam to be removed, water pumps would be used to drain the dam. A suitably qualified ecologist would be present during the draining process to capture and relocate fauna where possible.	Contractor	Prior to construction
	The dam would be left to 'dry' for at least 5 days prior to in-fill or construction activities to allow any remaining individuals to naturally move away from the site.	Contractor	Prior to construction
Maintaining C3 zoned land (in consultation with Albury City)	It is recommended that the following actions are completed in consultation with Albury City to minimise impacts to adjacent C3 zoned land: • Install educational signage along edges of C3 zoned land detailing the environmental sensitivity of the area and stating the area is not to be used for public recreation, dumping of waste, or firewood collection; • Fencing with locked gates to prevent public access; • Enforcement of a 'Cat Containment' policy within the estate, where residential owners would not be allowed to have cats roaming outside of houses or 'cat runs'; • Use of native tree and shrub species as part of landscape plantings - exotic trees should not be used. Consideration of road design along boundary areas to C3 zones to include slowing curves, kerb blisters and concrete slowing thresholds to reduce the potential of vehicle strikes on fauna.	Contractor/ACC	Operational

8. AVOIDANCE AND MINIMISATION OF NATIVE VEGETATION

The whole proposed development area on R1 zoned land is utilised for cropping, and as a consequence retains no native ground layer vegetation, and was variously cultivated ground or crop when assessed, but the area does retain mostly large remnant hollow-bearing scattered trees of either Yellow Box and Blakely's Red Gum. A total of 67 scattered trees will be removed from R1 zoned/Biocertified land as a consequence of development, of which 29 are hollow-bearing.

Nine scattered trees on R1 zoned/Biocertified land, of which 7 are hollow-bearing, have been avoided.

This loss of native vegetation from the proposed works are considerable, but given they are located on Biocertified Land, the impacts for which removal has been accounted for and offset in the original Certification Strategy for land zoned under the Albury Biodiversity Certification.

There are four areas along Williams Road within proximity to Areas 3 and 4 on C3 zoned land that are mapped as being as having Biodiversity Value (see Fig. 2-2; DPE 2023f); significant care has been taken with the development layout to ensure that these Biodiversity Value mapped areas and Regent Honeyeater important habitat have been wholly avoided. As indicated previously, there is also a rectangular area of 0.037 ha east of Area 6 with a north-south alignment on both sides of Williams Road and within both road reserves, where infrastructure will be established C3 zoned land containing remnant trees. There is no native vegetation at either end of this areas, and so no losses will occur.

The proposed development will result in the loss of 59 indigenous trees on C3 zoned land, none of which are hollow-bearing, with 54 of these individuals having a dbh ≤ 20 cm, and the largest two individuals being 38 cm dbh. These trees are found at only 5 of the twelve assessed sites, and most of these trees are found embedded within modified and low diversity native ground layer patches. The resulting total loss of native vegetation on C3 land has been determined to be 0.096 ha (960 m^2).

More broadly, the extent of the proposed works on C3 zoned land has been designed to minimise native vegetation loss, and this has resulted in the avoidance of 157 assessed trees in close proximity, and clearly no loss of hollow-bearing trees.

These four areas of Biodiversity Value have been mapped, and the layout of the 12 works areas have successfully focussed on avoiding any impact on these four mapped areas. DPE updated the Biodiversity Value mapped areas on the 26/9/22, and with the latest mapping, Areas 6 to 12 will be within Biodiversity Value mapped areas. It was understood that for existing biodiversity assessments, these new areas do not apply to a Development Application lodged within 90 days after their addition – the date of the 90 day expiry was 26/12/22.

The generation of a Biodiversity Offset Scheme Entry Threshold Report (BOSET Report)(Appendix E; DPE 2023f) reveals that the minimum Lot Size for the proposed works area is 450 m^2, and that the Area Clearing Threshold required to enter the Biodiversity Offset Scheme (BOS), and for a Biodiversity Development Assessment Report (BDAR) to be completed, is 0.25 ha.

Therefore, for development to avoid entering the BOS and requiring a BDAR to be undertaken, native vegetation clearance must be < 0.25 ha.

As indicated, the extent of the native vegetation loss proposed on C3 zoned land (i.e. the extent of ground layer patches and the canopy extent of those trees outside of these patch area) is an estimated 0.096 ha (960 m^2), and therefore a BDAR is not triggered through this mechanism.

Only one potential habitat site with a known record of the Sloane's Froglet will be removed, with 12 other potential habitat sites where the species was not recorded also to be removed, and the remaining 51 mapped potential habitat sites across or near the proposed development area will be avoided and retained.

9. SUMMARY

The whole proposed development area on R1 zoned land is utilised for cropping, and as a consequence retains no native ground layer vegetation, and was variously cultivated ground or crop when assessed, but the area does retain mostly large remnant hollow-bearing scattered trees of either Yellow Box and Blakely's Red Gum. A total of 67 scattered trees will be removed from R1 zoned/Biocertified land as a consequence of development, of which 29 are hollow-bearing.

Nine scattered trees on R1 zoned/Biocertified land, of which 7 are hollow-bearing, have been avoided.

This loss of native vegetation from the proposed works are considerable, but given they are located on Biocertified Land, the impacts for which removal has been accounted for and offset in the original Certification Strategy for land zoned under the Albury Biodiversity Certification.

The generation of a Biodiversity Offset Scheme Entry Threshold Report (BOSET Report)(DPE 2023f) reveals that the proposed development area is not in a declared area of outstanding biodiversity value, or mapped as *Vulnerable or Sensitive Regulated Land* according to the Section 60F of the *Local Land Services Act 2013*, and the areas of Biodiversity Value have been avoided. Based on this, this proposal is not required to enter the BOS, and a BDAR is not triggered by these mechanisms.

The proposed development on C3 zoned land will result in the loss of 59 indigenous trees, none of which are hollow-bearing, with 54 of these individuals having a dbh ≤ 20 cm, and the largest two individuals being 38 cm dbh. These trees are found at only 5 of the twelve assessed sites, and most of these trees are found embedded within modified and low diversity native ground layer patches. The resulting total loss of native vegetation in C3 land has been determined to be 0.096 ha (960 m^2).

As indicated, the generation of BOSET Report reveals that the minimum Lot Size is 450 m^2, and that the Area Clearing Threshold required to enter the BOS, and for a BDAR to be completed, is 0.25 ha.

Therefore, for development to avoid entering the BOS and requiring a BDAR to be undertaken, native vegetation clearance must be < 0.25 ha; the extent of the native vegetation loss proposed (effectively, the border of the canopies of the 38 indigenous trees proposed for loss, and intervening areas according to canopy separation ratio) is 0.087 ha, clearly well below this threshold.

Therefore, this proposal is not required to enter the Biodiversity Offset Scheme, and a BDAR is clearly not triggered by that mechanism.

Three threatened communities, one threatened species of flora and twenty nine species of fauna have been recorded within a 10 km radius of the site (DPE 2023a), or are known or predicted to occur within 10 km of the site.

The C3 zoned land contains remnant vegetation that is a representation of the TEC Box Gum woodland, and a small area of this vegetation is to be removed as a consequence of the development. A ToS under the *Biodiversity Conservation Act 2016* has been completed for Box Gum woodland. This assessment concluded a significant impact is not considered likely to occur as a consequence of the proposed development.

The threatened Sloane's Froglet was recorded on the property in several locations.

Given that Sloane's Froglet is a known species on site, another five species of fauna – Squirrel Glider, Little Lorikeet, Dusky Woodswallow, Scarlet Robin and Flame Robin - are considered to have some

likelihood to utilise the habitat provided by the C3 zoned land areas – and not the R1 zoned land - with specific particular reference to the twelve proposed development works areas.

A ToS under the *Biodiversity Conservation Act 2016* has been completed for these five species and Sloane's Froglet separately – this ToS has assessed the threats to all species on C3 zoned land, including the 12 'new' species, and has considered the threats to the 12 'new' species only on Biocertified land (R1 zoned land). This assessment concluded a significant impact to any of the species is not considered likely to occur as a consequence of the proposed development.

Within the development footprint, all areas of habitat present within R1 zoned land are considered to not have a significant impact under the *Biodiversity Conservation Act 2016* – with the exception in this instance of the 12 'new' species listed. As such, only species with the potential to occur within the development footprint and be impacted by the removal of habitat present that are listed as threatened under the Commonwealth *EPBC Act* were assessed in detail – these being Sloane's Froglet and Regent Honeyeater. A Likelihood of Significant Impact test under the *EPBC Act* was completed for these species, which concluded that a significant impact to either of the species is not considered likely to occur as a consequence of the proposed development.

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10.1 Personal communications

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APPENDIX A FLORA INVENTORY FOR WILLIAMS ROAD TABLE TOP

Recorded vascular plant species for the assessed areas.

Vascular flora have been recorded for presence using a cover-abundance scale that is outlined in Table 3-1.

An asterisk denotes an introduced species.

Common name	Scientific name	1	2	3	4	5	6	7	8	9	11	10 & 12
Silver Wattle (planted)	*Acacia dealbata*											2
Hedge Wattle	*Acacia paradoxa*					+						
Golden Wattle (planted)	*Acacia pycnantha*											2
Sheep Sorrel	*Acetosella vulgaris**											1
Drooping Sheoak	*Allocasuarina verticillata*											1
Capeweed	*Arctotheca calendula**			1	2		1	1	1	1		+
Rough Spear-grass	*Austrostipa scabra*			2								
Wild Oat	*Avena fatua**		1	2	1	2	1	1			2	2
Canola (crop)	*Brassica rapa**					3						
Great Brome	*Bromus diandrus**				2	2	2	2			2	2
Bottlebrush (planted)	*Callistemon* sp.*											2
Tall Sedge	*Carex appressa*			2								
Umbrella Sedge	*Cyperus eragrostis**			2								
Paterson's Curse	*Echium plantagineum**	+		2			1	1	+			1
Annual Veldt-grass	*Ehrharta longiflora**			1								
Curly Windmill Grass	*Enteropogon acicularis*		1	2						+		+
White Box	*Eucalyptus albens*	+	+		1	1	+	+	+			
Blakely's Red Gum	*Eucalyptus blakelyi*	2	2	2	2	1	2	2	2	1	1	2
Yellow Box	*Eucalyptus melliodora*		+									
Red Box	*Eucalyptus polyanthemos*		2		1		1	2				
Barley Grass	*Hordeum leporinum**		1	2	2	2	2	2			2	2
St. John’s Wort	*Hypericum perforatum**						1	1				1
Cat's Ear	*Hypochaeris radicata**	+	2	2	2	2	2	2				2

Common name	Scientific name	1	2	3	4	5	6	7	8	9	11	10 & 12
A Rush	*Juncus* sp.		1				+					
Blown Grass	*Lachnagrostis avenacea*			2	+	+	1					
Prickly Lettuce	*Lactuca serriola**			1	2							+
Wimmera Ryegrass	*Lolium rigidum**		3	2	3	2	3	2	2	2		
Weeping Grass	*Microlaena stipoides*			1								
Warrego Summer Grass	*Paspalidium jubiflorum*						+					
Paspalum	*Paspalum dilitatum**				2	2	2	2				1
Water Couch	*Paspalum distichum**			2		1						2
Toowoomba Canary Grass	*Phalaris aquatica**		1		1		1	+	1		1	2
Plantain	*Plantago lanceolata**			1								
Winter-grass	*Poa annua**			1	2		2	2				2
Snowgrass	*Poa sieberiana*			+	+		1					
Onion-grass	*Romulea rosea**		2		2	1	1	1		2		
Blackberry	*Rubus fruticosus* sp. complex*										+	
Lobed Wallaby-grass	*Rytidosperma auriculatum*		1	2								
Brown-backed Wallaby-grass	*Rytidosperma duttonianum*		1	2								
Wallaby-grass	*Rytidosperma erianthum*		1	2								
Blackberry Nightshade	*Solanum nigrum**		2		+						+	+
Milk Thistle	*Sonchus oleraceus**				1		+					
Wheat (crop)	*Triticum aestivum**	3							3	3		
Indigenous species projective foliage cover (%)		0	10	20	5	1	5	0	0	0	0	0
Introduced species projective foliage cover (%)		60	60	60	85	85	75	80	95	95	95	90
Litter cover (%)		0		10	5	10	15	15	0	0	5	10
Bare earth (%)		40	30	10	5	5	5	5	5	5	0	0

APPENDIX B OBSERVED FAUNA OF WILLIAMS ROAD TABLE TOP

Observed or inferred fauna at the sites and surrounds on the 28th July 2022 and 11th August 2022.

An asterisk denotes an introduced species.

Common name	Scientific name	Mode of observation[1]
Birds		
Australian Magpie	*Gymnorhina tibicen*	A,V
Australian Raven	*Corvus coronoides*	A
Crimson Rosella	*Platycercus elegans*	A,V
Noisy Miner	*Manorina melanocephala*	A,V
Red-rumped Parrot	*Psephotus haematonotus*	A,V
Sulphur-crested Cockatoo	*Cacatua galerita*	A,V
Willie Wagtail	*Rhipidura leucophrys*	A,V
Mammals		
Eastern Grey Kangaroo	*Macropus giganteus*	A,S

1. Identification method: A = audible call; V = visual; N = distinctive nest; S = scat.

APPENDIX C ASSESSED TREES

Trees that are likely to be removed with the proposed works are shaded in red.

Tree number	Common name	Scientific name	Diameter[1]	Tree location[2]	
				Easting	*Northing*
1	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	110/40	500560	6013709
2	Drooping She-oak (planted)	*Allocasuarina verticillata*		500531	6013698
3	Golden Wattle (planted)	*Acacia pycnantha*		500530	6013692
4	Golden Wattle (planted)	*Acacia pycnantha*		500540	6013692
5	Golden Wattle (planted)	*Acacia pycnantha*		500542	6013695
6	Drooping She-oak (planted)	*Allocasuarina verticillata*		500530	6013712
7	Golden Wattle (planted)	*Acacia pycnantha*		500540	6013696
8	Drooping She-oak (planted)	*Allocasuarina verticillata*		500531	6013706
9	Drooping She-oak (planted)	*Allocasuarina verticillata*		500530	6013708
10	Bottlebrush (planted)	*Callistemon* sp.*		500534	6013710
11	Bottlebrush (planted)	*Callistemon* sp.*		500532	6013714
12	Bottlebrush (planted)	*Callistemon* sp.*		500535	6013714
13	Bottlebrush (planted)	*Callistemon* sp.*		500537	6013710
14	Bottlebrush (planted)	*Callistemon* sp.*		500536	6013700
15	Bottlebrush (planted)	*Callistemon* sp.*		500540	6013705
16	Bottlebrush (planted)	*Callistemon* sp.*		500542	6013711
17	Drooping She-oak (planted)	*Allocasuarina verticillata*		500528	6013717
18	Bottlebrush (planted)	*Callistemon* sp.*		500533	6013723
19	Bottlebrush (planted)	*Callistemon* sp.*		500535	6013725
20	Bottlebrush (planted)	*Callistemon* sp.*		500538	6013728
21	Bottlebrush (planted)	*Callistemon* sp.*		500540	6013726
22	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	15/10/5	500553	6013765
23	Bottlebrush (planted)	*Callistemon* sp.*		500541	6013741
24	Bottlebrush (planted)	*Callistemon* sp.*		500543	6013745
25	Bottlebrush (planted)	*Callistemon* sp.*		500549	6013743
26	Bottlebrush (planted)	*Callistemon* sp.*		500545	6013739
27	Bottlebrush (planted)	*Callistemon* sp.*		500550	6013750
28	Bottlebrush (planted)	*Callistemon* sp.*		500546	6013747
29	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	15	500553	6013759
30	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	15	500554	6013761
31	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	12	500556	6013764
32	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	10	500557	6013763
33	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	10	500559	6013765
34	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	10	500560	6013764
35	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	15	500559	6013773
36	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	10	500558	6013772
37	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	12	500560	6013771
38	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	15	500563	6013773
39	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	18	500562	6013777
40	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	10	500562	6013778
41	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	12	500563	6013775

Tree number	Common name	Scientific name	Diameter[1]	Tree location[2]	
				Easting	*Northing*
42	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	10	500564	6013777
43	Bottlebrush (planted)	*Callistemon* sp.*		500544	6013734
44	Bottlebrush (planted)	*Callistemon* sp.*		500548	6013733
45	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	70	500584	6013798
46	Bottlebrush (planted)	*Callistemon* sp.*		500568	6013787
47	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	10	500566	6013775
48	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	8	500627	6014339
49	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	20/15/15	500637	6014352
50	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	28/25	500635	6014352
51	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	40/28/20	500630	6014349
52	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	65	500625	6014348
53	Red Box (remnant)	*Eucalyptus polyanthemos*	20/15	500652	6014349
54	Red Box (remnant)	*Eucalyptus polyanthemos*	8	500664	6014349
55	Red Box (remnant)	*Eucalyptus polyanthemos*	10	500665	6014345
56	Red Box (remnant)	*Eucalyptus polyanthemos*	70/60	500673	6014344
57	Red Box (remnant)	*Eucalyptus polyanthemos*	15	500548	6014352
58	White Box (remnant)	*Eucalyptus albens*	120	500535	6014352
59	White Box (remnant)	*Eucalyptus albens*	38	500548	6014359
60	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	60	500556	6014358
61	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	40	500558	6014358
62	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	10	500559	6014358
63	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	25	500560	6014357
64	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	15	500561	6014356
65	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	8	500562	6014356
66	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	15	500563	6014356
67	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	50	500560	6014367
68	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	15	500562	6014364
69	Red Box (remnant)	*Eucalyptus polyanthemos*	28/15	500542	6014368
70	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	10	500555	6014377
71	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	30/15	500554	6014385
72	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	25	500563	6014394
73	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	10/8/5/5	500569	6014394
74	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	5	500562	6014389
75	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	500551	6014378
76	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	500548	6014385
77	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	500547	6014380
78	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	140	500504	6014308
79	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	8	500494	6014300
80	White Box (remnant)	*Eucalyptus albens*	28	500463	6014363
81	White Box (remnant)	*Eucalyptus albens*	170	500454	6014366
82	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	15	500342	6014400
83	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	15	500344	6014395

Tree number	Common name	Scientific name	Diameter[1]	Tree location[2]	
				Easting	*Northing*
84	Red Box (remnant)	*Eucalyptus polyanthemos*	40	500356	6014399
85	Red Box (remnant)	*Eucalyptus polyanthemos*	15	500355	6014397
86	Red Box (remnant)	*Eucalyptus polyanthemos*	5	500350	6014394
87	White Box (remnant)	*Eucalyptus albens*	38	500328	6014400
88	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	500328	6014396
89	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	10	500327	6014402
90	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	15	500325	6014402
91	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	12/5	500323	6014402
92	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	150	500306	6014473
93	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	130/20/10	500316	6014405
94	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	10/8/8	500321	6014431
95	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	12	500322	6014424
96	White Box (remnant)	*Eucalyptus albens*	< 3 m height	500319	6014416
97	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	8/5/5	500312	6014415
98	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	8/5	500334	6014432
99	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	10	500329	6014425
100	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	500333	6014421
101	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	500330	6014419
102	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	500328	6014421
103	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	500329	6014421
104	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	500326	6014420
105	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	500325	6014418
106	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	500327	6014418
107	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	500265	6014442
108	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	500258	6014444
109	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	500276	6014437
110	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	15	500287	6014444
111	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	500022	6014470
112	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	12	499971	6014475
113	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	8	499965	6014482
114	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	12	499966	6014492
115	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	499974	6014471
116	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	499965	6014476
117	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	499966	6014479
118	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	499969	6014478
119	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	499969	6014481
120	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	499969	6014483
121	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	499968	6014486
122	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	499966	6014485
123	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	499962	6014483
124	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	499958	6014486
125	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	499959	6014489

Tree number	Common name	Scientific name	Diameter[1]	Tree location[2]	
				Easting	*Northing*
126	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	499960	6014490
127	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	499962	6014491
128	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	499964	6014487
129	Yellow Box (remnant)	*Eucalyptus melliodora*	35	499878	6014479
130	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	5	499880	6014477
131	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	20	499875	6014478
132	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	5	499879	6014479
133	Red Box (remnant)	*Eucalyptus polyanthemos*	5	499873	6014478
134	White Box (remnant)	*Eucalyptus albens*	45	499875	6014485
135	Red Box (remnant)	*Eucalyptus polyanthemos*	15	499879	6014481
136	Red Box (remnant)	*Eucalyptus polyanthemos*	5	499877	6014481
137	Red Box (remnant)	*Eucalyptus polyanthemos*	8	499875	6014480
138	Red Box (remnant)	*Eucalyptus polyanthemos*	20	499873	6014481
139	Red Box (remnant)	*Eucalyptus polyanthemos*	8	499873	6014482
140	Red Box (remnant)	*Eucalyptus polyanthemos*	20	499875	6014483
141	Red Box (remnant)	*Eucalyptus polyanthemos*	15	499871	6014483
142	Red Box (remnant)	*Eucalyptus polyanthemos*	20	499869	6014487
143	Red Box (remnant)	*Eucalyptus polyanthemos*	10	499867	6014487
144	Red Box (remnant)	*Eucalyptus polyanthemos*	5	499870	6014484
145	White Box (remnant)	*Eucalyptus albens*	35	499870	6014480
146	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	25	499865	6014484
147	Red Box (remnant)	*Eucalyptus polyanthemos*	40	499867	6014483
148	Red Box (remnant)	*Eucalyptus polyanthemos*	10	499863	6014484
149	Red Box (remnant)	*Eucalyptus polyanthemos*	5	499866	6014481
150	Red Box (remnant)	*Eucalyptus polyanthemos*	5/5	499865	6014483
151	Red Box (remnant)	*Eucalyptus polyanthemos*	20	499864	6014479
152	Red Box (remnant)	*Eucalyptus polyanthemos*	20	499860	6014484
153	Red Box (remnant)	*Eucalyptus polyanthemos*	5	499861	6014486
154	Red Box (remnant)	*Eucalyptus polyanthemos*	15	499862	6014483
155	Red Box (remnant)	*Eucalyptus polyanthemos*	20	499862	6014481
156	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	15	499859	6014482
157	Red Box (remnant)	*Eucalyptus polyanthemos*	40/30	499858	6014484
158	Yellow Box (remnant)	*Eucalyptus melliodora*	40	499860	6014483
159	Red Box (remnant)	*Eucalyptus polyanthemos*	10	499859	6014486
160	Red Box (remnant)	*Eucalyptus polyanthemos*	10	499862	6014502
161	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	5/5/5/5	499881	6014510
162	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	499871	6014511
163	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	499871	6014509
164	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	499869	6014510
165	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	499869	6014507
166	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	499872	6014506
167	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	499870	6014502

Tree number	Common name	Scientific name	Diameter[1]	Tree location[2]	
				Easting	*Northing*
168	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 3 m height	499866	6014504
169	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	20/15	499780	6014577
170	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	15	499777	6014573
171	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	20	499749	6014570
172	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	20	499767	6014618
173	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	40	499771	6014638
174	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	15	499770	6014625
175	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	10	499789	6014655
176	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	10	499784	6014646
177	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	15	499761	6014612
178	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	120	499836	6014582
179	White Box (remnant)	*Eucalyptus albens*	70/30/30	499849	6014578
180	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	20	501036	6014082
181	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	25	501039	6014087
182	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	18/15	501066	6014115
183	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	50	501097	6014149
184	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	18	501102	6014150
185	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	15/12	501072	6014128
186	White Box (remnant)	*Eucalyptus albens*	80/50	501077	6014156
187	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	15/10	499864	6014557
188	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	70	499859	6014525
189	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499864	6014486
190	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499865	6014486
191	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499866	6014486
192	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499866	6014486
193	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499866	6014486
194	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499867	6014486
195	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499867	6014486
196	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499867	6014486
197	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499867	6014487
198	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499866	6014487
199	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499865	6014487
200	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499865	6014487
201	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499865	6014488
202	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499865	6014488
203	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499865	6014488
204	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499866	6014488
205	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499866	6014488
206	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499867	6014488
207	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499867	6014488
208	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499867	6014488
209	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499868	6014488

Tree number	Common name	Scientific name	Diameter[1]	Tree location[2]	
				Easting	*Northing*
210	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499867	6014487
211	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499868	6014486
212	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499868	6014486
213	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499868	6014488
214	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499867	6014487
215	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499866	6014485
216	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499868	6014487
217	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499869	6014488
218	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 10	499869	6014489
219	Yellow Box (remnant)	*Eucalyptus melliodora*	120	500231	6013866
220	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	135/40	500026	6013916
221	Yellow Box (remnant)	*Eucalyptus melliodora*	140 (dead)	500159	6014040
222	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	80	500211	6013995
223	Yellow Box (remnant)	*Eucalyptus melliodora*	100	500261	6014069
224	Yellow Box (remnant)	*Eucalyptus melliodora*	90	500278	6014144
225	Yellow Box (remnant)	*Eucalyptus melliodora*	60	500178	6014206
226	Yellow Box (remnant)	*Eucalyptus melliodora*	70	500185	6014203
227	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	38/30 (dead)	500312	6013903
228	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	70	500416	6013967
229	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	120	500443	6013974
230	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	65	500369	6014042
231	Yellow Box (remnant)	*Eucalyptus melliodora*	70	500564	6013967
232	Yellow Box (remnant)	*Eucalyptus melliodora*	90	500622	6013976
233	Yellow Box (remnant)	*Eucalyptus melliodora*	85/40	500549	6014021
234	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	60/40/30/30	499933	6013929
235	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499830	6014044
236	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499822	6014049
237	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499828	6014055
238	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499815	6014060
239	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499814	6014064
240	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499817	6014065
241	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499819	6014068
242	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499815	6014069
243	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499837	6014063
244	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499826	6014061
245	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499825	6014066
246	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499838	6014066
247	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499832	6014070
248	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499838	6014077
249	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499837	6014086
250	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499814	6014075
251	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499819	6014079

Tree number	Common name	Scientific name	Diameter[1]	Tree location[2]	
				Easting	*Northing*
252	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499812	6014081
253	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499814	6014086
254	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499821	6014085
255	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499819	6014093
256	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499830	6014090
257	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499834	6014082
258	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499838	6014082
259	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499838	6014094
260	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499839	6014099
261	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499839	6014103
262	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499842	6014109
263	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20 (dead)	499848	6014119
264	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	18/15/10 (dead)	499849	6014128
265	Yellow Box (remnant)	*Eucalyptus melliodora*	70/50 (dead)	499854	6014157
266	Yellow Box (remnant)	*Eucalyptus melliodora*	60	499948	6014105
267	Yellow Box (remnant)	*Eucalyptus melliodora*	60/50/35	500468	6014038
268	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	95	500565	6014128
269	Yellow Box (remnant)	*Eucalyptus melliodora*	85 (dead)	500583	6014132
270	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	80	500301	6014241
271	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	70	500409	6014278
272	Yellow Box (remnant)	*Eucalyptus melliodora*	90/75	500203	6014365
273	Yellow Box (remnant)	*Eucalyptus melliodora*	90/45	499766	6014300
274	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	110	500026	6014523
275	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	135	499984	6014561
276	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	< 20	499988	6014533
277	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	110/90/20	499980	6014599
278	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	170	499921	6014551
279	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	25/20	499917	6014563
280	Yellow Box (remnant)	*Eucalyptus melliodora*	40/30	499917	6014571
281	Yellow Box (remnant)	*Eucalyptus melliodora*	60/40	499911	6014577
282	Yellow Box (remnant)	*Eucalyptus melliodora*	90/30	499934	6014659
283	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	85/70	499908	6014705
284	Yellow Box (remnant)	*Eucalyptus melliodora*	70/50	500062	6014667
285	Yellow Box (remnant)	*Eucalyptus melliodora*	100	500103	6014671
286	Yellow Box (remnant)	*Eucalyptus melliodora*	120 (dead)	500235	6014594
287	Yellow Box (remnant)	*Eucalyptus melliodora*	90 (dead)	500344	6014645
288	Yellow Box (remnant)	*Eucalyptus melliodora*	70 (dead)	500349	6014645
289	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	90	501119	6014106
290	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	85	501157	6014188
291	White Box (remnant)	*Eucalyptus albens*	120	501110	6014181
292	Blakely's Red Gum (remnant)	*Eucalyptus blakelyi*	130	501154	6014160

1. Diameter at breast height over bark in cm (at 1.30 m above ground);
2. Locations are MGAz55.

APPENDIX D THREATENED COMMUNITY AND SPECIES LIKELIHOOD OF PRESENCE

List of threatened communities, and flora and fauna species recorded by the BioNet - Atlas of NSW Wildlife and by Matters of National Environmental Significance search of a 10 km radius from the proposed development site, their status, and their likelihood of occurrence on the site (DPE 2023b; DCCEEW 2023).

Common Name	Scientific name	Conservation Status (NSW)[1]	Conservation Status (Comm)[2]	Likelihood of Occurrence[3]	Five Part Test
Vegetation community					
Grey Box Grassy Woodlands and Derived Native Grasslands of South-eastern Australia		e	E	While this TEC is represented within the district, both the C3 and R1 zoned area are former/modified Grassy Box Gum Woodland. **Likelihood: Not present**	No
Weeping Myall Woodlands		e	E	While this TEC is represented within the district, both the C3 and R1 zoned area are former/modified Grassy Box Gum Woodland. **Likelihood: Not present**	No
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (Grassy Box Gum Woodland)		e	CE	This TEC is well represented within the district, and both the C3 and R1 zoned area are former/modified Grassy Box Gum Woodland. However, several of the assessed works areas on C3 zoned land are remnants of this community, and are considered representative of the community. **Likelihood: Present on several sites on C3 zoned land**	Yes
Flora					
Floating Swamp Wallaby-grass	*Amphibromus fluitans*	v	V	Wetland/riparian plant. There are many historic collections from within the City of Greater Albury. It has been recorded recently in lagoons beside the Murray River near Cooks Lagoon (Shire of Greater Hume), Mungabarina Reserve, East Albury, at Ettamogah, Thurgoona (Charles Sturt University Campus), near Narrandera, and also further west along the Murray River (near Mathoura) and in Victoria. There are 12 records within 10 km of the site; however, there are no areas of suitable habitat on either the C3 or R1 zoned land of the development area. **Likelihood: Highly unlikely to be present**	No
Fauna					
Barking Owl	*Ninox connivens connivens*	v		Inhabits woodland and open forest, including fragmented remnants and partly cleared farmland. It is flexible in its habitat use, and hunting can extend in to closed forest and more open areas. Sometimes able to successfully breed along timbered watercourses in heavily cleared habitats due to the higher density of prey on these fertile soils. There have been 2 records for the species up to 2003 within 10 km of the site, both are near the Table Top Reservoir Reserve. The development area may contain some suitable habitat; however there is no connectivity to the known locations. The species is unlikely to utilise either the C3 or R1 zoned land of the development area as a consequence. **Likelihood: Unlikely to be present**	No

Common Name	Scientific name	Conservation Status (NSW)[1]	Conservation Status (Comm)[2]	Likelihood of Occurrence[3]	Five Part Test
Black Falcon	*Falco subniger*	v		The Black Falcon inhabits woodland, shrubland and grassland in the arid and semi-arid zones, especially wooded watercourses and agricultural land with scattered remnant trees. The species is usually associated with streams or wetlands, visiting them in search of prey and often using standing dead trees as lookout posts. Recorded in North Albury in 1996. The development area may contain some suitable habitat; however there is limited connectivity to the known locations, and the one record is 27 years old. The species is unlikely to utilise either the C3 or R1 zoned land of the development area as a consequence. **Likelihood: Highly unlikely to be present**	No
Black-chinned Honeyeater	*Melithripterus gularis gularis*	v		Occurs in intact woodlands, and adjacent agricultural land. There have been 4 records for the species up to 2003 within 10 km of the site, some in close proximity to the site. There have been 11 records for the species up to 2007 within 10 km of the site. However, records are to the south and south-west and are not connected to the site. The species is unlikely to utilise either the C3 or R1 zoned land of the development area as a consequence. **Likelihood: Unlikely to be present**	No
Brown Treecreeper (eastern ssp.)	*Climacteris picumnus victoriae*	v		Occurs in intact woodlands, and adjacent agricultural land. There are 8 records for the species up to 2004 within 10 km of the site. However, records are to the south and south-west are not connected to the site. The species is unlikely to utilise either the C3 or R1 zoned land of the development area as a consequence. **Likelihood: Unlikely to be present**	No
Bush Stone-curlew	*Burhinus grallarius*	e		Range in south-eastern Australia is now largely confined to grassy woodlands and farmland. Likes to roost and nest in grassy woodlands of Buloke, gum or box with low, sparse grassy or herb understorey. Branches on the ground are essential for the bird's camouflage, and it is unlikely to attempt nesting without it. The C3 zoned land of the development area may contain some suitable habitat; the R1 zoned land area does not. There are 2 records for the species up to 2007 within 10 km of the site. However, records are to the south-west are not connected to the site, and there is limited connectivity to the known locations The species is unlikely to utilise either the C3 or R1 zoned land of the development area as a consequence. **Likelihood: Highly unlikely to be present**	No
Diamond Firetail	*Stagonopleura guttata*	v		Occurs in woodlands, and adjacent agricultural land. There are numerous records for the species up to 2010 within 10 km of the site. There are 3 records for the species up to 2004 within 10 km of the site. However, records are to the south and west are not connected to the site. The species is unlikely to utilise either the C3 or R1 zoned land of the development area as a consequence. **Likelihood: Unlikely to be present**	No
Dusky Woodswallow	*Artamus cyanopterus cyanopterus*	v		The species primarily inhabits dry, open eucalypt forests and woodlands, including mallee associations, with an open or sparse understorey of eucalypt saplings, acacias and other shrubs, and ground-cover of grasses or sedges and fallen woody debris. There are 4 records for the species up to 2019 within 10 km of the site, including two in very close proximity in 1998 and 2020, and these locations have connectivity to both the C3 and R1 zoned land. **Likelihood: May be present**	Yes
Eastern False Pipistrelle	*Falsistrellus tasmaniensis*	v		The species prefers moist habitats, with trees taller than 20 m. It generally roosts in eucalypt hollows, but has also been found under loose bark on trees or in buildings. There is 1 record for the species 10 2014 within 10 km of the site – in East Albury. This record location is not connected to the site, and the woodland areas on the C3 zoned land do not match the moist habitat preference. The species is unlikely to be found either the C3 or R1 zoned land of the development area as a consequence. **Likelihood: Unlikely to be present**	No

Common Name	Scientific name	Conservation Status (NSW)[1]	Conservation Status (Comm)[2]	Likelihood of Occurrence[3]	Five Part Test
Flame Robin	*Petroica phoenicea*	v		Breeds in upland tall moist eucalypt forests and woodlands, often on ridges and slopes. Prefers clearings or areas with open understoreys. The ground layer of the breeding habitat is dominated by native grasses and the shrub layer may be either sparse or dense. The Flame Robin is endemic to south eastern Australia, and ranges from near the Queensland border to south east South Australia and also in Tasmania. In NSW, it breeds in upland areas and in winter, many birds move to the inland slopes and plains. There are 3 records for the species up to 2013 within 10 km of the site, and these locations have connectivity to both the C3 and R1 zoned land of the proposed development site. **Likelihood: May be present**	Yes
Gang-gang Cockatoo	*Callocephalon fimbriatum*	v		The Gang-gang Cockatoo can be seen throughout many parts of south-eastern Australia. In the summer months, they are mostly found at higher elevations, where they breed in tree-hollows in the moist eucalyptus forests of the mountainous Great Divide. After breeding has finished, and the days grow cooler and shorter, they leave the mountains and fly to lower elevations to spend the autumn and winter, when they are especially common in suburban gardens of lowland towns and cities. There are 2 records for the species up to 2009 within 10 km of the site. However, records are to the south-west are not connected to the site. The species is unlikely to utilise either the C3 or R1 zoned land of the development area as a consequence. **Likelihood: Unlikely to be present**	No
Grey Falcon	*Falco hypoleucos*	e		Usually restricted to shrubland, grassland and wooded watercourses of arid and semi-arid regions. Like other falcons it utilises old nests of other birds of prey and ravens, usually high in a living eucalypt near water or a watercourse. There is one record for the species – in 2001 - within 10 km of the site. This record is to the west of the site, and there is no landscape connection to the site, and the record is 22 years old. The species is unlikely to utilise either the C3 or R1 zoned land of the development area as a consequence. **Likelihood: Unlikely to be present**	No
Grey-headed Flying-fox	*Pteropus poliocephalus*	v	V	Australia's only endemic flying-fox and occurs in a coastal belt from south-eastern Queensland to Melbourne, Victoria. It is a canopy-feeding frugivore and nectivore, which utilises vegetation communities including rainforests, open forests, closed and open woodlands, Melaleuca swamps and Banksia woodlands. Site is not suitable habitat. There are 5 records for the species within 10 km up to 2019. However, records are to the west and south-west and are not connected to the site. The species is unlikely to utilise either the C3 or R1 zoned land of the development area as a consequence. **Likelihood: Unlikely to be present**	No
Hooded Robin	*Melanodryas cucullata cucullata*	v		Occurs in intact woodlands, and adjacent agricultural land. They occupy a wide range of Eucalypt woodlands, Acacia shrublands and open forests. In temperate woodlands, the species favours open areas adjoining large woodland blocks, with areas of dead timber and sparse shrub cover. There is one record for the species in 2007 within 10 km of the site. This record is to the south-west of the site, and there is no landscape connection to the site. **Likelihood: Unlikely to be present**	No
Little Eagle	*Hieraaetus morphnoides*	v		The species occupies open eucalypt forest, woodland or open woodland. Sheoak or Acacia woodlands and riparian woodlands of interior NSW are also used. It nests in tall living trees within a remnant patch, where pairs build a large stick nest in winter. The Little Eagle is found throughout the Australian mainland excepting the most densely forested parts of the Dividing Range escarpment. It occurs as a single population throughout NSW. Four records for the species within 10 km up to 2016. However, records are to the west and south-west are not connected to the site. The species is unlikely to utilise either the C3 or R1 zoned land of the development area as a consequence. **Likelihood: Unlikely to be present**	No

Common Name	Scientific name	Conservation Status (NSW)[1]	Conservation Status (Comm)[2]	Likelihood of Occurrence[3]	Five Part Test
Little Lorikeet	*Glossopsitta pusilla*	v		The species forages primarily in the canopy of open *Eucalyptus* forest and woodland, yet also finds food in *Angophora, Melaleuca* and other tree species. Riparian habitats are particularly used, due to higher soil fertility and hence greater productivity. It also utilises isolated flowering trees in open country, e.g. paddocks, roadside remnants and urban trees also help sustain viable populations of the species. There are 23 records for the species up to 2020 within 10 km of the site, mostly to the south and south-west, with a couple of these records in close proximity with some connection to the site. The species may utilise the C3 zoned land as suitable habitat. **Likelihood: May be present**	Yes
Koala	*Phascolarctos cinereus*	v	V	Inhabits eucalypt woodlands and forests. Spend most of their time in trees, but will descend and traverse open ground to move between trees. There are 3 records for the species up to 2019 within 10 km of the site. However, records are to the south-west and are not connected to the site. The species is unlikely to utilise either the C3 or R1 zoned land of the development area as a consequence. **Likelihood: Unlikely to be present**	No
Magpie Goose	*Anseranas semipalmata*	v		The Magpie Goose is still relatively common in the Australian northern tropics, but had disappeared from south-east Australia by 1920 due to drainage and overgrazing of reed swamps used for breeding. Mainly found in shallow wetlands (less than 1 m deep) with dense growth of rushes or sedges. Neither C3 or R1 zoned land on the site is suitable habitat. One record within 10 km. **Likelihood: Highly unlikely to be present**	No
Painted Honeyeater	*Grantiella picta*	v	V	The Painted Honeyeater is found in dry open forests and woodlands, and is strongly associated with mistletoe. It may also be found along rivers, on plains with scattered trees and on farmland with remnant vegetation. It has been seen in urban parks and gardens where large eucalypts are available. There is one record for the species – in 2003 - within 10 km of the site. This record is to the south-west of the site, and there is no landscape connection to the site. The species is unlikely to utilise either the C3 or R1 zoned land of the development area as a consequence. **Likelihood: Unlikely to be present**	No
Purple-crowned Lorikeet	*Glossopsitta porphyrocephala*	v		Although they prefer dry eucalypt forests, woodlands and shrublands, and can be seen clambering noisily about among the foliage in the canopy of the trees, feeding on nectar from the flowers. Purple-crowned Lorikeets can also be seen in parks and gardens of towns and suburbs. There is one record for the species – in 2004 - within 10 km of the site. This record is to the south-west of the site, and there is no landscape connection to the site. The species is unlikely to utilise either the C3 or R1 zoned land of the development area as a consequence. **Likelihood: Unlikely to be present**	No
Regent Honeyeater	*Anthochaera phrygia*	ce	CE	Occurs in woodlands, and adjacent agricultural land. There have been 30 records for the species up to 2003 within 10 km of the site, some in close proximity to the proposed water main alignment. There are numerous records for the species up to 2004 beyond 10 km of the site – all around Thurgoona. These records are 12 km to the south-west, and there is low-moderate landscape connection to the site. The species is unlikely to utilise either the C3 or R1 zoned land of the development area as a consequence. **Likelihood: Unlikely to be present**	No

Common Name	Scientific name	Conservation Status (NSW)[1]	Conservation Status (Comm)[2]	Likelihood of Occurrence[3]	Five Part Test
Scarlet Robin	*Petroica boodang*	v		In NSW, it occurs from the coast to the inland slopes. After breeding, some Scarlet Robins disperse to the lower valleys and plains of the tablelands and slopes. Some birds may appear as far west as the eastern edges of the inland plains in autumn and winter. The Scarlet Robin lives in dry eucalypt forests and woodlands. The understorey is usually open and grassy with few scattered shrubs in both mature and regrowth vegetation. There are 24 records for the species up to 2019 within 10 km of the site, and these locations have connectivity to both the C3 and R1 zoned land of the proposed development area. **Likelihood: May be present**	Yes
Sloane's Froglet	*Crinia sloanei*	v		Sloane's Froglet has been recorded from widely scattered sites in the floodplains of the Murray-Darling Basin, with the majority of records in the Darling Riverine Plains, NSW South Western Slopes and Riverina bioregions in New South Wales. It is typically associated with periodically inundated areas in grassland, woodland and disturbed habitats. There are many records for the species in Albury, and Thurgoona, and there are numerous recent records within the locale of the assessed areas. The species was recorded at 8 locations on the R1 zoned land of the proposed development, and at 3 locations which fringed C3 zoned land. **Likelihood: Present**	Yes
Southern Bell Frog	*Litoria raniformis*	e	V	In NSW the species was once distributed along the Murray and Murrumbidgee Rivers and their tributaries, the southern slopes of the Monaro district and the central southern tablelands as far north as Tarana, near Bathurst. There is only one record for the species within 10 km – in 1999 near Ettamogah. Currently, the species is known to exist only in isolated populations in the Coleambally Irrigation Area, the Lowbidgee floodplain and around Lake Victoria. Both the C3 and R1 zoned land areas of the proposed development are clearly highly disconnected from the populations, and this will preclude the presence of the species on-site. **Likelihood: Highly unlikely to be present**	No
Speckled Warbler	*Chthonicola sagittatus*	v		Patchy distribution on and inland of the Great Dividing Range, from level with Mackay in Queensland, to the Grampians National Park in Victoria. Lives in dry sclerophyll forests and woodlands dominated by eucalypts. It is mostly seen on the grassy ground layer, when it is foraging. There are 10 records for the species up to 2008 within 10 km of the site. These records are to the south-west of the assessed areas, and there is no landscape connection to the site. The species is unlikely to utilise either the C3 or R1 zoned land of the development area as a consequence. **Likelihood: Unlikely to be present**	No
Spotted Harrier	*Circus assimilis*	v		Found in mainland Australia and Indonesia. It is widespread but sparsely distributed. Found in open wooded country in tropical and temperate Australia, particularly in arid and semi-arid areas. One record for the species within 10 km in 1996 in North Albury. The development area may contain some suitable habitat; however there is no connectivity to the known locations. The species is unlikely to utilise either the C3 or R1 zoned land of the development area as a consequence. **Likelihood: Unlikely to be present**	
Squirrel Glider	*Petaurus norfolcensis*	v		Prefers extensive intact woodlands with significant shrub and litter layers in blocks or along roadsides. Recorded over 170 times within 10 km of the site, with many records around Thurgoona, Corrys Wood and Ettamogah. There are many records for the species up to 2003 within 10 km of the site. The C3 zoned land of the site and adjacent areas is suitable habitat for the species; the R1 zoned land is not suitable habitat. **Likelihood: May be present**	Yes

Common Name	Scientific name	Conservation Status (NSW)[1]	Conservation Status (Comm)[2]	Likelihood of Occurrence[3]	Five Part Test
Swift Parrot	*Lathamus discolor*	e	CE	Occurs in extensive riparian forests and woodlands, and adjacent agricultural land. There are 5 records for the species up to 2011 within 10 km of the site. These records are to the south-west of the proposed development area, and there is no landscape connection to the site. The species is unlikely to utilise either the C3 or R1 zoned land of the development area as a consequence. **Likelihood: Unlikely to be present**	No
Turquoise Parrot	*Neophema pulchella*	v		Occurs in extensive riparian forests and woodlands, and adjacent agricultural land. The assessed areas are disturbed, and are not suitable habitat. There are 3 records for the species up to 2003 within 10 km of the site. These records are to the south-west of the assessed areas, and there is no landscape connection to the site. The species is unlikely to utilise either the C3 or R1 zoned land of the development area as a consequence. **Likelihood: Unlikely to be present**	No
Varied Sittella	*Daphoenositta chrysoptera*	v		The Varied Sittella is sedentary and inhabits most of mainland Australia except the treeless deserts and open grasslands. It inhabits eucalypt forests and woodlands, especially those containing rough-barked species and mature smooth-barked gums with dead branches, mallee and Acacia woodland. There are 3 records for the species up to 2010 within 10 km of the site. There is one record for the species – in 1997 - within 10 km of the site. This record is to the west of the site, and there is no landscape connection to the site, and the record is 26 years old. The species is unlikely to utilise either the C3 or R1 zoned land of the development area as a consequence. **Likelihood: Highly unlikely to be present**	No

1. x = presumed extinct in NSW; e = endangered in NSW; v = vulnerable in NSW; ce = critically endangered in NSW (from DPE 2023b).
2. V = vulnerable nationally; E = endangered nationally; CE = critically endangered nationally (DCCEEW 2023).

APPENDIX E BIODIVERSITY OFFSET SCHEME ENTRY THRESHOLD (BOSET) TOOL REPORT 2ND JULY 2023

Department of Planning and Environment

Biodiversity Values Map and Threshold Report

This report is generated using the Biodiversity Values Map and Threshold (BMAT) tool. The BMAT tool is used by proponents to supply evidence to a consent authority to determine whether or not a Biodiversity Development Assessment Report (BDAR) is required under the Biodiversity Conservation Regulation 2017 (Cl. 7.2 & 7.3).

The report provides results for the proposed development footprint area identified by the user and displayed within the blue boundary on the map.

There are two pathways for determining whether or not a BDAR is required for the proposed development:

1. Is there Biodiversity Values Mapping?
2. Is the 'clearing of native vegetation area threshold' exceeded?

Biodiversity Values Map and Threshold Report

Date of Report Generation		02/07/2023 9:25 PM
Biodiversity Values (BV) Map Threshold - Results Summary		
1	**Does the development Footprint intersect with BV mapping?**	no
2	**Was ALL of the BV Mapping within the development footprinted added in the last 90 days?** (dark purple mapping only, no light purple mapping present)	no
3	**Date of expiry of dark purple 90 day mapping***	N/A
4	**Is the Biodiversity Values Map threshold exceeded?**	no
Area Clearing Threshold - Results Summary		
5	**Size of the development or clearing footprint**	960.3 sqm
6	**Native Vegetation Area Clearing Estimate (NVACE)**	874.6 sqm
7	**Method for determining Minimum Lot Size**	LEP
8	**Minimum Lot Size** (10,000sqm = 1ha)	450 sqm
9	**Area Clearing Threshold** (10,000sqm = 1ha)	2,500 sqm
10	**Is the Area Clearing Threshold exceeded?**	no

Is the proposed development assessed above the Biodiversity Offsets Schema (BOS) threshold? Exceeding the BOS threshold will require completion of a Biodiversity Development Assessment Report (BDAR). More details provided on page 2.	no

What do I do with this report?

• If the result above indicates a BDAR is required, a Biodiversity Development Assessment Report **may be required** with your development application. Go to https://customer.lmbc.nsw.gov.au/assessment/AccreditedAssessor to access a list of accredited assessors. An accredited assessor can apply the Biodiversity Assessment Method and prepare a **BDAR**.

• If the result above indicates a BDAR is not required, you have not exceeded the BOS threshold. This report can be provided to Council to support your development application. You may still require a permit from your local council. Review the development control plan and consult with council. You may still be required to assess whether the development is '"likely to significantly affect threatened species" as determined under the test in Section 7.3 of the Biodiversity Conservation Act 2016. You may also be required to review the area where no vegetation mapping is available.

• If all Biodiversity Values mapping within your development footprint are less than 90 days old, i.e. mapping is displayed as dark purple on the map, a BDAR may not be required if your Development Application is submitted within that 90 day period. *Any BV mapping less than 90 days old on this report will expire on the date provided in Line item 3 above.

For more detailed advice about actions required, refer to the **Interpreting the evaluation report** section of the Biodiversity Values Map Threshold Tool User Guide.

Review Options:

• If you believe the Biodiversity Values mapping is incorrect please refer to our BV Map Review webpage for further information.

• If you disagree with the NVACE result for Line Item 6 above (i.e. area of Native Vegetation within the Development footprint proposed to be cleared) you can undertake a self-assessment. For more information about this refer to the **Guide for reviewing BMAT Tool area clearing threshold results**.

Acknowledgement

I, as the applicant for this development, submit that I have correctly depicted the area that will be impacted or likely to be impacted as a result of the proposed development.

Signature: _____ Date:_____

(Typing your name in the signature field will be considered as your signature for the purposes of this form)

02/07/2023 09:25 PM

Biodiversity Values Map

451.1 0 225.55 451.1 Metres

WGS_1984_Web_Mercator_Auxiliary_Sphere

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

Legend

- Biodiversity Values that have been mapped for more than 90 days
- Biodiversity Values added within last 90 days
- Native Vegetation Area Clearing Estimate (NVACE)
- Development area selected by proponent

02/07/2023 09:25 PM

The results provided in this tool are generated using the best available mapping and knowledge of species habitat requirements.

This map is valid as at the date the report was generated. Checking the Biodiversity Values Map viewer for mapping updates is recommended.

APPENDIX F MANAGEMENT OF BIODIVERSITY ACROSS APPROVED CLEARANCE AREAS

Pre-clearance Procedure

Prior to clearance, all trees to be cleared must be clearly identified by marker tape or marker paint to ensure that there is no confusion as to the approved clearance trees and retained trees.

Care must be taken in close proximity to all retained trees. Projects that involve soil disturbance – such as the approved clearance process - can cause indirect losses of native vegetation that are retained during construction due to root damage and soil modification within the zone where roots occur. Of particular concern is the longer-term impact of soil compaction and excavation (e.g. through vehicle movement) close to trees and the effects of this on immediate and longer-term tree health. Standards Australia (2009) has provided guidance and clarity on this issue, and has defined an acceptable distance for tree retention in order to prevent indirect losses of native vegetation during and after construction activities as a guiding principle. These designated Tree Protection Zones (TPZs) should be implemented for the duration of construction activities (DSE 2011) as part of the development conditions.

A TPZ is a specific area above and below the ground, with a radius 12 times the Diameter at Breast Height (dbh; 1.3 m) of any individual tree; the TPZ of trees should be no less than 2 m or greater than 15 m, and it is recommended that physical barriers be erected to delineate the TPZ during construction activities. Should a development impinge on the TPZ area for > 10 % of its area, the tree shall be considered a loss (Standards Australia 2009).

On this basis, retained trees that are in close proximity to trees to be felled should be clearly delineated from trees to be felled – the use of safety mesh or tape to demark the TPZ distance is strongly recommended.

A pre-clearance survey has been conducted that identifies flora and fauna within the site including areas to be cleared and areas to be protected.

Vegetation Clearing Protocol

Vegetation clearing within the approved clearing area will be undertaken over a period of two months in winter 2019.

This clearing has been scheduled to avoid spring to reduce the potential impact to roosting or breeding fauna species.

Vegetation clearing across the site will occur in accordance with the following protocols:

- Areas to be cleared should be subject to a pre-clearing survey, including survey of individual trees specifically directed towards detecting any roosting or nesting fauna;
- Investigation of trees will be conducted on the day that they are to be cleared, to detect any individual animals present at the time;
- Clearing will be a two-step process where non-habitat trees are removed first allowing fauna time to move to other areas and then following a minimum duration period of one (1) night, before habitat trees are removed;
- Trees to be removed will be felled in such a way as to avoid falling into and damaging adjacent vegetation outside the construction footprint;
- Prior to felling, trees will be ‘tapped’ by the excavator bucket (or other clearing equipment apparatus) to provide an opportunity for animals to escape;

- The Site Supervisor is to be present during clearing process. If fauna is observed in trees whilst felling, then clearing work is to cease and personnel fall back to allow fauna a chance to vacate the area;
- Felled habitat trees will remain on the ground for a short period to allow time for any trapped fauna to escape. All hollows will be checked immediately after felling and prior to further processing of the tree;
- If fauna are found to be utilising the site, or a nest, den or roost is found, the animals will be relocated by a qualified ecologist, veterinarian or other authorised person to outside the construction footprint.

Hollow-bearing Tree Management

Tree-hollows are an important resource for many native fauna species, and are vital for some species. The retention and protection of hollow-bearing trees is an important element in the maintenance of biodiversity and in the execution of an environmentally sound development.

The following specific protocols relating to hollow-bearing trees will be implemented.

- Hollow-bearing trees that have been felled will be placed in rehabilitation areas or undisturbed areas of the approved clearance site;
- A controlled felling technique will be used for clearing of hollowing-bearing trees that includes the following.
    - Initially nudging the tree to induce any fauna to vacate. This process should progressively increase in force;
    - Wait a period of five minutes to allow the fauna to vacate the tree. Repeat this step if necessary;
    - Select the preferred direction of fall and push the tree from a high point along the trunk towards the preferred direction of fall.
    - If the tree is too strong to be pushed with all roots intact, some of the roots on the restraining side will be cut and/or excavated.
    - The speed of fall and ground impact should be reduced where possible to avoid fauna injury.

Salvage, Storage and Reuse of Materials

Large landscape features such as major tree trunks, major tree limbs and if possible minor branches, should be salvaged as much as can be practically achieved, stockpiled and used then placed across the proposed Exclusion Areas to enhance the habitat of these areas. This activity will create habitat with increased structural complexity, and additional species into the Exclusion Areas. Where possible, leafy materials will also be placed into the Exclusion Areas or stockpiled in order to retain any existing seed bank.

Monitoring and Inspection

Daily visual inspections of the approved clearance site will be undertaken by the Site Supervisor and personnel until the clearance process has been completed, to identify any potential flora and fauna management issues.