Final Report v3

Biodiversity Assessment and Targeted Flora and Fauna Surveys for the proposed Cooba Solar Project at 124 Cornella Church Road, Colbinabbin, Victoria

Prepared for

Venn Energy Pty Ltd

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Ecology and Heritage Partners acknowledge the Traditional Owners of the country we live and work on, and we pay our respect to Elders past, present and emerging.

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SUMMARY OF CLAUSE 52.17 APPLICATION REQUIREMENTS

Table S1. Application requirements for a permit to remove native vegetation (Victoria Planning Provisions Clause 52.17; DELWP 2017)

No.	Application Requirement	Response
Application requirements under the **Detailed** Assessment Pathway		
1	Information about the native vegetation to be removed, including: • The assessment pathway and reason for the assessment pathway; • A description of the native vegetation to be removed; • Maps showing the native vegetation and property in context; and • The offset requirement that will apply if the native vegetation is approved to be removed.	Refer to Section 4.1, Section 3.3 and Appendix 4 (NVR Report)
2	Topographic and land information relating to the native vegetation to be removed, showing ridges, crests and hilltops, wetlands and waterways, slopes of more than 20 percent, drainage lines, low lying areas, saline discharge areas, and areas of existing erosion, as appropriate.	Refer to Section 1.2 and Figure 1
3	Recent dated photographs of the native vegetation to be removed.	Refer to Section 4.1
4	Details of any other native vegetation that was permitted to be removed on the same property with the same ownership as the native vegetation to be removed, where the removal occurred in the five year period before the application to remove native vegetation is lodged.	No vegetation has been removed by the proponent on the property within the past five years
5	An avoid and minimise statement. The statement describes any efforts to avoid the removal of and minimise the impacts on the biodiversity and other values of native vegetation, and how these efforts focussed on areas of native vegetation that have the most value.	Refer to Section 7.2
6	A copy of any Property Vegetation Plan contained within an agreement made pursuant to section 69 of the *Conservation, Forests and Lands Act 1987* that applies to the native vegetation to be removed.	Not applicable
7	Where the removal of native vegetation is to create defendable space, a written statement explaining why the removal of native vegetation is necessary. This statement must have regard to other available bushfire risk mitigation measures. This statement is not required when the creation of defendable space is in conjunction with an application under the Bushfire Management Overlay.	Not applicable as the vegetation clearance is not for defendable space
8	If the application is under Clause 52.16, a statement that explains how the proposal responds to the Native Vegetation Precinct Plan considerations at decision guideline 8.	Not applicable as the application responds to Clause 52.17
9	An offset statement providing evidence that an offset that meets the offset requirements for the native vegetation to be removed has been identified and can be secured in accordance with the Guidelines.	Refer to Section 5.3

No.	Application Requirement	Response
10	A site assessment report of the native vegetation to be removed, including: • A habitat hectare assessment of any patches of native vegetation, including the condition, extent (in hectares), Ecological Vegetation Class and bioregional conservation status. • The location, number, circumference (in centimetres measured at 1.3 metres above ground level) and species of any large trees within patches. The location, number, circumference (in centimetres measured at 1.3 metres above ground level) and species of any scattered trees, and whether each tree is small or large.	Refer to Figure 2, Appendix 1.2 (habitat hectares assessment) and Appendix 1.3 (tree information)
11	Information about impacts on rare or threatened species habitat, including the relevant section of the Habitat importance map for each rare or threatened species requiring a species offset.	Refer to Section 3.3 and Appendix 4 (NVR Report)

1 INTRODUCTION

1.1 Background

Ecology and Heritage Partners Pty Ltd was commissioned by Venn Energy Pty Ltd to undertake a Biodiversity Assessment and Targeted Flora and Fauna Surveys for the proposed Cooba Solar Project at 124 Cornella Church Road, Colbinabbin, Victoria.

We understand that Venn Energy Pty Ltd have submitted a planning application (PA2302456) in order to facilitate future development works for a solar farm, including solar panels, overhead transmission lines, Substation, Switchyard, Battery Energy Storage System (BESS), firefighting easements, internal access tracks, access and egress points into the development area and road upgrades along Heathcote-Rochester Road.

The purpose of this assessment was to identify the extent and type of native vegetation present within the study area and to determine the likely presence of significant flora and fauna species and/or ecological communities. This report presents the results of the assessment and discusses the potential ecological and legislative implications associated with the proposed action.

1.2 Study Area

The study area is located at 124 Cornella Church Road, Colbinabbin and is approximately 150 kilometres north of Melbourne's CBD (Figure 1). The study area covers approximately 1,147 hectares and is bound by Cornella Creek to the east, Heathcote-Rochester Road to the West and agricultural properties in all other directions.

The study area is also an agricultural property and is currently used for grazing and cropping. The study area is mostly flat, with a gentle slope from west to east in the western portion of the property. Yallagalorrah Creek intersects the centre of the study area, running north-south, and a modelled wetland is in the southern portion. The property is used for mixed-agricultural purposes, including crop farming and livestock grazing. Several dams are scattered throughout the property.

A salinity discharge area is located in the north-west of the study area (Plate 1). The area of land, where the salinity discharge overlay occurs, has previously been used for agricultural purposes, primarily cropping and livestock grazing, and the area is prone to seasonal inundation. Trees were previously planted in the north-west of the site (Plate 2); however, it was confirmed with the landowner that these trees did not occur as part of a government program for land degradation and were not planted for the purposes of mitigating salinity. The trees have already been removed from the site by the landowner for the purpose of firewood.

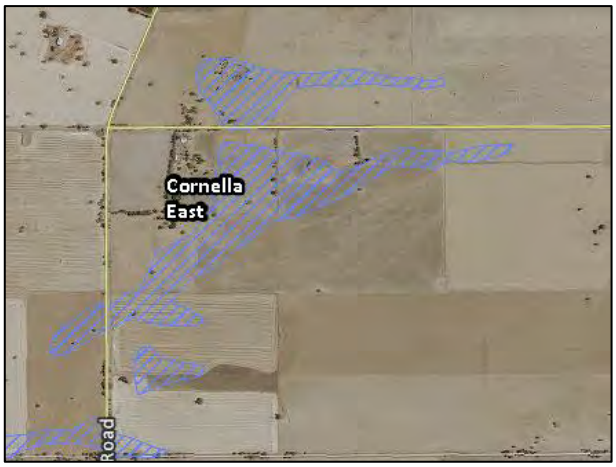


Plate 1. Salinity Discharge Overlay in the north-west of the study area (Mapshare 2024).

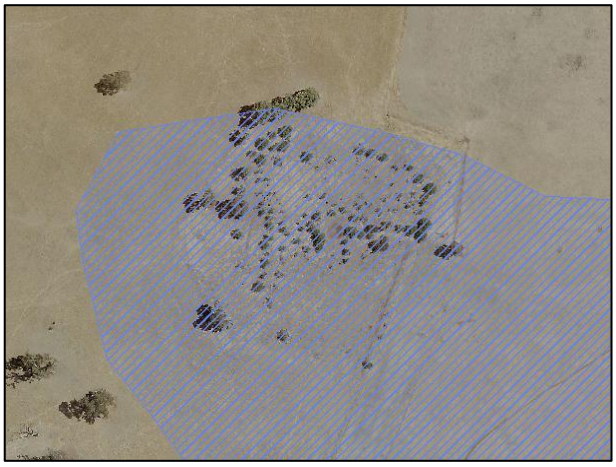


Plate 2. Previously planted trees which have now been removed (Mapshare 2024).

According to the Department of Energy, the Environment and Climate Action (DEECA) NatureKit Map (DEECA 2024a), the study area is located within the Victorian Riverina bioregion, Goulburn Broken Catchment Management Authority (CMA) and Campaspe Shire Council.

2 TARGET SPECIES DESCRIPTIONS

2.1 EPBC Act-listed Species

2.1.1 Spiny Rice-flower *Pimelea spinescens* subsp. *spinescens*

EPBC Act Conservation Status: Critically Endangered

FFG Act Conservation Status: Critically Endangered

Plate 3. Spiny Rice-flower (Ecology and Heritage Partners Pty Ltd)

Spiny Rice-flower is endemic to Victoria and occurs in grasslands habitats including native temperate grasslands, grassy woodlands and open shrublands (Plate 3). It is known to occur in basalt-derived soils in south-western Victoria and sedimentary soils in north-central Victoria. In the southern portion of its range, Spiny Rice-flower often occurs in habitats where the ground layer is commonly dominated by native grasses such as Kangaroo Grass *Themeda triandra*, Wallaby Grass *Rhytidosperma* spp. and Spear Grass Austrostipa spp., while in the north it generally occurs in habitats dominated by Wallaby Grass or Spear Grass (DEWHA 2009).

It has been depleted historically by land clearance for settlement, industry and agriculture but is also threatened by grazing and inappropriate fire regimes.

The species is slow-growing and reaches up to 30 cm in height. Plants are mostly dioecious (male and female flowers on separate plants) but some plants are monoecious (male and female flower on same plant). It bears small yellow flowers between April and August (DEWHA 2009)

2.1.2 Brown Treecreeper *Climacteris picumnus victoriae*

EPBC Act Conservation Status: Vulnerable

FFG Act Conservation Status: N/A

Brown Treecreeper *Climacteris picumnus victoriae* (Plate 4) is Australia's largest treecreeper with a grey-brown back, its front streaked black and white and black bars on the undertail. The face is pale, with a dark line through the eye, and a dark crown. Sexes differ slightly with small patches of black and white streaking on the centre of the uppermost breast on males, while the females have rufous and white streaking on their breast (Higgins et. al 2001).

Plate 4. Brown Treecreeper (Source: Canberra Birds 2023)

In Victoria the Brown Treecreeper breeds between August and November (DEC 2005b). The species nests in hollows, usually in eucalypts but sometimes also acacias. Nests are thickly woven and can be constructed from a combination of grass, twigs, bark, leaves, paper, hair, fur or even snakeskin. Between two and four eggs are laid and incubated by the female only while the male feeds the female for several days after the young have hatched (Higgins et. al 2001).

In Victoria the Brown Treecreeper is widely distributed throughout the north and as far south as Wodonga, Seymour and Dergholm (Higgins et. al 2001). The species mostly inhabits woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understorey, sometimes with one or more shrub species but not in areas with a dense woody shrub layer (DEC 2005b). Brown Treecreeper forages both on the ground and in trees, with up to 80% of their diet comprising ants with the remainder consisting of other invertebrates such as beetles and occasionally sap and nectar.

Brown Treecreeper is threatened by clearance and fragmentation of woodland habitat, including removal of dead timber and the loss of hollow-bearing trees, with isolation leading to local extinctions. The species appears unable to maintain viable populations in remnant vegetation less than 200 hectares and its abundance decreases as remnant size decreases (DEC 2005b).

2.2 FFG Act-listed Species

2.2.1 Late-flower Flax-lily *Dianella tarda*

EPBC Act Conservation Status: Not Listed

FFG Act Conservation Status: Critically Endangered

Late-flower Flax-lily *Dianella tarda* (Plate 5) is a perennial herbaceous plant that is native to the eastern coast of Australia, where it can be found growing in a variety of habitats including rainforests, woodlands, and heathlands. The plant typically grows to a height of 0.3 to 0.5 meters and has long, narrow leaves that are arranged in a basal rosette. The leaves are typically blue-green in colour and can grow up to 60 cm in length.

Plate 5. Late-flower Flax-lily (Ecology and Heritage Partners)

Dianella tarda produces clusters of small, star-shaped flowers that are typically purple in colour, although they can also be white or blue. The flowers are followed by small, spherical berries that are blue or purple in colour and contain small, black seeds. The flowering period for this species typically occurs from November to January.

2.2.2 Buloke *Allocasurina luehmannii*

EPBC Act Conservation Status: Not Listed

FFG Act Conservation Status: Critically Endangered

Buloke *Allocasuarina luehmannii* (Plate 6) is native to Australia, particularly found in the woodlands of the Mallee region in Victoria and South Australia (DSEWPC 2016). Buloke is characterized by its unique growth habit, with an open, spreading canopy and a gnarled trunk, often reaching heights of up to 15 meters. The foliage of Buloke is composed of fine, needle-like leaves that are typically bluish-green in colour. Its bark is rough, grey, and deeply furrowed, offering resilience to fire and other environmental stressors.

Plate 6. Buloke (Ecology and Heritage Partners)

The seeds of Buloke serve as a food source for birds, including the endangered South Australian glossy black-cockatoo (DSEWPC 2016). Moreover, Buloke trees have a unique root structure that aids in fixing nitrogen in the soil, enhancing its fertility and benefiting surrounding plant communities. Buloke faces threats due to land clearing, habitat fragmentation, and altered fire regimes, leading to a decline in its population and distribution.

2.2.3 Velvet Daisy-bush *Olearia pannosa* subsp. *cardiophylla*

EPBC Act Conservation Status: Not Listed

FFG Act Conservation Status: Endangered

Velvet Daisy-bush *Olearia pannosa* subsp. *cardiophylla* is a native shrub native to specific regions of Victoria, with populations found in and near the Brisbane Ranges National Park, near Geelong, coastal woodland near Anglesea, Wedderburn and Rushworth (DSE 2003). This species is known for its distinctive velvety foliage and daisy-like flowers. Characterized by its dense and rounded growth habit, Velvet Daisy-bush typically reaches heights between 0.5 to 1.5 meters, forming a compact shrub. It has ovate-oblong leaves about 30–120 mm long and 18–65 mm wide that are mostly hairless above at maturity but densely covered with short whitish or yellowish hairs below (DSE 2003). The flower heads are 35–75 mm diameter, with white ray florets and yellow disc florets.

During the flowering season, which generally occurs in late spring to early summer, Velvet Daisy-bush produces an array of daisy-like flowers with delicate white petals surrounding a yellow center, which attract pollinators such as bees and butterflies (DSE 2003). Due to its limited distribution and specific habitat requirements, the Velvet Daisy-bush faces threats related to habitat degradation, invasive species, and land use changes

2.2.4 Brushtailed Phascogale *Phascogale tapoatafa*

EPBC Act Conservation Status: Not Listed

FFG Act Conservation Status: Endangered

The Brush-tailed Phascogale *Phascogale tapoatafa* (Plate 7) is a small (100-300g) carnivorous, arboreal, marsupial from the Dasyurid Family. It is nocturnal with a sharp snout, dark grey fur on its head and neck, creamy white fur on its underside and grey-pink naked ears. The distinctive 'bottle-brush' tail, is approximately the same length as head-body length, and has black hairs up to 55 centimetres long, and short, dark grey hairs near the base (Menkhorst and Knight 2004).

Plate 7. Brushtail Phascogale (Ecology and Heritage Partners).

The species has been recorded in dry forest and woodland, predominantly with box, iron-bark, and stringy-bark eucalypts, in wetter habitats, farmland and roadsides with remnant tree cover (Menkhorst 1995). Traill and Coates (1993) recorded Brush-tailed Phascogale foraging primarily in arboreal habitats. The diet consists predominantly of large insects, spiders and centipedes, found on trunks, branches and fallen logs of rough-barked trees, as well as nectar of flowering iron-bark and box eucalypts.

Mating usually occurs between May and June, after which all the males die within a few days of each other at about one year old (Menkhorst 1995). Females give birth to a litter of 5-8 young (Jun - Aug), which are carried for about seven weeks, and then left in a tree-hollow nest until weaned (DSE 1997).

The Brush-tailed Phascogale nests in numerous sites each year, with a trend over time for a continued increase in nest trees identified by Van der Ree *et al.* (2006). Nests are constructed in tree hollows, stumps and under flaking bark.

2.2.5 Squirrel Glider *Petaurus norfolcensis*

EPBC Act Conservation Status: Not Listed

FFG Act Conservation Status: Vulnerable

Squirrel Glider *Petaurus norfolcensis* (Plate 8) is a small arboreal marsupial in the family Petauridae. The species is native to eastern Australia, occuring from northern Queensland, eastern New South Wales to western Victoria (MCMA 2009). The species nests in the hollows of trees or stags and inhabits a range of forested habitats, including eucalyptus woodlands and rainforests (Menkhorst & Knight, 2011). Squirrel Gliders are primarily nocturnal, and they feed on a diet consisting of nectar, pollen, insects, and tree sap.

Plate 8. Squirrel Glider (Ecology and Heritage Partners Pty Ltd)

Breeding often occurs in late autumn to early spring, however it can occur throughout the year. Females birth 1-2 young per litter and in some years can rear two litters. Juveniles are weaned from about 5 months and become independent at 12 months. The species may live for up to five years (MCMA 2009).

The Squirrel Glider has a bushy, squirrel-like tail, which it uses for balance and gliding between trees. Its fur varies in colour from grey to brown, with a cream-coloured belly, and typically exhibiting a dorsal stripe. Squirrel Glider is adapted for their arboreal lifestyle, possessing strong hindlimbs with specialised gliding membranes, known as patagia, which enable them to glide efficiently between trees, covering distances of up to 100 meters, however 30 to 50 metres is more typical (MCMA 2009). They are social animals, often forming small family groups, and communicate with each other using a range of vocalizations, including chattering and hissing sounds.

Threats to the species, include habitat loss due to deforestation and urbanization, as well as predation by introduced species such as cats and foxes (DEE 2016).

3 METHODS

3.1 Relevant State and Commonwealth Legislation

Throughout the assessment process, consideration has been given to the following Commonwealth and Victorian environmental policy and legislation.

- *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act);
- *Environmental Effects Act 1978* (EE Act);
- *Flora and Fauna Guarantee Act 1988* (FFG Act);
- *Planning and Environment Act 1987* (P&E Act);
    - Guidelines for the removal, destruction and lopping of native vegetation (DELWP 2017);
- Campaspe Planning Scheme, including:
    - Clause 12.01-1S Protection of Biodiversity;
    - Clause 12.01-2S Native Vegetation Management;
    - Clause 52.17 Native Vegetation; and,
    - Clause 53.13 Renewable Energy Facility (Other Than Wind Energy Facility).
- Solar Energy Facilities Design and Development Guidelines (DELWP 2022);
- *Wildlife Act 1975* (Wildlife Act); and,
- *Catchment and Land Protection Act 1994* (CaLP Act).

3.2 Desktop Assessment

Relevant literature, online-resources and databases were reviewed to provide an assessment of flora and fauna values associated with the study area. The following information sources were reviewed:

- The DEECA NatureKit Map (DEECA 2024a) and Native Vegetation Regulation (NVR) Map (DEECA 2024b) for:
    - Modelled data for location risk, native vegetation patches, scattered trees and habitat for rare or threatened species; and,
    - The extent of historic and current Ecological Vegetation Classes (EVCs).
- EVC benchmarks (DEECA 2024c) for descriptions of EVCs within the relevant bioregion;
- The Victorian Biodiversity Atlas (VBA) for previously documented flora and fauna records within the project locality (DEECA 2023a);

- The Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) Protected Matters Search Tool (PMST) for matters of National Environmental Significance (NES) protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (DCCEEW 2024);
- Relevant listings under the Victorian *Flora and Fauna Guarantee Act 1988* (FFG Act), including the latest Threatened (DEECA 2024e) and Declared Protected Flora (DEECA 2024f) lists;
- The online VicPlan Map (Department of Transport and Planning [DTP] 2024) to ascertain current zoning and environmental overlays in the study area; and,
- Aerial photography of the study area.

3.3 Field Assessment

Field assessments were undertaken on 8 - 11 of November 2021, 24 May 2023 and 23 July 2024 to obtain information on flora and fauna values within the study area. The study area was walked, with all commonly observed vascular flora and fauna species recorded, significant records mapped, and the overall condition of vegetation and habitats noted. Ecological Vegetation Classes (EVCs) were determined with reference to DEECA pre-1750 and extant EVC mapping (DEECA 2024a) and their published descriptions (DEECA 2024c).

Where native vegetation was identified a habitat hectare assessment was undertaken following methodology described in the Vegetation Quality Assessment Manual (Department of Sustainability and Environment (DSE) 2004).

3.3.1 Targeted Flora Surveys

Targeted flora surveys were undertaken by two experienced botanists, to coincide with the known flowering period for significant species, including:

- Spiny Rice-flower (21 - 23 August 2023); and,
- Late-flower Flax-lily and Velvet Daisy-bush (13 - 16 November 2023).

Surveys were undertaken using the following standards as outlined in the *Biodiversity Precinct Structure Planning Kit* (DSE 2010):

- Targeted surveys were conducted by people familiar with recognising the species;
- The survey effort was directed to all potential habitat areas (i.e. remnant grassland/woodland and the degraded grassy areas surrounding the remnant patches);
- Transects were walked at five-metre intervals through high quality potential habitat; and,
- Where found, locations of the species' were recorded by GPS (accuracy of +/- three metres) and the number of plants was totalled.

Areas of suitable habitat within the study area were systematically traversed at approximately five-metre intervals, with any significant records mapped. In areas where there was little to no cover of native grasses and/or the understorey was highly disturbed through soil disturbance from cropping or other land uses, the

transect intervals were increased to over five metres, as there was considered to be very low to no likelihood of significant species' occurring in these areas.

A reference site (approximately 2 Kilometres south of the study area) known to support a population of the Spiny Rice-flower was used to confirm that the species was flowering at the time of the surveys, providing evidence that the survey was conducted at a suitable time to maximise the likelihood of detection of the species within the study area. Additionally, all surveys were conducted during the suitable survey period (i.e. when they were flowering) for relevant flora species'.

3.3.2 Targeted Fauna Surveys

The following surveys for fauna were undertaken by two experienced ecologists, including:

- Fixed Point Bird Count and Roaming Surveys (Diurnal) (21 to 22 August, 2 to 3 October, and 13 to 16 November 2023); and,
- Remote Infrared Cameras (10 October to 13 November 2023) – Brushtailed Phascogale and Squirrel Glider.

3.3.3 Fixed Point Bird Counts and Roaming Surveys (Diurnal bird surveys)

Two zoologists, experienced in bird identification, undertook fixed-point counts (Figure 6) on 21 to 22 August, 2 to 3 October, and 13 to 16 November to the specifications outlined below.

The following was undertaken as part of fixed-point bird counts and roaming surveys targeting flowering eucalypts:

- Six fixed-point locations were chosen prior to surveys commencing. The locations were chosen to ensure that the entire study area is sampled appropriately and located in areas close to flowering eucalypts where woodland species are likely to occur and rivers where water birds may occur. A full range of habitat types were represented in the fixed-point count sample;
- The search radius from the point included at least 100 metres for small birds and up to 800 metres for large birds (e.g. birds of prey, waterbirds), or further, if accurate identification to species level was achievable, using prominent landmarks;
- The duration of each fixed-point count was approximately 20 minutes;
- 10 × 42 binoculars were used to identify species';
- Observers undertook roaming surveys which involved driving slowly through the study area, stopping periodically to search for woodland birds and significant species such as Brown Treecreeper; and,
- Roaming surveys enable the detection of significant species and species with specialised habitat requirements.

3.3.4 Remote Infrared Cameras Surveys

Targeted surveys for Brush-tailed Phascogale and Squirrel Glider surveys were undertaken using remote infrared cameras in accordance with the Survey Guidelines for Australia's Threatened Species (DSEWPaC 2013).

Surveys were undertaken over a four-week period between 10 October to 13 November 2023. A total of 10 cameras (Reconyx®) were deployed, baited and fastened in the branching area of trees. The study area was inspected prior to setting the cameras to define areas of suitable habitat for target species. Hair tubes were orientated along a branch approximately two metres in front of the camera. Cameras were set to record an image each time the motion sensor was triggered, both day and night. The remote camera locations are shown in Figure 6. Surveys were conducted after rainfall events (i.e. cameras placed out a day after rain). Images from the cameras were uploaded to a computer and a qualified zoologist examined all images to record fauna species present.

3.4 Removal, Destruction or Lopping of Native Vegetation (the Guidelines)

Under the *Planning and Environment Act 1987,* Clause 52.17 of the Campaspe Planning Scheme requires a planning permit to remove, destroy or lop native vegetation. The assessment process for the clearing of vegetation follows the '*Guidelines for the removal, destruction or lopping of native vegetation*' (the Guidelines) (DELWP 2017). The '*Assessor's handbook: Applications to remove, destroy or lop native vegetation*' (Assessor's handbook) (DELWP 2018) provides clarification regarding the application of the Guidelines (DELWP 2017).

3.4.1 Assessment Pathway

The Guidelines manage the impacts on biodiversity from native vegetation removal using an assessment-based approach. Two factors – extent risk and location category – are used to determine the risk associated with an application for a permit to remove native vegetation. The location category (1, 2 or 3) has been determined for all areas in Victoria and is available on DEECA's NVIM Tool (DEECA 2024b). Determination of assessment pathway is summarised in Table 1.

Table 1. Assessment pathways for applications to remove, destroy or lop native vegetation (DELWP 2017).

Extent		Location		
		1	2	3
Native Vegetation	Less than 0.5 hectares and not including any large trees	Basic	Intermediate	Detailed
	Less than 0.5 hectares and including one or more large trees	Intermediate	Intermediate	Detailed
	0.5 hectares or more	Detailed	Detailed	Detailed

Notes: For the purpose of determining the assessment pathway of an application to remove native vegetation the extent includes any other native vegetation that was permitted to be removed on the same contiguous parcel of land with the same ownership as the native vegetation to be removed, where the removal occurred in the five year period before an application to remove native vegetation is lodged.

3.4.2 Vegetation Assessment

Native vegetation (as defined in Table 2) is assessed using two key parameters: extent (in hectares) and condition. For the purposes of this assessment, both condition and extent were determined as part of the habitat hectare assessment.

Table 2. Determination of a patch of native vegetation (DELWP 2017).

Category	Definition	Extent	Condition
Patch of native vegetation	An area of vegetation where at least 25 per cent of the total perennial understorey plant cover is native; OR An area with three or more native canopy trees where the drip line of each tree touches the drip line of at least one other tree, forming a continuous canopy; OR any mapped wetland included in the Current Wetlands map, available in DELWP systems and tools.	Measured in hectares. Based on hectare area of the native patch.	Vegetation Quality Assessment Manual (DSE 2004). Modelled condition for Current Wetlands.
Scattered tree	A native canopy tree that does not form part of a native patch.	Measured in hectares. Each Large scattered tree is assigned an extent of 0.071 hectares (15m radius). Each Small scattered tree is assigned a default extent of 0.031 hectares (10 metre radius)	Scattered trees are assigned a default condition score of 0.2 (outside a patch).

Notes: Native vegetation is defined in the Victoria Planning Provisions as 'plants that are indigenous to Victoria, including trees, shrubs, herbs and grasses'.

3.4.3 Impact Avoidance and Minimisation

All applications to remove native vegetation must demonstrate the three-step approach of avoid, minimise and offset. This is a precautionary approach that aims to ensure that the removal of native vegetation is restricted to what is reasonably necessary, and that biodiversity is appropriately compensated for any native vegetation removal that is approved.

3.4.4 Offsets

Biodiversity offsets are required to compensate for the permitted removal of native vegetation. Offset obligations and offset site criteria are determined in accordance with the Guidelines (DELWP 2017) and are divided into two categories; General Habitat Units and Species Habitat Units.

The offset requirements for native vegetation removal are calculated by DELWP and presented in a Native Vegetation Removal (NVR) Report, which are based on the vegetation condition scores determined during the biodiversity assessment.

3.5 Assessment Qualifications and Limitations

This report has been written based on the quality and extent of the ecological values and habitat considered to be present or absent at the time of the desktop and/or field assessments being undertaken.

The May 2023 field assessment was undertaken during a sub-optimal season for the identification of flora and fauna species (i.e. late-autumn). The 'snapshot' nature of a standard biodiversity assessment meant that

migratory, transitory or uncommon fauna species may have been absent from typically occupied habitats at the time of the field assessment. In addition, annual or cryptic flora species such as those that persist via underground tubers may also be absent.

A comprehensive list of all terrestrial flora and fauna present within the study area was not undertaken as this was not the objective of the assessment. Rather a list of commonly observed species was recorded to inform the habitat hectare assessment and assist in determining the broader biodiversity values present within the study area.

Ecological values identified within the study area were recorded using a hand-held GPS or tablet with an accuracy of +/-3 metres. This level of accuracy is considered to provide an accurate assessment of the ecological values present within the study area; however, this data should not be used for detailed surveying purposes.

The terrestrial flora and fauna data collected during the field assessment and information obtained from relevant desktop sources is considered to adequately inform an accurate assessment of the ecological values present within the study area.

4 RESULTS

4.1 Vegetation Condition

Several patches of native vegetation were recorded along the roadsides and creek-lines, and many scattered native trees were recorded within the study area. However, the majority of the study area comprised introduced pasture grass and cereal crops, with windrow and ornamental plantings also observed.

Forty-five (45) flora species were observed within the study area, including 20 indigenous and 25 non-indigenous species. A list of all flora species recorded during the field assessment are provided in Appendix 1.1.

4.1.1 Patches of Native Vegetation

Native vegetation in the study area was representative of two EVCs: Creekline Grassy Woodland (EVC 68) and Plains Woodland (EVC 803). The presence of these EVCs is generally consistent with the modelled extant (2005) native vegetation mapping (DEECA 2024a). Specific details relating to the observed EVC are provided below.

The results of the habitat hectare assessment are provided in Appendix 1.2.

Creekline Grassy Woodland

Creekline Grassy Woodland (CGW) is characterised as a eucalypt-dominated woodland to 15-metres tall (DEECA 2024c). The ground layer typically contains a diverse assortment of grasses, sedges and herbs, with shrub layer generally being diverse but scattered. Species are often categorized as being tolerant of waterlogged soils.

Modified examples of Creekline Grassy Woodland within the study area were present along the two creeklines within the study area, Cornella Creek in the east and Yallagalorrah Creek, through the central portion of the study area. Creekline Grassy Woodland was dominated by a canopy of River Red Gum *Eucalyptus camaldulensis* over an understorey generally dominated by exotic pasture grasses. Several small areas (mostly less than 0.1ha), contained Wallaby Grasses *Rytidosperma* spp., accounting for up to 50% ground cover (Plate 9 - Plate 11; Figure 2). CGW2 was also dominated by a River Red-gun canopy over a low diversity understorey dominated by exotic pasture grasses (Plate 12; Figure 2).

Plate 9. Creekline Grassy Woodland (CGW1 on Figure 2) associated with Yallagalorrah Creek, north of Myola Road (Ecology and Heritage Partners Pty Ltd 08/11/2021).

Plate 10. Creekline Grassy Woodland (CGW1 on Figure 2) associated with Yallagalorrah Creek, north of Myola Road (Ecology and Heritage Partners Pty Ltd 10/11/2021).

Plate 11. Creekline Grassy Woodland (CGW1 on Figure 2) associated with Yallagalorrah Creek, south of Myola Road (Ecology and Heritage Partners Pty Ltd 08/11/2021).

Plate 12. Creekline Grassy Woodland (CGW2 on Figure 2) associated with Cornella Creek (Ecology and Heritage Partners Pty Ltd 10/11/2021).

Plains Woodland

Plains Woodland (PW) is characterised by open woodland with eucalypts to 15-metres tall. The ground layer contains a diverse assortment of grasses and herbs, with chenopods occasionally occurring and the shrub layer typically being sparse (DEECA 2024c).

Within the study area, Plains Woodland was present as small, isolated and highly modified patches of native vegetation. Along the roadsides (i.e. Plain Road, Myola Road and Davey road), Plains Woodland was present in contiguous linear patches. Patches of Plains Woodland were characterised by a canopy of Grey Box *Eucalyptus microcarpa* and/or Buloke *Allocasuarina luehmannii* over a predominantly exotic understorey. Yellow Gum *Eucalyptus leucoxylon* was also present and occasionally dominant. The understorey was typically dominated by exotic pasture grasses. Plains Woodland was present within the roadside adjacent to the study area, comprised of a canopy of Grey Box over a predominantly exotic understorey, with Wallaby Grass and Spear Grass *Austrostipa* spp. present in low numbers (Plate 13). Several patches of highly modified Plains Woodland-derived native grassland were recorded in the north-west and north-east of the study area along

Cornella Church Road, predominantly comprising of Wallaby-grass (scattered Spear-grass was sporadically observed) to 40-50% of the perennial cover (eg. PW2, PW6). Patch PW4 occurred within a modelled wetland, and comprised of planted native and indigenous species with remnant/self-seeding specimens (Plate 16). PW4 occurred in a drainage line and had been fenced off to exclude stock.

Representative photographs of Plains Woodland patches are outlined below (Plate 13 - Plate 22)

Plate 13. PW1 containing Wallaby Grass adjacent to the study area (Ecology and Heritage Partners Pty Ltd 08/11/2021).

Plate 14. A patch of PW3 containing Large Trees (Ecology and Heritage Partners Pty Ltd 09/11/2021).

Plate 15. A patch of PW5 containing Spear Thistle within the understorey (Ecology and Heritage Partners Pty Ltd 09/11/2021).

Plate 16. PW4 comprised of planted and remnant vegetation (Ecology and Heritage Partners Pty Ltd 10/11/2021).

Plate 17. A Patch of PW11 along Cornella Church Road, containing exotic pasture grasses in the understorey (Ecology and Heritage Partners Pty Ltd 26/05/2023).

Plate 18. A patch of PW8 containing Wallaby Grass and Spear Grass in the understorey (Ecology and Heritage Partners Pty Ltd 26/05/2023).

Plate 19. A patch of PW8 along Plain Road, containing Grey-box and a native understorey (Ecology and Heritage Partners Pty Ltd 26/05/2023).

Plate 20. A patch of PW 7 along Cornella Church Road comprised of planted and remnant vegetation (Ecology and Heritage Partners Pty Ltd 26/05/2023).

Plate 21. A patch of PW7 along Cornella Church Road (Ecology and Heritage Partners Pty Ltd 26/05/2023).

Plate 22. A patch of PW16 along Davey Road comprised of Kangaroo Grass, Wallaby Grass and Spear Grass (Ecology and Heritage Partners Pty Ltd 26/05/2023).

4.1.2 *Large Trees in Patches*

600 Large Trees in Patches were identified as part of this assessment, including Buloke, Grey Box, River Red-gum, Yellow Box *Eucalyptus melliodora* and Yellow Gum. River Red-gum was typically associated with Creekline Grassy Woodland patches. Buloke, Grey Box, Yellow Box and Yellow Gum were generally associated with Plains Woodland patches (Plate 23 - Plate 28; Appendix 1.3).

Plate 23. A large River Red-gum within a patch of CGW1 (Ecology and Heritage Partners Pty Ltd 09/11/2021).

Plate 24. A large Yellow Gum within a patch of PW5 (Ecology and Heritage Partners Pty Ltd 10/11/2021).

Plate 25. Large River Red-gums within a patch of CGW1 (Ecology and Heritage Partners Pty Ltd 09/11/2021).

Plate 26. A large River Red-gum within a patch of CGW1 (Ecology and Heritage Partners Pty Ltd 10/11/2021).

Plate 27. A large River Red-gum within a patch of PW8 along Plain Road (Ecology and Heritage Partners Pty Ltd 26/05/2023).

Plate 28. A large Yellow Gum within a patch of PW5 (Ecology and Heritage Partners Pty Ltd 26/05/2023).

4.1.3 Scattered Trees

A total of 282 scattered trees (Buloke, Yellow Box, Grey Box, Yellow Gum, River Red-gum and dead eucalypt stags) were recorded within and adjoining the study area, which consisted of 225 scattered large trees and 57 small scattered trees (Plate 29 - Plate 34; Figure 2; Appendix 1.3). These trees would have once formed part of the Plains Woodland EVC; however, the understorey vegetation contained predominantly introduced species (mainly exotic pasture grasses) and the trees no longer formed a patch of native vegetation.

Plate 29. Two large scattered trees (Trees 98 and 99 on Figure 2i) within the study area, west of Yallagalorrah Creek (Ecology and Heritage Partners Pty Ltd 09/11/2021).

Plate 30. Large scattered Buloke (Tree 125 on Figure 2n) in the central portion of the study area, north of Myola Road (Ecology and Heritage Partners Pty Ltd 09/11/2021).

Plate 31. Two large scattered Bulokes (Trees 6 and 7 on Figure 2n) in the central portion of the study area, north of Myola Road (Ecology and Heritage Partners Pty Ltd 09/11/2021).

Plate 32. A Large scattered trees in the south of the study area, near Davey Road (Ecology and Heritage Partners Pty Ltd 10/11/2021).

Plate 33. A large scattered River Red Gum within the study area (Ecology and Heritage Partners Pty Ltd 10/11/2021).

Plate 34. A Large scattered trees within the study area, west of Yallagalorrah Creek (Ecology and Heritage Partners Pty Ltd 10/11/2021).

4.1.4 Introduced and Planted Vegetation

A large majority of the study area (>90%) contained exotic pasture grass and cereal crops (Plate 35), with the main pasture species being Perennial Rye-grass *Lolium perenne*. Some portions of the study area were actively cropped while others were grazed by livestock . Ornamental plantings and windrows were present in the vicinity of dwellings and sheds. Scattered native grasses and rushes were occasionally present in the cropped paddocks (i.e. 1-5% cover); however, it was predominantly dominated exotic pasture-grasses or cereal crops (Plate 35; Plate 36). Cropped paddocks did not have the 25% relative cover of perennial understorey plant cover to be considered a patch of native vegetation.

Scattered native grasses and rushes were occasionally present in areas grazed by livestock (i.e. 5-10% cover); however, areas outside of patches of native vegetation did not have the required 25% relative perennial cover to be considered a patch of native vegetation. In the grazed paddocks, native vegetation and native grasses occasionally occurred along the boundaries of the paddocks and creek-lines, particularly if adjacent to existing patches of native vegetation along the roadsides (Figure 2p). The internal areas of the paddocks generally contained a higher cover of exotic grasses (Plate 37; Plate 38).

Exotic pasture grasses and exotic vegetation also occurred along the roadsides, predominantly outside of patches of native vegetation where the cover of native grasses was lower (i.e. 5--15%)(Plate 39).

Noxious weeds, as defined under the CaLP Act, were present within the study area, with Spear Thistle *Cirsium vulgare* and Soursob Oxalis *pes-caprae* present in limited numbers within the study area (Plate 40).

Plate 35. Harvested crop within the paddocks (Ecology and Heritage Partners Pty Ltd 08/11/2021).

Plate 36. Harvested cropped paddock, west of Yallagalorrah Creek (Ecology and Heritage Partners Pty Ltd 10/11/2021).

Plate 37. Livestock grazed paddock, west of Yallagalorrah Creek, dominated by exotic grasses (Ecology and Heritage Partners Pty Ltd 08/11/2021).

Plate 38. Livestock grazed paddock in the south of the site, adjacent to Davey Road, dominated by exotic grasses (Ecology and Heritage Partners Pty Ltd 10/11/2021).

Plate 39. Exotic vegetation located in the west of Myola Road (west of PW19 on Figure 2m) (Ecology and Heritage Partners Pty Ltd 08/11/2021).

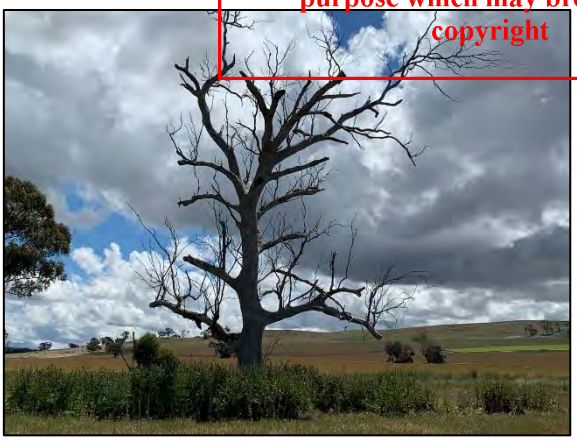


Plate 40. Spear Thistle infestation around the base of a scattered tree (Ecology and Heritage Partners Pty Ltd 10/11/2021).

4.2 Fauna Habitat

Most of the study area consisted of paddocks, which contained improved exotic pastures, likely to be used as a foraging resource by common generalist bird species that are tolerant of modified open areas. Patches of native grassland occur throughout the study area. These vary in quality and floristic composition according to grazing regimes and historical land use. Habitat attributes of the native grassland are suitable for an array of common native fauna, including snakes, lizards and skinks, and grassland birds.

Birds observed using this habitat included Australian Wood Duck *Chenonetta jubata*, Galah *Eolophus roseicapilla,* Northern Mallard *Anas platyrhynchos*, Pacific Black Duck *Anas superciliosa*, Little Raven *Corvus mellori,* Australian Magpie *Cracticus tibicen*, Willie Wagtail *Rhipidura leucophrys*, Eastern Rosella *Platycercus eximius,* Sulphur-crested Cockatoo *Cacatua galerita*, Red Wattlebird *Anthochaera carunculate*, White-necked Heron *Ardea pacifica*, Black Kite *Milvus migrans*, Pied Heron *Ardea picata*, Dusky Woodswallow *Artamus cyanopterus*, Common Sandpiper *Actitis hypoleucos*, Little Corella *Cacatua sanguinea*, White-faced Heron *Egretta novaehollandiae*, Rainbow Lorikeet *Trichoglossus moluccanus*, Pied Currawong *Strepera graculina*, White-wing Chough *Corcorax melanorhamphos* and Whistling Kite *Haliastur sphenurus*. Several Frogs were heard calling along the creeklines during this assessment, including Eastern Common Froglet *Crinia signifera*, Striped Marsh Frog *Limnodynastes peronii* and Eastern Banjo Frog *Limnodynastes dumerilii*.

Several common invasive species were recorded in the study area, including Red Fox *Vulpes Vulpes*, Cat *Felis catus,* European Rabbit *Oryctolagus cuniculus*, European Hare *Lepus europaeus* and Common Myna *Acridotheres tristis.*

4.3 Significance Assessment

4.3.1 Flora

The VBA contains records of one nationally significant (i.e. EPBC Act-listed) and 15 State significant (i.e. FFG Act-listed) flora species previously recorded within 10 kilometres of the study area (DEECA 2023a) (Figure 3), and none of these previous records were located within the study area. The PMST nominated an additional 10

nationally significant species which have not been previously recorded but have the potential to occur in the locality (DCCEEW 2024) (Appendix 1.4).

Buloke, listed as critically endangered under the FFG Act (DEECA 2024e), was recorded within the study area. 89 Bulokes were present within the study area, including nine identified as Large Trees within patches of native vegetation and 32 identified as scattered Large Trees in areas of existing pasture (Appendix 1.3). Of these, 11 Bulokes are proposed to be directly impacted by the implementation of the Solar Array.

Targeted flora surveys were undertaken in winter (Spiny Rice-flower) and spring (FFG Act protected and listed species) within areas of suitable habitat within the impact footprint (Creekline Grassy Woodland and roadside Plains Woodland remnants) (See Section 4.4.1). However no additional State or nationally significant flora (i.e. listed threatened species) were recorded (Figure 5). Most previous significant flora records are located within parks and reserves approximately 6-9 Kilometres or more from the study area, or adjacent to creek-lines on agricultural land (Figure 3).

A variety of FFG Act-protected (i.e. not listed threatened species) species were identified along the roadsides and creeklines, including Gold Dust Wattle *Acacia acinacea*, Spreading Wattle *Acacia genistifolia*, Broughton Willow *Acacia salicina*, Golden Wattle *Acacia pycnantha*, Varnish Wattle *Acacia verniciflua*, Jersey Cudweed *Helichrysum luteoalbum,* New Holland Daisy *Vittadinia gracilis* and Sifton Bush *Cassinia sifton* (Figure 5; Appendix 1.1; Section 4.4.1).

4.3.2 Fauna

The VBA contains records of 12 nationally significant and 24 State significant fauna species previously recorded within 10 kilometres of the study area (DEECA 2023a) (Figure 4), and none of these previous records were located within the study area. The PMST nominated an additional 15 nationally significant species which have not been previously recorded but have the potential to occur in the locality (DCCEEW 2024) (Appendix 2.1).

The State-significant Common Sandpiper *Actitis hypoleucos* (listed as vulnerable under the FFG Act) was recorded within the study area during the site assessment. Common Sandpiper is known to inhabit both coastal and some freshwater wetlands, however, is often found around muddy flats and rocky shores and is sometimes recorded in estuaries and deltas of streams. Due to the lack of important habitat attributes, it's highly unlikely that the Common Sandpiper relies on the habitat within the study area for foraging or breeding purposes, rather for dispersal opportunities up and down stream.

Additionally, the nationally significant Brown Treecreeper *Climacteris picumnus* (listed as Vulnerable under the EPBC Act) has been recorded 155 times within 10-kilometres of the study area. Due to the high number of records and suitable woodland habitat present along the roadsides and creeklines, avifauna surveys were undertaken within the study area to determine the presence of national and State-significant avifauna with potential to occur within the study area. The results of the avifauna surveys are outlined in section 4.4.2.

Swift Parrot *Lathamus discolor* has been recorded approximately 20 times within 10-kilometres of the study area. The majority of these records occur approximately 5-kilometres south of the study area in an area of contiguous native vegetation. Despite the presence of this species in the vicinity of the study area, it is unlikely the species relies on habitat within the study area for foraging. Rather, the study area may be used as a movement pathway while accessing higher quality foraging habitat in the surrounding area. Additionally, based on the scope of impacts, only small patches of native vegetation along creek-lines and roadsides are

being impacted by the development, with the majority of impacts occurring to scattered trees. It is highly unlikely that the proposed action would have a significant impact on Swift Parrot.

Despite the lack of records within the surrounding area, the woodland vegetation (including hollow-bearing trees) within creeklines and roadsides provides suitable habitat for the State-significant Squirrel Glider *Petaurus norfolcensis* and Brush-tailed Phascogale *Phascogale tapoatafa* (both listed as vulnerable under the FFG Act). Targeted surveys for Brush tailed Phascogale and Squirrel Glider were undertaken within areas of suitable habitat, with the results presented in Section 4.4.2.

Due to the large study area, the remnant eucalypts within the study area would provide suitable habitat for nesting, roosting and foraging, however they are generally confined to creek-lines within a large extent of open modified grasslands/croplands and thus only highly mobile animals, e.g. birds and bats, are expected to utilise these trees. Despite the number of large old native trees within the study area, approximately half had a sound structure and therefore limited hollows, fissures and/or spouts. However, the hollows, fissures and spouts that were present would provide valuable habitat for fauna species.

4.3.3 EPBC Act-listed Ecological Communities

Five nationally listed ecological communities are predicted to occur within 10 kilometres of the study area (DCCEEW 2023), including:

- Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions;
- Natural Grasslands of the Murray Valley Plains;
- Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains;
- Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia; and
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland.

Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia

Several patches of Plains Woodland within the study area were consistent with the condition thresholds for the nationally significant Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia (GBGW). PW21 patch, located along Plain Road, were consistent with the condition thresholds for GBGW as the patch was larger than 2-hectares, contained at least eight trees per hectare that have a diameter of >60cm (DBH) and at least 10% of the plant cover in the ground layer consisting of perennial native grass species (i.e. Wallaby-grass) (Figure 7b). Additionally, Plains Woodland patches PW16 and PW14 located along Davey Road and Myola Road, respectively, were consistent with the condition thresholds for GBGW as the ground layer comprised greater than 50% cover of perennial native species (Figure 7a; Figure 7b). The total extent of GBGW recorded within the study area and along the roadsides is 5.87 hectares.

In order to facilitate an emergency egress point/access gate, drainage and surface works along Davey Road (Figure 7b), 0.046 hectares of GBGW is proposed to be impacted along Davey Road.

Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions

The Buloke Woodlands of the Riverina and Murray Darling Depression Bioregions' ecological community (herein Buloke Woodlands) encompasses a number of closely-related woodland communities in which Buloke *Allocasuarina luehmannii* is usually a dominant or co-dominant tree (Cheal *et al.* 2011). The Buloke Woodlands occur substantially within the Riverina and Murray Darling Depression bioregions (Cheal *et al.* 2011). Concentrations of scattered trees, where Buloke was the dominant or co-dominant species, were consistent with the description of the threatened ecological community, noting that Buloke Woodlands now exist as a patchy, highly fragmented, mostly highly degraded, community across much of its former range (Figure 7a). The total extent of Buloke Woodlands within the study area is 0.84 hectares.

A total of three patches of patches of Buloke Woodlands were identified within the study area and were highly modified, present as small patches of native vegetation or as scattered trees in relatively close proximity (Figure 7a). Based on the current designs, patches of Buloke Woodlands are not proposed to be impacted and will be avoided by the implementation of the solar arrays.

4.3.4 FFG Act Listed Ecological Communities

Grey Box – Buloke Grassy Woodland Community

The FFG Act-listed threatened vegetation Grey Box – Buloke Grassy Woodland Community is present within the study area, corelating with mapped areas of both EPBC Act-listed communities (Figure 7; Figure 8), largely due to the density of each structurally significant species. Two additional patches, which do not conform to the EPBC Act-listed ecological communities, also occur along Yallagalorah creek (Figure 8). These areas were consistent with the description of the threatened ecological community and occur where either Grey-box or Buloke occur in isolation (I.e. lacking the other species). The Grey Box – Buloke Grassy Woodland Community occurs in areas which are highly modified, present as patches or scattered trees, where either species is the dominant or co-dominant species. Noting that in these areas, Grey Box and Buloke rarely occur in conjunction (Figure 8). The total extent of Grey Box – Buloke Grassy Woodland community within the study area is 6.71 hectares.

In order to facilitate an emergency egress point and access gate, and to enable drainage and surface works along Davey Road, 0.046 hectares of Grey Box – Buloke Grassy Woodland community is proposed to be impacted (Figure 8e), which is predominantly comprised of a monoculture of Kangaroo Grass (Plate 41), with scattered occurrences of Wallaby Grass and Spear Grass. Three Grey Box also occurred within the impact area, comprising one immature sapling and two small patch trees (Plate 42).

Plants which are members of communities on the Threatened List are automatically protected flora when they occur within a patch of that community (DEECA 2024f). Within the proposed impact area of 0.046 hectares of Grey Box – Buloke Grassy Woodland, approximately 500-1200 Kangaroo Grass (3-7 specimens/metre^2), 15-30 Wallaby Grass, 20-30 Spear Grass and three (3) Grey Box specimens were identified within the impact area of Grey Box – Buloke Grassy Woodland Community.

Plate 41. Dense monoculture of Kangaroo Grass identified in the impact area of Grey Box – Buloke Woodland community (Ecology and Heritage Partners Pty Ltd 23/07/2024).

Plate 42. Two small patch trees and an understorey of Kangaroo Grass, Wallaby Grass and Spear Grass in the impact area of Grey Box – Buloke Woodland community (Ecology and Heritage Partners Pty Ltd 23/07/2024).

Victorian Temperate Woodland Bird Community

The FFG Act-listed threatened ecological Victorian Temperate Woodland Bird Community occurs along the eastern boundary of the study area, along Cornella Creek. This vegetation community is defined by the presence of a suite of birds that have markedly declined in numbers since records began. Brown Treecreeper *Climacteris picumnus victoriae* was identified on three occasions along Cornella Creek, accounting to 13 individual observations. Cornella Creek provides a wide, north-south habitat corridor which connects to Gobarup Nature Conservation Reserve, approximately 5-kilometres south of the study area. Due to the presence of Brown Treecreeper and suitable habitat along Cornella Creek, this area was deemed to conform with the Victorian Temperate Woodland Bird Community (Figure 8). The total extent of Victorian Temperate Woodland Bird Community along Cornella Creek is 3.75 hectares. No Impacts are proposed to occur to this ecological community.

4.4 Targeted Surveys

4.4.1 Targeted Flora Surveys

Spiny Rice-flower

According to VBA records of Spiny Rice-flower (DEECA 2023a), five records of the species have been identified within ten kilometres of the study area, with the most recent record occurring in 2018. Despite the lack of records in the surrounding area, the initial Biodiversity Assessment for the Cooba Solar Farm determined there to be a moderate likelihood of the species occurring within the study area, due to the presence of suitable habitat, and the proximity of records (i.e. 1.3 kilometres to the south).

Targeted surveys were conducted within the study area from 21 - 23 August 2023, when the species was known to be flowering, however the species was not observed within the study area. In addition, two reference sites were checked to ensure the species was flowering at the time of surveys and at both reference sites the species was flowering (Plate 43; Plate 44). Other Rice-flowers *Pimelea* spp. (Plate 45; Plate 46) were identified within the study area, however Spiny Rice-flower was not identified. The habitat present in the study area

showed signs of historical clearing and fragmentation, with high cover of weeds such as exotic pasture grass. Vegetation along the creek lines was moderately modified, largely due to existing agricultural activities which have occurred within the site, with sheep being observed along the creek-lines on occasion. Vegetation along the road reserve was also fragmented; however, native vegetation was generally in good condition, despite the presence of weeds. As a result, the habitat is now considered marginal, and it is deemed highly unlikely for Spiny Rice-flower to occur within the impact footprint.

In summary, despite the presence of potential habitat and proximity to previous records, the habitat condition and lack of recent sightings make it unlikely for Spiny Rice-flower to occur within the study area.

Plate 43. Spiny Rice-flower flowering at the reference site (Ecology and Heritage Partners Pty Ltd 21/08/2023).

Plate 44. Spiny Rice-flower flowering at the reference site (Ecology and Heritage Partners Pty Ltd 21/08/2023).

Plate 45. Rice-flower *Pimelea* spp. identified within the study area, along Davey Road (Ecology and Heritage Partners Pty Ltd 21/08/2023).

Plate 46. Rice-flower *Pimelea* spp. identified within the study area, along Plain Road (Ecology and Heritage Partners Pty Ltd 21/08/2023).

Late-flower Flax-lily

According to VBA Records of Late-flower Flax-lily (DEECA 2023a), one record of the species has been identified within ten kilometres of the study area, dating from 2015. Despite the lack of records in the surrounding area, the initial Biodiversity Assessment for the Cooba Solar Farm determined there to be a moderate likelihood of it occurring within the study area due to the presence of suitable habitat.

Targeted surveys were undertaken from 13 - 16 November 2023, however the species was not identified within the study area. Black-anther Flax-lily *Dianella revoluta* was identified during the surveys, which was flowering at the time of surveys. Black-anther Flax-lily was identified along the roadsides, and no other Flax-lily specimens were identified during the survey effort.

Despite the presence of potential habitat and proximity of previous records (i.e. approximately 500-metres east of the study area), based on the results of the targeted surveys, it's unlikely Late-flower Flax-lily occurs within the study area.

Buloke

According to VBA records of Buloke (DEECA 2023a), four records of the species have been identified within ten kilometres of the study area, dating from 2011. Despite the lack of previous records in the surrounding area, the site assessment and targeted flora surveys identified 89 specimens (Plate 47; Plate 48) along the road reserve, creek-lines and scattered throughout the study area (Figure 5). Due to the presence of this species, some of the areas met the condition threshold of EPBC Act-listed ecological communities, including the Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions and/or Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia. Additionally, these areas also conformed to the FFG Act-listed Grey Box - Buloke Grassy Woodland Community (DELWP 2019b). Eleven (11) Bulokes are proposed to be impacted.

Plate 47. Juvenile Buloke identified along the western side of Yallagalorah Creek (Ecology and Heritage Partners Pty Ltd 13/11/2023).

Plate 48. Three Bulokes identified along the western side of Yallagalorah Creek (Ecology and Heritage Partners Pty Ltd 13/11/2023).

Velvet Daisy-bush

According to VBA records of Velvet Daisy-bush (DEECA 2023a), eight records of the species have been identified within 10-kilometres of the study area, dating from 2015. Despite the lack of previous records in the surrounding area and the systematic survey effort which was undertaken, the species was not identified within the study area. Despite the presence of suitable habitat within the study area, based on the results of the site assessment and targeted flora surveys it is unlikely Velvet Daisy-bush occurs within the study area.

4.4.2 *Targeted Fauna Surveys*

Diurnal Bird Surveys Overview

A total of six point-count locations were chosen for diurnal bird surveys across the study area (Figure 6). Surveys occurred at dawn and dusk, the optimal time for bird activity. A total of 57 bird species were recorded, consisting of 53 indigenous species and four non-indigenous species. A total of 2278 individuals were recorded during the fixed-point bird counts. The most frequently recorded indigenous species, include Galah *Eolophus roseicapilla* (426), Little Corella *Cacatua sanguinea* (324), Australian Wood Duck *Chenonetta jubata* (166), Australian Magpie *Gymnorhina tibicen* (145), White-winged Chough *Corcorax melanorhamphos* (101) and Little Raven *Corvus mellori* (89). Four introduced species were recorded, including Common Starling *Sturnus vulgaris*, Indian Myna *Acridotheres tristis,* House Sparrow *Passer domesticus* and Eurasian Skylark *Alauda arvensis.*

The majority of species recorded include generalist bird species or woodland bird species which utilised linear patches of native and non-native vegetation along roadsides and creek-lines. During the roaming avifauna survey, the EPBC Act-listed Brown Tree Creeper was identified along the eastern boundary of the study area, along Cornella Creek. A total of 13 individuals were recorded. According to VBA records (DEECA 2023a), Brown Treecreeper has been identified 155 times, dating as recently as 2019. The presence of the species is likely due to the large numbers of previously documented records and the presence of suitable habitat within the study area, particularly along the creeklines. The majority of previous records occur to the south and south-east of the study area near Gobarup Nature Reserve and Gobarup H108 Bushland Reserve, approximately eight kilometres south of the study area. Cornella Creek provides suitable foraging habitat for the species and an extensive north-south corridor, which extends to the aforementioned bushland reserves.

No other National or State-listed species were recorded during the bird surveys. A complete list of species from the bird surveys is found in Appendix 2.1

4.4.3 *Infrared camera surveys*

Infrared cameras for targeted surveys for Brush-tailed Phascogale and Squirrel Glider were deployed over a four-week period between 10 October and 13 November 2023. A total of 10 cameras (Reconyx®) were deployed, baited and fastened in the branching area of trees in defined suitable habitat for the species. The hair tubes were orientated along a branch approximately one to two metres in front of the camera (Figure 6).

The remote camera surveys identified 17 distinct species, including Brush-tailed Phascogale (3), Squirrel Glider (4), Australian Magpie (15), Noisy Myna *Manorina melanocephala* (24), Black Rat *Rattus rattus* (25), Common Brushtail Possum *Trichosurus vulpecula* (123), Common Ring-tailed Possum *Pseudocheirus peregrinus* (2), Eastern Grey Kangaroo *Macropus giganteus* (5), Eastern Rosella *Platycercus eximius* (1), European Hare *Lepus europaeus* (2), Little Raven *Corvus mellori* (6), Pacific Black Duck *Anas superciliosa* (4), Red Wattlebird *Anthochaera carunculate* (1), White-winged Chough (2) and Red Fox *Vulpes vulpes* (1) (Appendix 2.2).

Brush-tailed Phascogale

Brush-tailed Phascogale is listed as Endangered under the FFG Act. According to VBA records (DEECA 2023a), Brushtail Phascogale has been recorded once within 10-kilometres of the study area (Appendix 2.3; Figure 4). Despite the lack of recent records in the surrounding area, the study area was deemed to provide high quality

habitat for the species, due to the presence of large hollow-bearing trees and suitable habitat connectivity throughout the study area. Brush-tailed Phascogale was detected in two locations: on two occasions (20 October and 30 October 2023; Plate 49) along Yallagalorrah Creek in the south of the study area (Camera F45; Figure 6) and on one occasion (14 October 2023; Plate 50) in a vegetated area, near the intersection of Cornella Church Road and Plain Road (Camera F20; Figure 6).

Given the species was detected in several spatially distinct locations, it's highly likely a resident population of the Brush-tailed Phascogale occurs within the study area. Additionally, habitat along the roadsides and creek-lines provides adequate habitat connectivity for the species, aiding foraging and dispersal activities. As this species was detected on multiple occasions, a resident population of Brush-tailed Phascogale is likely to rely upon vegetated roadside and creek-lines trees for nesting, foraging and/or as an important movement corridor. Based on the proposed impacts to confirmed and potential habitat for Brushtail Phascogale (i.e. roadside and creek-line remnant vegetation), it is highly unlikely this species will be significantly impacted by the proposed development.

Plate 49. Brush-tailed Phascogale captured with arboreal camera – F45 on 20 October 2023 (Ecology and Heritage Partners Pty Ltd 20/10/2023).

Plate 50. Brush-tailed Phascogale captured with arboreal camera – F20 on 14 October 2023 (Ecology and Heritage Partners Pty Ltd 14/10/2023).

Squirrel Glider

According to VBA records, Squirrel Glider (listed as Vulnerable under the FFG Act) has been previously recorded 22 times within 10-kilometres of the study area (DEECA 2023a) (Appendix 2.3; Figure 4). Squirrel Glider was detected at three locations (Figure 6), including: on two occasion (06 November 2023; Plate 51; Plate 52) along Yallagalorrah Creek in the southern portion of the study area (Camera F09), on one occasion (12 October 2023; Plate 53) in a vegetated strip along Myola Road (Camera H08) and on one occasion (12 November 2023; Plate 54) along a vegetated area near the intersection of Cornella Church Road and Plain Road (Camera F20).

Given the presence of the species at several spatially distinct locations, it's highly likely a resident population of the species occurs within the study area. Habitat along the vegetated creek-lines and roadsides provides habitat connectivity for the species, aiding foraging and dispersal activities. Based on the proposed impacts to confirmed and potential habitat for Squirrel Glider (i.e. roadside and creek-line remnant vegetation), it is highly unlikely this species will be significantly impacted by the proposed development.

Plate 51. Squirrel Glider captured with arboreal camera F09 on 06 November 2023 (Ecology and Heritage Partners Pty Ltd 25/04/2023).

Plate 52. Squirrel Glider recorded with arboreal camera F09 on 06 November 2023 (Ecology and Heritage Partners Pty Ltd 11/05/2023).

Plate 53. Squirrel Glider captured with arboreal camera H08 on 12 October 2023 (Ecology and Heritage Partners Pty Ltd 12/11/2023).

Plate 54. Squirrel Glider captured with arboreal camera F20 on 12 November 2023 (Ecology and Heritage Partners Pty Ltd 12/11/2023).

5 REMOVAL, DESTRUCTION OR LOPPING OF NATIVE VEGETATION (THE GUIDELINES)

5.1 Avoid and Minimise Statement

The proposed Cooba Solar Farm is located at 124 Cornella Church Road, Colbinabbin, Victoria. The Farming Zone – Schedule 1 (FZ1) applies to the study area and no other planning overlays occur. A Salinity Discharge Overlay occurs in the north-west of the study area (Plate 1). The study area has been used for agricultural activities, including stock grazing and cereal crop propagation. Historical land use has reduced the extent and contiguity of native vegetation throughout the study area, with patches of native vegetation largely restricted to roadsides and creek-lines. Scattered trees are still present within the study area; however, patches of native vegetation within cropped areas are either small or largely confined to the boundaries of the property. The majority of the study area contains exotic pasture grasses which have been direct seeded for the current aforementioned agricultural activities. A salinity overlay applies in the north-west of the study area,

The construction method used to install the solar arrays is likely to use steel posts on which the solar arrays are mounted and driven into the ground using a pole driver attached to the back of a soft-tyred vehicle, set approximately three metres apart (subject to change). The only physical impact to the ground is therefore the width of the poles, with each one being approximately 10 centimetres in diameter. The detailed design of the proposed solar arrays is yet to be finalised as the technology is likely to change by the time development starts. To enable flexibility in the location and technology of the proposed arrays, everything within the Solar Array Infrastructure layer of Figure 2 is presumed as impacted. This is to ensure that required specifications of the final design can be micro-sited to suit the needs of the solar array technology at the time of development. A detailed assessment of the solar array design and the implications for native vegetation is provided in Appendix 3.

The development features that will impact native vegetation include the solar arrays, access road, MV cable trench, substations, switchyards, battery energy storage systems (BESS) and overhead transmission lines (Figure 2), with the construction works for these elements occurring only within the development footprint. The majority of impacts associated by these elements include scattered large trees, which occur in paddocks.

The creek crossings (i.e. MV Cable and OHL Crossing on Figure 2) are required to connect the central parcel of land and western parcel of land forming part of the project. The quantity of creek crossings shown on the plans are required to avoid excessively long cables. It is not possible to reduce the quantity of crossings without introducing excessive electrical losses to the project, increased construction costs and also increased differential terminal voltages at inverters that may lead to non-complaint performance of the generator, particularly during contingency events such as 'ride through' events where the network voltage changes rapidly.

The overhead line creek crossing, and direct buried crossing combinations shown on plans have been prescribed to minimise overall ecological impact, with due consideration to the constraints noted above. Medium voltage cables running between land parcels cannot be installed using directional boring underneath

creeks and instead must be installed using 'direct buried' methodology due to a combination of cable thermal rating, drum size/handling equipment and MV cable jointing limitations or as overhead lines.

Directional boring would require cables to be installed at a significant depth (underneath the creeks), the additional burial depth would limit heat dissipation from the cable, and thus impose higher thermal stresses on each cable; this would exceed cable ratings and not be practical. Additionally, encasing cables in ducts or conduits further restricts cooling, leading to potential overheating and reduced cable lifespan. Directional boring also necessitates pulling cables through pre-installed ducts, which can damage the cable sheath due to friction and tight bends in the cable route as it is dragged from a stationary large cable drum, rather than the typical practice of 'rolling cable off the drum' directly into the trench which does not threaten the integrity of the cable.

The direct burial approach allows for better heat dissipation, ensuring cables do not exceed their rated thermal loading. Maximum cable sizes compatible with inverter stations are already used on the project, and therefore it is not possible to simply increase cable size to overcome this limitation.

The development footprint has been specifically designed to minimise the loss of native vegetation through the following measures:

- The original concept plan for this site sought to limit impacts to areas of native vegetation by denoting conservation priority. Due to the scale of the project, native vegetation in the form of patches, scattered Large Trees and small scattered trees were denoted as either No-Go zones, or high, medium, or low conservation priority (Figure 2):
    - The Flood Impact Assessment (Water Technology 2022) recommended a 30-metre setback from the top of bank for Cornella and Yallagalorrah Creeks. A 15-metre No-Go zone buffer was implemented along patches of native vegetation along the creek-lines and wetlands, which is approximately 25-45 metres from the top of the bank. In addition, a 10-metre firefighting easement was implemented along the boundaries of the solar layout. As such, there is a minimum 30-metre buffer from the edge of native vegetation along the creek-lines to the solar array infrastructure. This accounts to a buffer of approximately 40-50 metres from the top of the bank; and,
    - Small patches of native vegetation and all Bulokes were listed as high priority. Scattered trees with the potential to form patches of native vegetation were listed as moderate priority. All remaining scattered trees were listed as low priority.
- The proponent has gone through several iterations of the development plan to minimise impacts to native vegetation and large trees. The following iterations have been undertaken:
    - The first iteration of the development plan proposed to impact 7.749 hectares (inclusive of scattered trees) of native vegetation, including 118 Large Trees;
    - The second iteration proposed to impact 7.392 hectares (inclusive of scattered trees) of native vegetation and 93 Large Trees;
    - The third iteration proposes to impact 7.546 hectares of native vegetation (inclusive of scattered trees) and 94 Large Trees. Impacts associated with the third iteration of the development plan have increased due to the requirement to implement access and egress

points to accommodate B-Double trucks to enter the site at 12 locations, and the requirement to undertake road upgrades along Heathcote-Rochester Road (Figure 2a); and,

- The fourth (and most recent) iteration proposes to impact 6.505 hectares of native vegetation (inclusive of scattered trees), 71 Large Trees, including 12 Large Trees in patches and 59 Large scattered trees, and 11 small scattered trees. Two additional scattered tree groupings (Trees 130, 133, 134 and 155 [Figure 2q]; and Trees 255-265 [Figure 2s]) are proposed to be retained, and some of the turning lanes (i.e. Site entry/exit points on Figure 2) have been micro-sited to avoid impacts to Large Trees.

- The proponent aimed to reduce impacts to native vegetation by minimising impacts to Large Trees (both within a patch, and scattered) and small scattered trees, where practically feasible. Some impacts are proposed to occur to vegetation along the roadsides, primarily due to maintenance easement (i.e. MV Cable and OHL Crossing on Figure 2) required between the boundaries and the solar panels;
- Patches of Creekline Grassy Woodland (CGW) are proposed to be impacted in three areas (Figure 2j, Figure 2k, Figure 2o; Figure 2p), primarily due to overhead transmission lines. Impacts within these areas have been micro-sited to reduce impacts to Large Trees in patches, and EPBC Act-listed communities and FFG Act-listed communities. Vegetation within these areas is considered as lost, however, understorey vegetation will be able to re-establish following installation of the transmission lines;
- Two EPBC Act-listed communities occur within the study area, being Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia and Buloke Woodlands of the Riverina and Murray-Darling Depression (Figure 7):
    - Approximately 5.87 hectares of EPBC Act-listed Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands occur along the roadsides, including Plain Road, Myola Road and Davey Road (Figure 7). The proponent has altered the development plan to avoid impacts to this EPBC Act-listed community as far as practicable; however, in order to facilitate an emergency egress point/access gate, drainage and surface works along Davey Road (Figure 7), 0.046 hectares of GBGW is proposed to be impacted along Davey Road; and,
    - Approximately 0.84 hectares of the EPBC Act-listed Buloke Woodlands occurs within the study area and along the roadsides (Figure 7). The proponent has altered the development plan to avoid impacts to this EPBC Act-listed community.
- Two FFG Act-listed community occurs within the study area, including the Grey Box – Buloke Grassy Woodland community and the Victorian Temperate Woodland Bird community. The development plan has been designed to avoid impacts to FFG Act-listed communities, including (Figure 8):
    - Approximately 6.71 hectares of the Grey Box – Buloke Grassy Woodland community occurs along the creek-lines and roadsides. These patches overlap entirely within the aforementioned EPBC Communities (Figure 8c; Figure 8d; Figure 8e; Figure 8f). Two additional patches which do not conform with the EPBC Act-listed communities, occur along Yallagalorrah Creek (Figure 8a; Figure 8b). In order to facilitate access and egress at 12 locations throughout the study area, and drainage and surface works along Davey Road

(Figure 8d; Figure 8e), 0.046 hectares of Grey Box – Buloke Grassy Woodland is proposed to be impacted along Davey Road; and,

- Approximately 3.75 hectares of the Victorian Temperate Woodland Bird community occurs along Cornella Creek in the east of the study area (Figure 8g) and this patch is not proposed to be impacted.

- The substations, switchyards, battery energy storage systems (BESS) are located primarily in the north of the study area, and temporary laydown areas (which will only be used during the construction phase and includes the site office during that time) and carparking spaces have all been designed to avoid impacts to trees and patches as far as practicable. One Large Tree is proposed to be impact by these features;
- In order to facilitate the implementation, construction and maintenance of the proposed solar farm, 12 access and egress points are proposed along the roadsides (i.e. Site Entry/Exit impact area on Figure 2). The access and egress points area a worst-case scenario, assuming that a B-double truck may require access at each of the locations. As this is a worst-case scenario, some impacted trees may be able to be retained, including Tree 643 (Figure 2b). The fourth, most recent iteration of the development has moved the location of the access and egress points to further minimise impacts to native vegetation. As such, Trees 607 and 608 (Figure 2b), Trees 639, 641 and 642 (Figure 2e), and Tree 295 and 696 (Figure 2p), are no longer being impacted;
- Road upgrades are required to occur along Heathcote-Rochester Road and Cornella Church Road, to facilitate ingress and egress for the proposed development (Figure 2a). This has resulted in two Large and two small trees being impacted, and associated patches (PW7 and PW11);
- A firefighting easement is located along the boundary of the Solar Array Infrastructure (i.e. the area denoted for the arrays), which intersects roadside vegetation (Figure 2). The firefighting easement is proposed to be managed in a low-threat state (i.e. slashing of grasses). Scattered trees and trees within patches are considered impacted if directly located within the firefighting easement; however, scattered trees and large trees in patches which occur adjacent to the firefighting easement are not considered impacted as the proposed works will be limited to sporadic slashing of vegetation to reduce fire risk, with no additional ground modification (eg. construction of gravel track) proposed except where co-located with solar farm access tracks. As such, patches of native vegetation along roadsides where tree canopies or understorey vegetation overlap the firefighting easement are being treated as partial removal;
- Approximately 50.47 hectares of native vegetation (including 588 Large Trees in patches) and 212 scattered trees (i.e. 166 large scattered trees and 46 small scattered trees) are proposed to be retained, including a 12.79 hectare patch of Creekline Grassy Woodland in the paddock south of Myola Road (CGW1 on Figure 2o, Figure 2u, Figure 2x); and,
- Of the 165 hollow-bearing trees observed within the study area, 11 hollow-bearing trees are proposed to be impacted. 154 hollow-bearing trees are proposed to be retained.

As the majority of the site has previously been used for agricultural cropping, and limited native vegetation is proposed to be removed from these areas, the proposed development is considered unlikely to result in

increases to salinity discharge. Approximately seven (7) Large Trees and one (1) small tree which occur within the salinity overlay are proposed to be removed. Due to the minimal amount of existing native vegetation which occurs within the salinity overlay, any increases in salinity as a result of native vegetation removal are likely to be negligible.

Sheep grazing has occurred within the study area for many decades and may continue to occur throughout the operation of the solar farm or on adjacent farm lots. A security fence is proposed to be constructed around the perimeter of the solar farm; however, the landowner will be able to open the gate to this area and periodically graze sheep within it, i.e. a few days to a week before they are removed again.

Approximately two light vehicles will be continually servicing the project during working hours and also under emergency maintenance conditions. These light vehicles will mostly make use of formed access tracks constructed as part of the project. A vehicle may need to venture off the access road if, for example, it needs to deliver a part (e.g. solar panel) to the location it is being installed. These activities are not considered to adversely impact the retained native vegetation.

In the context of the local and regional scale, the proposed removal of vegetation is not considered significant given the presence of contiguous vegetation located 10 kilometres to the south-east of the study area at Gobarup Nature Conservation Reserve. The retention of native vegetation along Cornella Creek and Yallagalorah Creek, along the eastern border and central portion of the of the study area, respectively, both of which connect to this Gobarup Nature Conservation Reserve.This provides contiguous vegetation for native fauna, maintaining habitat connectivity. Additionally, Crosbie Nature Conservation Reserve and Mount Sugarloaf Nature Reserve occur approximately 20-kilometres to the south-west and 30-kilometres to the west, respectively.

These measures demonstrate the avoidance and minimise steps that have been undertaken as part of the planning permit application for the proposed development, which satisfy the requirements outlined in the Guidelines (DELWP 2017).

The project has avoided a significant portion of available land to minimise impacts on cultural heritage and biodiversity to the greatest extent possible. Any additional avoidance required would render the project unviable for the following reasons (Andrew Coughlan [Engineer] Pers. Comms. July 2024):

- The cost of unit energy (MW) produced by the project would not be competitive enough to enable project financing or participation in electricity markets, as the high fixed costs associated with establishing a 220kV switchyard and substation to connect to the existing high voltage circuits traversing the site would be distributed across fewer solar PV modules;
- The project has secured 5.3.4A and 5.3.4B status in accordance with the National Electricity Rules, awarded by the Australian Energy Market Operator, both acting as National Connections capacity and as the Delegated Transmission Network Service Provider in Victoria based on a fixed export capacity (project size). The project export capacity now forms part of national electricity network planning and a reduction in project size would impact national electricity network power system modelling and planning; and,
- It is not possible to further ‘compress’ the project as further reduction of row spacing between solar modules (bringing solar PV array trackers closer together) would not only erode commercial viability

due to reduction in electricity output due to increased row-to-row shading, but also to avoid several other material constraints such as limited access for construction and operations of the plant.

The project also proposes to construct a switching station on site, avoiding significant biodiversity and cultural heritage disturbance typically required by new solar and wind projects for the transmission line infrastructure required to connect to the electricity network (Andrew Coughlan [Engineer] Pers. Comms. July 2024).

As the detailed design of the proposed solar arrays is yet to be finalised as the technology is likely to change by the time development starts, no further feasible opportunities exist to further avoid and minimise impacts on native vegetation without undermining the key objectives of the proposal.

5.2 Residual Impacts to Native Vegetation

The below clearing scenario is based on the development plan provided by Venn Energy Pty Ltd on the 22 July 2024, including the solar array layout, location of overhead transmission lines and 12 access and egress points. Development features associated with the road upgrades along Heathcote-Rochester Road were provided by Venn Energy Pty Ltd on 06 May 2024.

5.2.1 Vegetation proposed to be removed

The study area is within Location 2, with 6.505 hectares of native vegetation proposed to be removed, including 71 Large Trees (12 Large Trees in Patches and 59 scattered Large Trees) and 11 small scattered trees. As such, the permit application falls under the Detailed assessment pathway (Table 3).

Condition scores for vegetation proposed to be removed are provided in Appendix 1.2.

Table 3. Removal of Native Vegetation (the Guidelines) (DELWP 2017).

Assessment pathway	Detailed
Location Category	2
Total Extent (past and proposed) (ha)	6.505
Extent of past removal (ha)	0.000
Extent of proposed removal (ha)	6.505
Large Trees (scattered and in patches) to be removed (no.)	71
Small scattered trees to be removed (no.)	11
EVC Conservation Status of vegetation to be removed	Endangered

5.2.2 Offset Targets

The offset requirement for native vegetation removal is 1.4770 General Habitat Units and 71 Large Trees.

A summary of proposed vegetation losses and associated offset requirements is presented in Table 4 and the Native Vegetation Removal (NVR) report is presented in Append ix 4.

Table 4. Offset Targets.

General Offsets Required	1.4770 General Habitat Units
Large Trees	71
Vicinity (catchment/council)	Goulburn Broken CMA / Campaspe Shire Council
Minimum Strategic Biodiversity Value*	0.1834

***The minimum Strategic Biodiversity Value is 80% of the weighted average score across habitat zones where a General offset is required.

5.3 Offset Impacts and Strategy

According to DEECA's Native Vegetation Offset Register (DEECA 2024d), there are two offset sites within the Goulburn Broken CMA or Campaspe Shire Council municipality that can be used to satisfy the General Habitat Unit and Large Tree offset requirements.

An offset register search statement identifying the relevant offsite sites is provided in Appendix 5, which provides evidence that the offset obligation can be secured without any difficulty should a permit be provided for the project.

An offset register search statement identifying the relevant offsite sites is provided in Appendix 5.

6 LEGISLATIVE AND POLICY IMPLICATIONS

6.1 *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)

The EPBC Act establishes a Commonwealth process for the assessment of proposed actions likely to have a significant impact on any matters of National Environment Significance (NES).

Although potential habitat was identified for one flora species (Spiny Rice-flower), the species was not observed during the respective targeted surveys and the potential for the species to be present within the study area is considered low.

Brown Treecreeper, which is listed as vulnerable under the EPBC Act, was recorded along Cornella Creek in the east of the study area. Despite the presence of the species, development of the solar farm is unlikely to have a significant impact the species, and no confirmed suitable habitat for the species along Cornella Creek is proposed to be removed, and minimal potential habitat along the road reserves and Yallagalorah Creek is being impacted.

Several patches of the nationally significant ecological community Grey Box (*Eucalyptus macrocarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia were identified within the study area, comprising 5.872 hectares. The total extent of GBGW proposed to be impacted by the proposed development is 0.046 hectares. An assessment of the development footprint against the significant impact guidelines for Critically Endangered ecological communities (Department of the Environment [DoE] 2013) is provided below in Table 5.

Table 5. Assessment against the Significant Impact Guidelines for Endangered or Critically Endangered Ecological Communities: GBGW ecological community (DoE 2013).

Significant Impact Guidelines 1.1 – Significant Impact Criteria for Endangered or Critically Endangered Ecological Communities (GBGW)	
Significant impact Criteria	**Comment**
1. Reduce the extent of an ecological community.	The proposed action will result in a very minor reduction in extent of the ecological community within the wider landscape, with the proposed removal of 0.046 hectares along Davey Road (Figure 7b). Following removal of vegetation, a total of 5.826 hectares of GBGW will be retained within the study area. Impacts to this ecological community cannot be entirely avoided due to the requirement to implement access and egress points for the site and associated access gates (12 in total), and conduct drainage and surface works along Davey Road. Impacts have however been reduced to the minimum extent to facilitate these works. Due to the small area of impact and the retention of the remainder of the community immediately adjacent to the impact area, and in the remainder of the study area, the proposed action is considered unlikely to have a significant impact on the ecological community.

Significant Impact Guidelines 1.1 – Significant Impact Criteria for Endangered or Critically Endangered Communities (GBGW)	
2. Fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines.	The portion of GBGW that is being impacted is part of a road reserve which contains a large extent of GBGW. The inclusion of an access gates connecting to Davey road is unlikely to fragment the existing extent of the ecological community. The portion along Davey Road being impacted is surrounded by exotic grass used as pasture immediately to the north, and the GBGW patch extends along the road reserve to the east and west of the proposed impact footprint (Figure 7e).Additionally, the patch of GBGW being impacted occur along both sides of the road reserves. As such, the proposed action will not result in increased fragmentation of the ecological community, given that only a very small area along the boundary of a small patch is being removed.
3. Adversely affect habitat critical to the survival of an ecological community.	The proposed action is not likely to adversely affect the long-term survival of the ecological community, as only a small portion of the ecological community is being impacted, and impacts should not extend outside this footprint.
4. Modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns.	The proposed action will result in the removal of surface soil through the implementation of the intersections for access and egress into the site and associated access gates (12 in total), and the drainage and surface works along Davey Road. Soil will not be stockpiled anywhere containing native vegetation. Given the small, localised nature of the proposed action, groundwater levels, water drainage patterns and nutrient loads are unlikely to be affected by the proposed action.
5. Cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species, for example through regular burning or flora or fauna harvesting.	The overall functionality of the community will not be affected by the proposed action. This is due to the small, localised nature of the proposed impact footprint along Davey Road. The impact footprints were chosen to avoid impacts to Large Trees and species which may rely on the ecological community.
6. Cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to: **a. assisting invasive species, that are harmful to the listed ecological community, to become established or;** **b. causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants into the ecological community which kill or inhibit the growth of species in the ecological community.**	The overall quality of the ecological community that will remain (i.e. the portions of the patches that are not being impacted [Figure 7b]) is not likely to be affected by the proposed action, as there is no disturbance to the remaining ecological community. The earthworks that may occur to accommodate the intersections for access and egress into the site and associated access gates (12 in total), and drainage and surface works will be localised to the impact footprint. These access points will be used to accommodate the implementation of the proposed development in the form of construction activities; however, once implemented they will only be used for the purposes of servicing which is likely to occur once every six months. In addition, the access point along Davey Road is likely to be used rarely, and primarily acts as an access point for firefighting access. As a result, minimal weed introduction/movement will occur and there will be no mobilisation of fertilisers, herbicides or other chemicals as a result of this proposed action.
7. Interfere with the recovery of an ecological community.	The proposed action is not likely to interfere with the ecological processes or recovery of the ecological community, as the remaining portion of the GBGW patch being retained will not be disturbed in any way.

6.1.1 *Implications*

While the proposed action is considered unlikely to constitute a significant impact to any matter of NES, for project certainty, the proponent may request the project be referred to the Commonwealth Environment Minister for assessment under the EPBC Act.

6.2 *Flora and Fauna Guarantee Act 1988* (Victoria)

The FFG Act is the primary legislation dealing with biodiversity conservation and sustainable use of native flora and fauna in Victoria. Proponents are required to apply for an FFG Act Permit to 'take' threatened and/or protected flora species, listed vegetation communities and listed fish species in areas of public land (e.g. within road reserves, drainage lines and public reserves/parks). An FFG Act permit is generally not required for the removal of species or communities, or for the removal of habitat for a listed terrestrial fauna species on private land. The *Flora and Fauna Guarantee Amendment Act 2019* came into effect on 1 June 2020 and now applies the FFG Act to Crown land and private/freehold land that is managed by a public authority.

There are confirmed records of 89 Bulokes (critically endangered), 6.780 hectares of Grey Box – Buloke Grassy Woodland Community (threatened), 3.75 hectares of Victorian Temperate Woodland Bird Community (threatened) and two fauna species (Brush-tailed Phascogale and Squirrel Glider – both listed as vulnerable) within the study area.

6.2.1 *Implications*

A total of 11 Bulokes are proposed to be impacted, all of which are located on private property. As such, a permit under the FFG Act will be not be required for their removal.

The total extent of Grey Box – Buloke Grassy Woodland Community proposed to be removed is 0.046 hectares. Plants which are members of communities on the Threatened List are automatically protected flora when they occur within a patch of that community (DEECA 2024f). Approximately 500-1200 Kangaroo Grass, 15-30 Wallaby Grass, 20-30 Spear Grass and three (3) Grey Box specimens were identified within the impact area of Grey Box – Buloke Grassy Woodland Community.

A permit under the FFG Act will be required as the proposed removal is located on public land. The proponent should allow up to six weeks to obtain an FFG Act permit through DEECA.

6.3 *Planning and Environment Act 1987* (Victoria)

The *Planning and Environment Act 1987* outlines the legislative framework for planning in Victoria and for the development and administration of planning schemes. All planning schemes contain native vegetation provisions at Clause 52.17, which requires a planning permit from the relevant local Council to remove, destroy or lop native vegetation, unless an exemption at Clause 52.17-7 of the Victoria Planning Provisions applies.

In addition, Solar Farm development is subject to Clause 53.13 of the Campaspe Shire Planning Scheme, as a Renewable Energy Facility, which states within the application requirements that the extent of vegetation removal, ecological legislative implications, and an environmental management plan must be addressed, with the Minster for Planning as the responsible authority for assessment of a project proposal for the use and development of the land as a renewable energy facility.

Victorian Planning Provision's Clause 19.01 Energy outlines the policy objectives and strategies that support the development of solar energy facilities.

In accordance with Clause 72.01 Responsible Authority for this Planning Scheme of the Campaspe Shire Planning Scheme, the Minister of Planning is the Responsible Authority for the use and development of land for a renewable energy facility with an installed capacity of 1 megawatt or greater.

6.3.1 Local Planning Scheme

The study area is located within the Campaspe Shire Council. The Farming Zone (FZ) applies to the study area. No overlays apply (DTP 2023).

6.3.2 The Guidelines

The Planning Policy Framework and the decision guidelines at Clause 12.01 Biodiversity and Clause 52.17 Native Vegetation require Planning and Responsible Authorities to have regard for the Guidelines (DELWP 2017).

6.3.3 Implications

The study area is within Location 2, with 6.505 hectares of native vegetation proposed to be removed. As such, the permit application falls under the Detailed assessment pathway.

The offset requirement for native vegetation removal is 1.4770 General Habitat Units and 94 Large Trees.

A planning permit is required to remove, destroy or lop any native vegetation under Clause 52.17 of the Planning Scheme. In this instance, the application is required to be referred to DEECA. It is understood that an application for a planning permit has been submitted (PA2302456).

A permit is required under Clause 53.13 of the Planning Scheme to use or develop a renewable energy facility (other than a wind energy facility).

6.4 *Wildlife Act 1975* and Wildlife Regulations 2013 (Victoria)

The *Wildlife Act 1975* (and associated Wildlife Regulations 2013) is the primary legislation in Victoria providing for protection and management of wildlife. Authorisation for habitat removal may be obtained under the *Wildlife Act 1975* through a licence granted under the *Forests Act 1958*, or under any other Act such as the *Planning and Environment Act 1987*. Any persons engaged to remove, salvage, hold or relocate native fauna during construction must hold a current Management Authorisation under the *Wildlife Act 1975*, issued by DEECA.

6.5 *Water Act 1989* (Victoria)

A 'works on waterways' permit from the Goulburn Broken CMA is likely to be required where any action impacts on waterways within the study area. Additionally, where structures are installed within or across waterways that potentially interfere with the passage of fish or the quality of aquatic habitat, these activities should be referred to DEECA with the Goulburn Broken CMA included for comment.

7 MITIGATION MEASURES

7.1 Biodiversity Management Plan

As part of the ongoing project planning process, it is recommended that detailed mitigation measures be developed and presented in a Biodiversity Management Plan (or similar document/s) relating to the construction and operational phases of the project.

The Biodiversity Management Plan or other equivalent management documents will include, where appropriate, procedures for:

- Detailed design of mitigation measures, including but not limited to:
    - Installation of nest boxes and fauna crossings.
- Staff and contractor inductions to address the location of sensitive ecological values and their roles and responsibilities in the protection and/or minimisation of impacts to all native biodiversity;
- A hollow-bearing tree management strategy, including but not limited to:
    - Pre-clearing fauna surveys;
    - Fauna salvage and translocation where practical; and,
    - Vegetation clearing protocols.
- Contingency measures to manage the potential unexpected discovery of listed flora and fauna species during construction and operation of the project.

The Biodiversity Management Plan will be important for enacting the 'avoid and mitigate' principles during the construction and operational phases and should include clear objectives and actions including, where appropriate:

- Minimising human interferences to flora and fauna;
- Minimising vegetation clearing/disturbance;
- Minimising impact to threat-listed species and communities; and,
- Ongoing monitoring of impacts on flora and fauna.

A project Risk Management Plan or similar documentation should detail the management of:

- Significant / Threatened Species Conservation;
- Significant Flora Salvage and Translocation;
- Weed Management; and,
- Disease and Biocontrol.

7.1.1 *Hollow-bearing Tree Mitigation Measures*

As a component of the Biodiversity Management Plan, a hollow-bearing tree management strategy will be prepared for hollow-bearing trees proposed to be removed. The hollow-bearing tree management strategy should include, but not be limited to, the following:

- Prior to tree removal, hollow-bearing trees will be left standing for two nights after the surrounding vegetation has been cleared (where applicable) to encourage any native fauna species utilising the habitat hollows to self-relocate. Tree guards will be installed at the base of the tree to prevent fauna that leave the tree from re-climbing;
- The felling of any habitat trees will undertaken under the supervision of a suitably qualified ecologist in order to ensure the safety of any fauna found to be in the hollows.
- Trees containing habitat hollows to be 'soft felled' by an experienced machine operator. The recommended soft felling procedure is as follows:
    - The hollow-bearing tree is given several moderate nudges with an excavator to give a warning to any occupying native fauna;
    - The hollow-bearing tree is then surveyed, and native fauna given an opportunity to self-relocate before the tree is actually felled;
    - The hollow-bearing tree is soft felled with the rate of the tree's fall controlled by the machinery operator to minimise impact;
    - Following felling, all hollows will be inspected for fauna and if any are found, the animal should be relocated to suitable habitat in the nearby area. If the animal is injured, it will be taken to a local veterinarian; and,
    - Following felling, suitable medium and large hollows will be cut from the tree at least one metre beyond the deepest point of the hollow and then stored in a dry safe place for replacement in areas of native vegetation (i.e. creek-lines and road-sides).
- The number and size of hollows within each habitat tree will be recorded after each habitat is felled. This information will inform the nest box installation works.

7.1.2 *Nest Box and Hollow Installation*

As a component of the Biodiversity Management Plan, and in order to mitigate impacts to fauna which rely on hollows within the study area, nest boxes and hollows will be installed to the following specifications:

- Nest box installations will be conducted by a suitably qualified arborist using the Habisure system (or equivalent) and installed to a minimum of three metres above ground height;
- Nest boxes will be installed facing away from the proposed development. Nest boxes will ideally face south, shielded from sunlight by the tree trunk;
- The following information will be recorded during nest box installation and relocation hollow-bearing limbs:
    - Nestbox type (i.e. artificial nest box, salvaged hollows);

- Nest box number;
- Target species;
- GPS locations;
- Nest box/hollow height and orientation; and,
- If installed on existing tree – tree species and DBH.

- If hollows are damaged during the tree removal and are deemed to retain habitat value by a qualified ecologist during tree removal, it will be retained as ground habitat within the creek lines or designated conservation areas.

7.2 Solar Energy Facility Design and Development Guidelines

The *Solar Energy Facility Design and Development Guidelines* (DELWP 2022) recommend the following items for consideration and minimisation of impacts:

- Flora and fauna implications;
- Native vegetation and biodiversity implications;
- Landscape value implications;
- Bushfire management – Within rural and regional areas, a proponent should consult the CFAs (2019) *Guidelines for Renewable Energy Installations* for information about bushfire risk management and other risk management matters;
- Glint and glare management; and,
- Environmental Management Plan – Where a planning permit is granted for a solar energy facility, the responsible authority will require several construction and operation matters to be addressed as part of an EMP. The requirement for an EMP will be a permit condition, and it must be submitted to, and approved by, the responsible authority before an activity starts on the site. The EMP can include:
    - An overview of construction methods including management of construction zones, site preparation, schedule and timing of works;
    - The management structure and site roles including any environmental audit processed needed under any applicable planning or legislative requirements; and
    - The management of environmental matters or mitigation requirements for erosion or sediment, surface water pollution, dust, odour noise, waste/hazardous materials handling, natural hazard management, terrestrial or aquatic ecology.

7.3 Best Practice Mitigation Measures

Recommended measures to mitigate impacts upon terrestrial values present within the study area may include:

- Minimise impacts to native vegetation and habitats through construction and micro-siting techniques, including fencing retained areas of native vegetation. If indeed necessary, trees should be lopped or trimmed rather than removed;
- All contractors should be aware of ecologically sensitive areas to minimise the likelihood of inadvertent disturbance to areas marked for retention. Native vegetation (areas of sensitivity) should be included as a mapping overlay on any construction plans;
- Tree Protection Zones (TPZs) should be implemented to prevent indirect losses of native vegetation during construction activities (DSE 2011). A TPZ applies to a tree and is a specific area above and below the ground, with a radius 12 x the Diameter at Breast Height (DBH). At a minimum standard a TPZ should consider the following:
    - A TPZ of trees should be a radius no less than two metres or greater than 15 metres;
    - Construction, related activities and encroachment (i.e. earthworks such as trenching that disturb the root zone) should be excluded from the TPZ;
    - Where encroachment regarding ground disturbance is 10% or more of the total area of the TPZ, the tree should be considered as lost and offset accordingly (unless an arboricultural report specifies otherwise);
    - Directional drilling may be used for works within the TPZ without being considered encroachment. The directional bore should be at least 600 millimetres deep;
    - The above guidelines may be varied if a qualified arborist confirms the works will not significantly damage the tree (including stags / dead trees). In this case the tree would be retained, and no offset would be required; and,
    - Where the minimum standard for a TPZ has not been met an offset may be required.
- Where possible, construction stockpiles, machinery, roads, and other infrastructure should be placed away from areas supporting native vegetation and/or Large Trees;
- Ensure that best practice sedimentation and pollution control measures are undertaken at all times, in accordance with Environment Protection Authority (EPA) guidelines (EPA 2020a; EPA 2020b; Victorian Stormwater Committee 1999) to prevent offsite impacts to waterways and wetlands; and
- As indigenous flora provides valuable habitat for indigenous fauna, it is recommended that any landscape plantings that are undertaken as part of the proposed works are conducted using indigenous species sourced from a local provenance, rather than exotic deciduous trees and shrubs.

8 FURTHER REQUIREMENTS

Further requirements associated with development of the study area, as well as additional studies or reporting that may be required, are provided in Table 6.

Table 6. Further requirements associated with development of the study area.

Relevant Legislation	Implications	Further Action
Environment Protection and Biodiversity Conservation Act 1999	The EPBC Act establishes a Commonwealth process for the assessment of proposed actions likely to have a significant impact on any matters of National Environment Significance (NES). Although potential habitat was identified for one flora species (Spiny Rice-flower), the species was not observed during the respective targeted surveys and the potential for the species to be present within the study area is considered low. Brown Treecreeper, which is listed as vulnerable under the EPBC Act, was recorded along Cornella Creek in the east of the study area. Despite the presence of the species, development of the solar farm is unlikely to have a significant impact the species, and no confirmed suitable habitat for the species along Cornella Creek is proposed to be removed, and minimal potential habitat along the road reserves and Yallagalorah Creek is being impacted. Several patches of the nationally significant ecological community Grey Box (*Eucalyptus macrocarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia were identified within the study area, comprising 5.872 hectares. The total extent of GBGW proposed to be impacted by the proposed development is 0.046 hectares. An assessment of the development footprint against the significant impact guidelines for Critically Endangered ecological communities (Department of the Environment [DoE] 2013) is provided below in Table 5.	While the proposed action is considered unlikely to constitute a significant impact to any matter of NES, for project certainty the project may be referred to the Commonwealth Environment Minister for assessment under the EPBC Act.

Relevant Legislation	Implications	Further Action
Flora and Fauna Guarantee Act 1988	. The Flora and Fauna Guarantee Amendment Act 2019 came into effect on 1 June 2020 and now applies the FFG Act to Crown land and private/freehold land that is managed by a public authority. There are confirmed records of 89 Bulokes (critically endangered), 6.780 hectares of Grey Box – Buloke Grassy Woodland Community (threatened), 3.75 hectares of Victorian Temperate Woodland Bird Community (threatened) and two fauna species (Brush-tailed Phascogale and Squirrel Glider – both listed as vulnerable) within the study area. Implications A total of 11 Bulokes are proposed to be impacted, all of which are located on private property. As such, a permit under the FFG Act will be not be required for their removal. The total extent of Grey Box – Buloke Grassy Woodland Community proposed to be removed is 0.046 hectares. Plants which are members of communities on the Threatened List are automatically protected flora when they occur within a patch of that community (DEECA 2024f). Approximately 500-1200 Kangaroo Grass, 15-30 Wallaby Grass, 20-30 Spear Grass and three (3) Grey Box specimens were identified within the impact area of Grey Box – Buloke Grassy Woodland Community. A permit under the FFG Act will be required as the proposed removal is located on public land. The proponent should allow up to six weeks to obtain an FFG Act permit through DEECA.	Prepare and submit an FFG Act permit application.

Relevant Legislation	Implications	Further Action
Planning and Environment Act 1987	The study area is within Location 2, with 7.5466.505 hectares of native vegetation proposed to be removed. As such, the permit application falls under the Detailed assessment pathway. The offset requirement for native vegetation removal is 1.5971.4770 General Habitat Units and 94 Large Trees. A planning permit is required to remove, destroy or lop any native vegetation under Clause 52.17 of the Planning Scheme. In this instance, the application is required to be referred to DEECA. It is understood that an application for a planning permit has been submitted (PA2302456). A permit is required under Clause 53.13 of the Planning Scheme to use or develop a renewable energy facility (other than a wind energy facility).	No further action required.
Wildlife Act 1975	Any persons engaged to conduct salvage and translocation or general handling of terrestrial fauna species must hold a current Management Authorisation.	Ensure wildlife specialists hold a current Management Authorisation.
Water Act 1989	A 'works on waterways' permit is likely to be required from the Goulburn Broken CMA where any action impacts on waterways within the study area.	Obtain a 'works on waterways' permit from the Goulburn Broken CMA.

REFERENCES

Agriculture Victoria 1994. Declared noxious weeds. URL: https://agriculture.vic.gov.au/biosecurity/protecting-victoria/legislation-policy-and-permits/consolidated-lists-of-declared-noxious-weeds-and-pest-animals.Agriculture Victoria, Department of Jobs, Precincts and Regulations, Victoria.

Agriculture Victoria 2017. Declared pest animals. URL: https://agriculture.vic.gov.au/biosecurity/protecting-victoria/legislation-policy-and-permits/consolidated-lists-of-declared-noxious-weeds-and-pest-animals.Agriculture Victoria, Department of Jobs, Precincts and Regulations, Victoria.

ALA 2023. Atlas of Living Australia. URL: https://www.ala.org.au/. Atlas of Living Australia, Canberra, ACT.

CFA 2019. *Guidelines for Renewable Energy Installations*. Country Fire Authority, Burwood East, Victoria.

DEC 2005b. *Threatened species, population and ecological communities of NSW: Brown Treecreeper.* Accessed at: http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/profile.aspx?id=10171.

DEE 2016. Petaurus norfolcensis in Species Profile and Threats Database, Department of the Environment and Energy, Canberra. Retrieved from https://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=158.

DELWP 2017. *Guidelines for the removal, destruction or lopping of native vegetation*. December 2017. Victorian Department of Environment, Land, Water and Planning, Melbourne, Victoria.

DELWP 2018. *Assessor's handbook: Applications to remove, destroy or lop native vegetation*. October 2018. Victorian Department of Environment, Land, Water and Planning, Melbourne, Victoria.

DELWP 2022. *Solar Energy Facilities Design and Development Guidelines*. Victorian Department of Environment, Land, Water and Planning, Melbourne, Victoria.

DCCEEW 2023. Protected Matters Search Tool. [www Document] URL: http://www.environment.gov.au/epbc/pmst/index.html. Commonwealth Department of Climate Change, Energy, the Environment and Water, Canberra, ACT.

DEECA 2023a. Victorian Biodiversity Atlas. Sourced from GIS layers: "VBA_FLORA25", "VBA_FLORA100", "VBA_FAUNA25", "VBA_FAUNA100". May 2023. Victorian Department of Environment, Land, Water and Planning, Melbourne, Victoria.

DEECA 2024a. NatureKit Map [www Document]. URL: https://maps2.biodiversity.vic.gov.au/Html5viewer/index.html?viewer=NatureKit. Victorian Department of Energy, Environment and Climate Action, Melbourne, Victoria.

DEECA 2024b. Native Vegetation Regulation Map [www Document]. URL: https://mapshare.vic.gov.au/nvr/. Victorian Department of Energy, Environment and Climate Action, Melbourne, Victoria.

DEECA 2024c. Ecological Vegetation Class (EVC) Benchmarks for each Bioregion [www Document]. URL: https://www.environment.vic.gov.au/biodiversity/bioregions-and-evc-benchmarks. Victorian Department of Energy, Environment and Climate Action, Melbourne, Victoria.

DEECA 2024d. Search for Native Vegetation Credit Register [www Document]. URL: https://nvcr.delwp.vic.gov.au/ Victorian Department of Energy, Environment and Climate Action, Melbourne, Victoria.

DEECA 2024e. *Flora and Fauna Guarantee Act 1988* Threatened List – February 2024 [www Document]. URL: https://www.environment.vic.gov.au/__data/assets/pdf_file/0033/634677/FFG-Threatened-List-June-2023.pdf. Victorian Department of Energy, Environment and Climate Action, Melbourne, Victoria.

DEECA 2024f. *Flora and Fauna Guarantee Act 1988* Declared Protected Flora Guidelines – April 2024 [www Document]. URL: https://www.environment.vic.gov.au/__data/assets/pdf_file/0032/704939/Declared_Protected_Flora_Guidelines.pdf. Victorian Department of Energy, Environment and Climate Action, Melbourne, Victoria.

DEWHA 2009. Significant impact guidelines for the critically endangered spiny rice-flower (*Pimelea spinescens* subsp. *spinescens).* Nationally threatened species and ecological communities. EPBC Act policy statement 3.11. Department of Environment, Water, Heritage and the Arts, Canberra.

DSE 1997. Flora and Fauna Guarantee Act 1988 Approved Action Statement for P. tapoatafa Phascogale tapoatafa. Department of Sustainability and Environment, Victoria.

DSE 2003. Velvet Daisy-bush Olearia pannosa subsp. cardiophylla. Action Statement – Flora and fauna Guarantee Action 1988. Issue No. 189. Prepared by the Victorian Department of Sustainability and Environment.

DSE 2004. *Vegetation quality assessment manual: Guidelines for applying the habitat hectares scoring method.* Version 1.3. Victorian Department of Sustainability and Environment, Melbourne Victoria.

DSE 2011. *Native Vegetation Technical information sheet: Defining an acceptable distance for tree retention during construction works*. Victorian Department of Sustainability and Environment, Melbourne, Victoria.

DSEWPC 2016. Allocasuarina luehmannii in Species Profile and Threats Database. Department of the Environment, Canberra. Retrieved from https://www.environment.gov.au/

DTP 2023. VicPlan Map [www Document]. URL: https://mapshare.vic.gov.au/vicplan/. Victorian Department of Transport and Planning, Melbourne, Victoria.

EPA 2020a. *Civil construction, building and demolition guide*. Publication 1834. Published document prepared by the Victorian Environmental Protection Authority, Melbourne, Victoria.

EPA 2020b. *Erosion, sediment and dust: Treatment train*. Publication 1893. Published document prepared by the Victorian Environment Protection Authority, Melbourne, Victoria.

Higgins, P. J., Peter, J. M. and Steele, W. K. (Eds.) 2001. *The Handbook of Australian, New Zealand and Antarctic Birds. Volume 5: Tyrant-flycatchers to Chats*. Oxford University Press, Melbourne.

MCMA 2009. Squirrel Glider habitat management guide: a landholder guide for managing Squirrel Glider habitat in southern New South Wales. Prepared by the Murray Catchment Management Authority, November 2009.

Menkhorst, P.W. and Seebeck J. H. 1995. Southern Brown Bandicoot. In 'Mammals of Victoria: Distribution, Ecology and Conservation'. (Ed. PW Menkhorst) pp. 70-72. (Oxford University Press: Oxford).

Menkhorst, P. and Knight, F. 2004. A Field Guide to the Mammals of Australia (2nd edition). Oxford University Press, Melbourne.

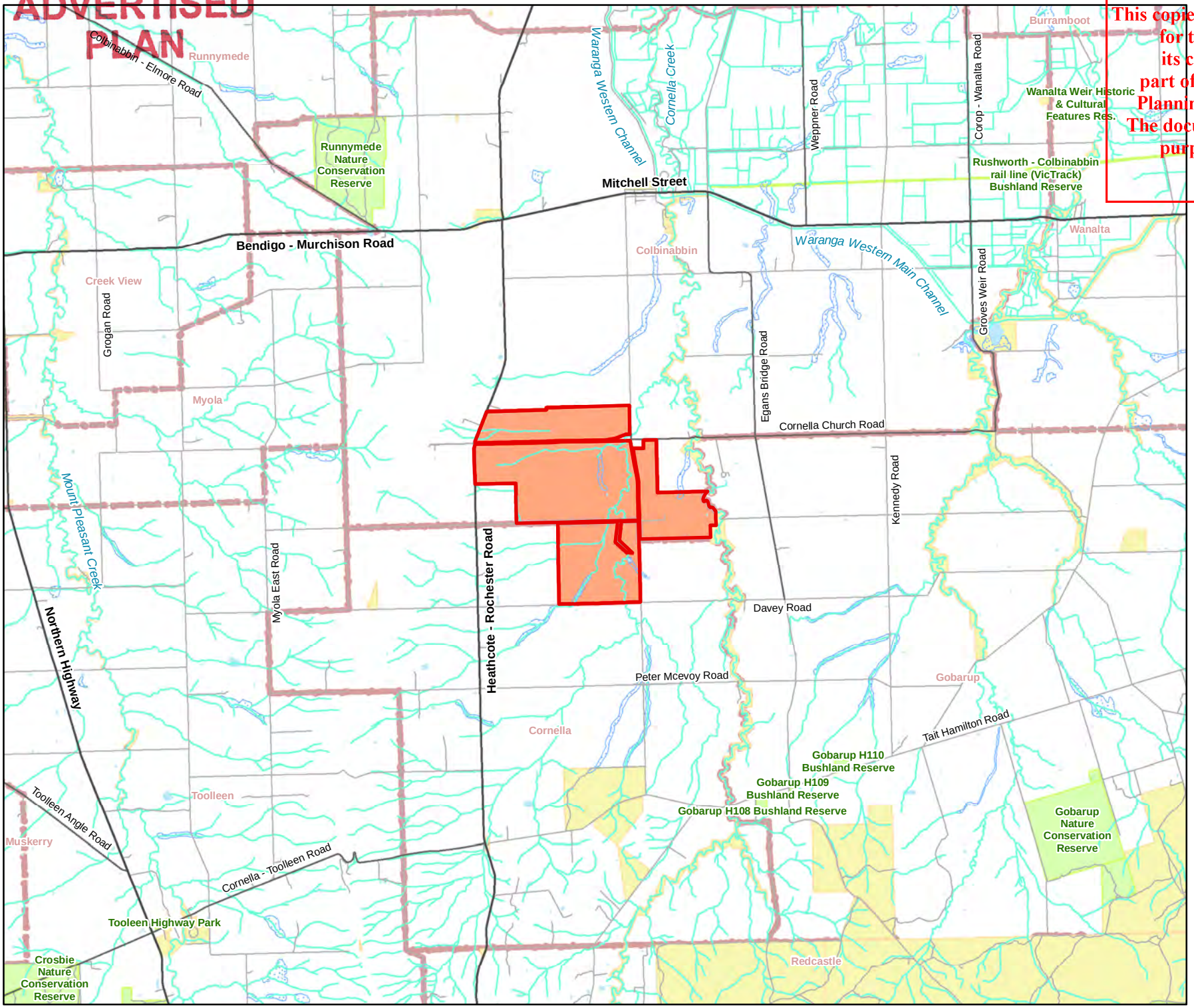
Menkhorst, P. W. and Knight, F. 2011. A field guide to the mammals of Australia. Oxford University Press, Melbourne.

Traill, B. J. and Coates, TD. 1993. Field observations on the P. tapoatafa Phascogale tapoatafa (Marsupialia: Dasyuridae). Australian Mammalogy 16, 61-65.

Van der Ree, R., Bennett, A.F., and Soderquist, T.R. 2006. Nest-tree selection by the threatened brush-tailed phascogale (Phascogale tapoatafa) (Marsupialia: Dasyuridae) in a highly fragmented agricultural landscape. *Wildlife Research* 33, 113–119.

Victorian Urban Stormwater Committee 1999. *Urban Stormwater: Best Practice Environmental Management Guidelines*. CSIRO, Collingwood, Victoria.

FIGURES



Legend

- Study Area
- Major Road
- Collector Road
- Minor Road
- Minor Watercourse
- Permanent Waterbody
- Land Subject to Inundation
- Parks and Reserves
- Crown Land
- Localities

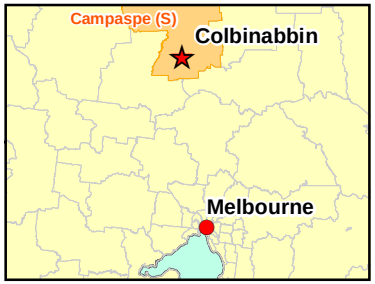


Figure 1

Location of the study area

Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

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Kilometres

Map Scale: 1:100,000 @ A4

Coordinate System: GDA2020 MGA Zone 55

ecology & heritage partners

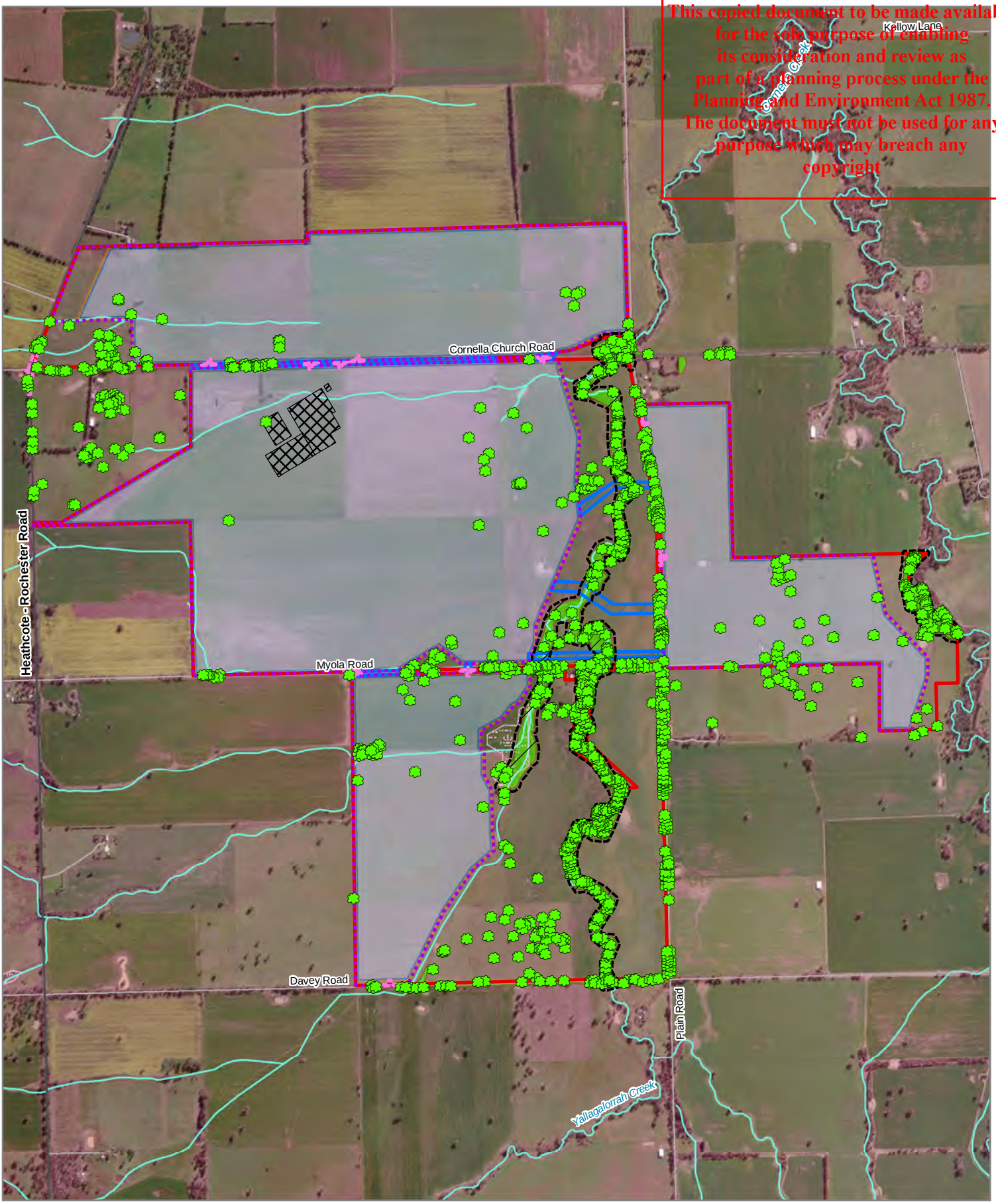


Figure 2 Overview

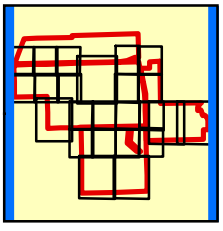
Ecological features

Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

Legend

- Study Area
- Current Wetlands
- Site entry/exit impact area
- Solar Array Fencing
- MV Cable and OHL Crossing
- Substation, Switchyard, BESS and Other Features
- Solar Array
- Firefighting Easement
- No-Go zone
- Native trees
- Native vegetation

ADVERTISED PLAN



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Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Figure 2a

Ecological features

Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

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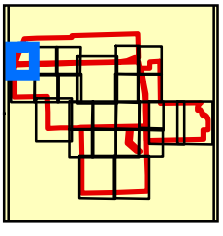
Legend

- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- Solar Array
- Firefighting Easement
- Scattered Large Tree
- Scattered Small Tree
- Large Tree in patch
- Tree - Direct impact
- Tree Protection Zone

Ecological Vegetation Classes

- Plains Woodland (EVC 803)
- Impacted vegetation



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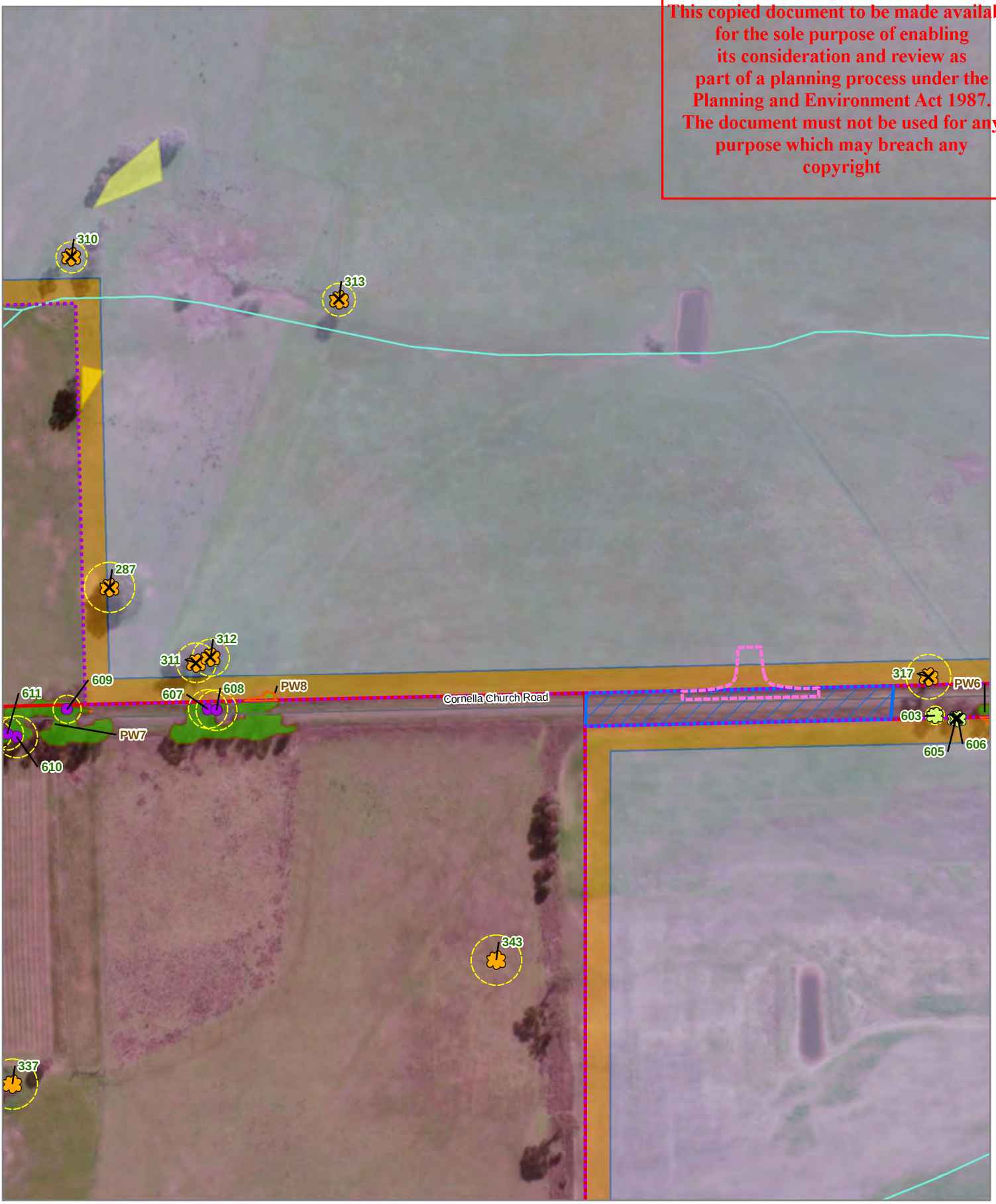


Figure 2b
Ecological features
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

ecology & heritage partners

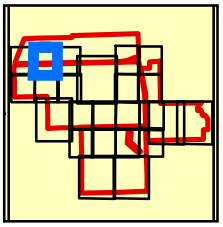
Legend

- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- MV Cable and OHL Crossing
- Solar Array
- Firefighting Easement
- Scattered Large Tree
- Scattered Small Tree
- Large Tree in patch
- Tree - Direct impact
- Tree Protection Zone
- Planted vegetation

Ecological Vegetation Classes

- Plains Woodland (EVC 803)
- Impacted vegetation

ADVERTISED PLAN



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Map Scale: 1:3,000 @ A4
Coordinate System:
GDA2020 MGA Zone 55

15619_Fig02_EcoFeatPMB_G20 25/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

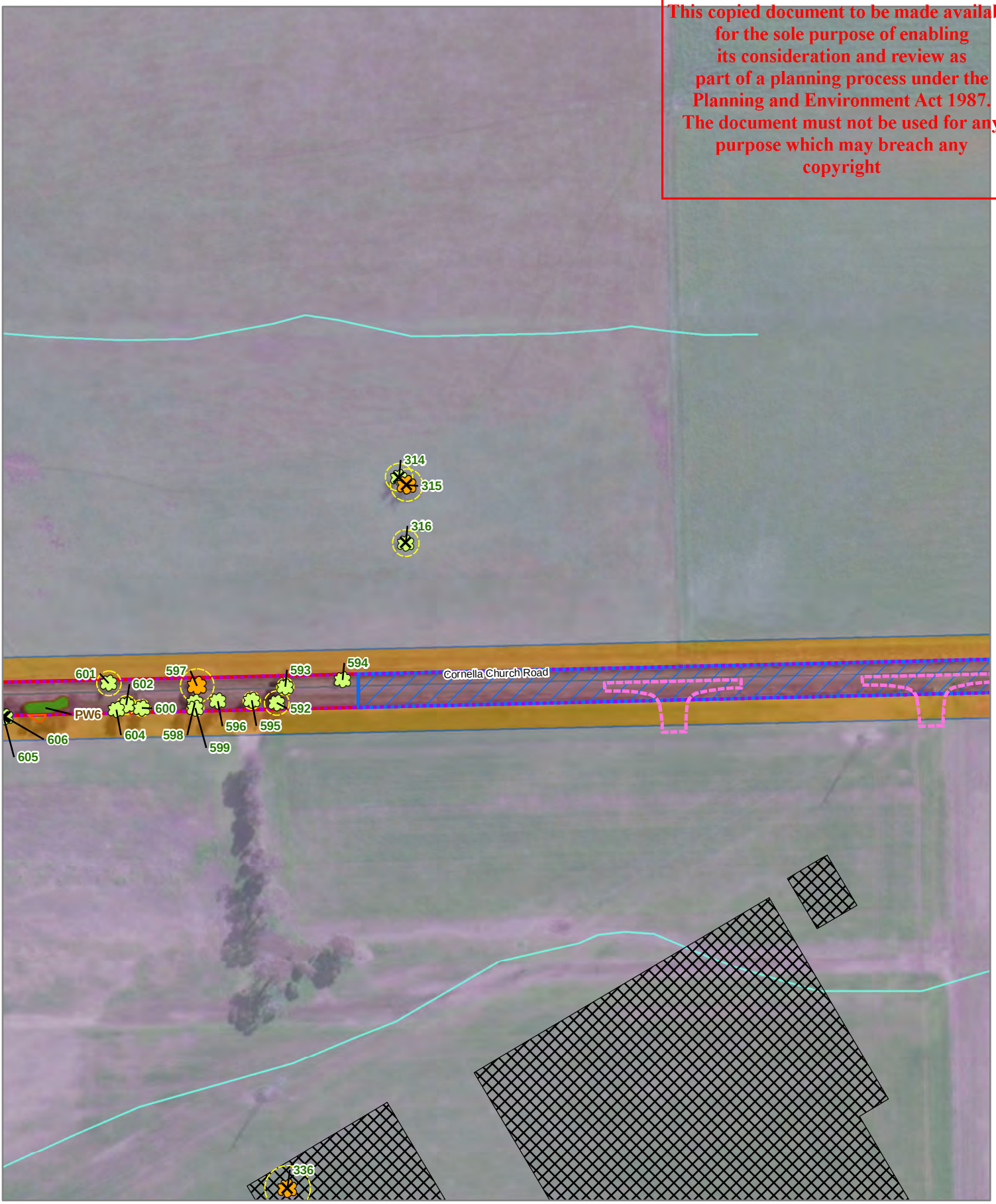


Figure 2c
Ecological features
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

ecology & heritage partners

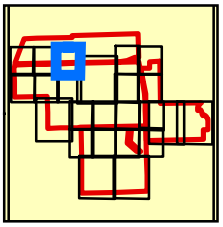
Legend

- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- MV Cable and OHL Crossing
- Substation, Switchyard, BESS and Other Features
- Solar Array
- Firefighting Easement
- Scattered Large Tree
- Scattered Small Tree
- Tree - Direct impact
- Tree Protection Zone

Ecological Vegetation Classes

- Plains Woodland (EVC 803)
- Impacted vegetation

ADVERTISED PLAN



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Metres

Map Scale: 1:3,000 @ A4
Coordinate System: GDA2020 MGA Zone 55

15619_Fig02_EcoFeatPMB_G20 25/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

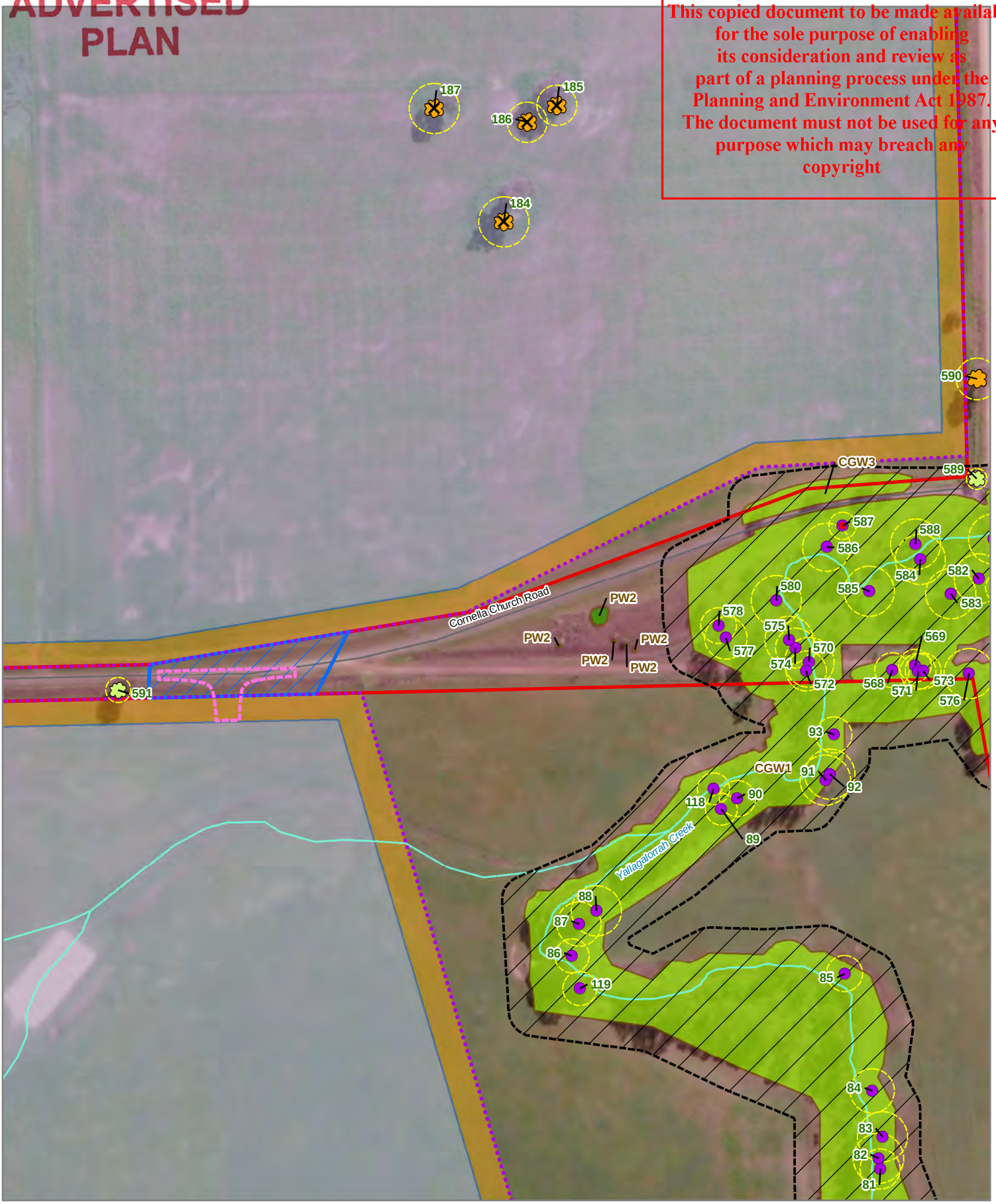


Figure 2d

Ecological features

Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

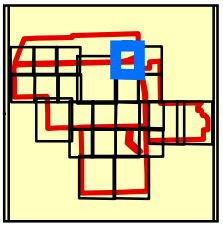
ecology & heritage partners

Legend

- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- MV Cable and OHL Crossing
- Solar Array
- Firefighting Easement
- No-Go zone
- Scattered Large Tree
- Scattered Small Tree
- Large Tree in patch
- Tree - Direct impact
- Bulokes
- Tree Protection Zone

Ecological Vegetation Classes

- Creekline Grassy Woodland (EVC 68)
- Plains Woodland (EVC 803)



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Metres

Map Scale: 1:3,000 @ A4
Coordinate System: GDA2020 MGA Zone 55

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Figure 2e

Ecological features

Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

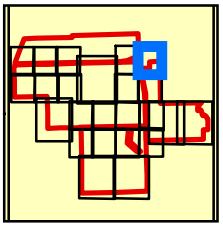
ecology & heritage partners

Legend

- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- Solar Array
- Firefighting Easement
- No-Go zone
- Scattered Large Tree
- Scattered Small Tree
- Large Tree in patch
- Tree Protection Zone

Ecological Vegetation Classes

- Creekline Grassy Woodland (EVC 68)
- Plains Woodland (EVC 803)
- Impacted vegetation



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Metres

Map Scale: 1:3,000 @ A4
Coordinate System: GDA2020 MGA Zone 55

15619_Fig02_EcoFeatPMB_G20 25/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Figure 2f
Ecological features
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

ecology & heritage partners

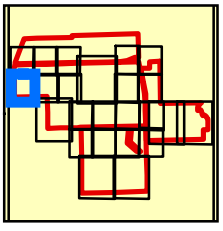
Legend

- Study Area
- Solar Array Fencing
- Solar Array
- Firefighting Easement
- Scattered Large Tree
- Scattered Small Tree
- Large Tree in patch
- Tree Protection Zone

Ecological Vegetation Classes

- Plains Woodland (EVC 803)

ADVERTISED PLAN



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Map Scale: 1:3,000 @ A4
Coordinate System:
GDA2020 MGA Zone 55

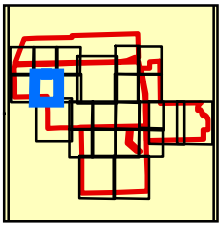
15619_Fig02_EcoFeatPMB_G20 25/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Figure 2g
Ecological features
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

ecology & heritage partners

Legend
- Study Area
- Solar Array Fencing
- Solar Array
- Firefighting Easement
- Scattered Large Tree
- Scattered Small Tree
- Tree - Direct impact
- Tree Protection Zone



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Metres

Map Scale: 1:3,000 @ A4
Coordinate System:
GDA2020 MGA Zone 55

15619_Fig02_EcoFeatPMB_G20 25/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

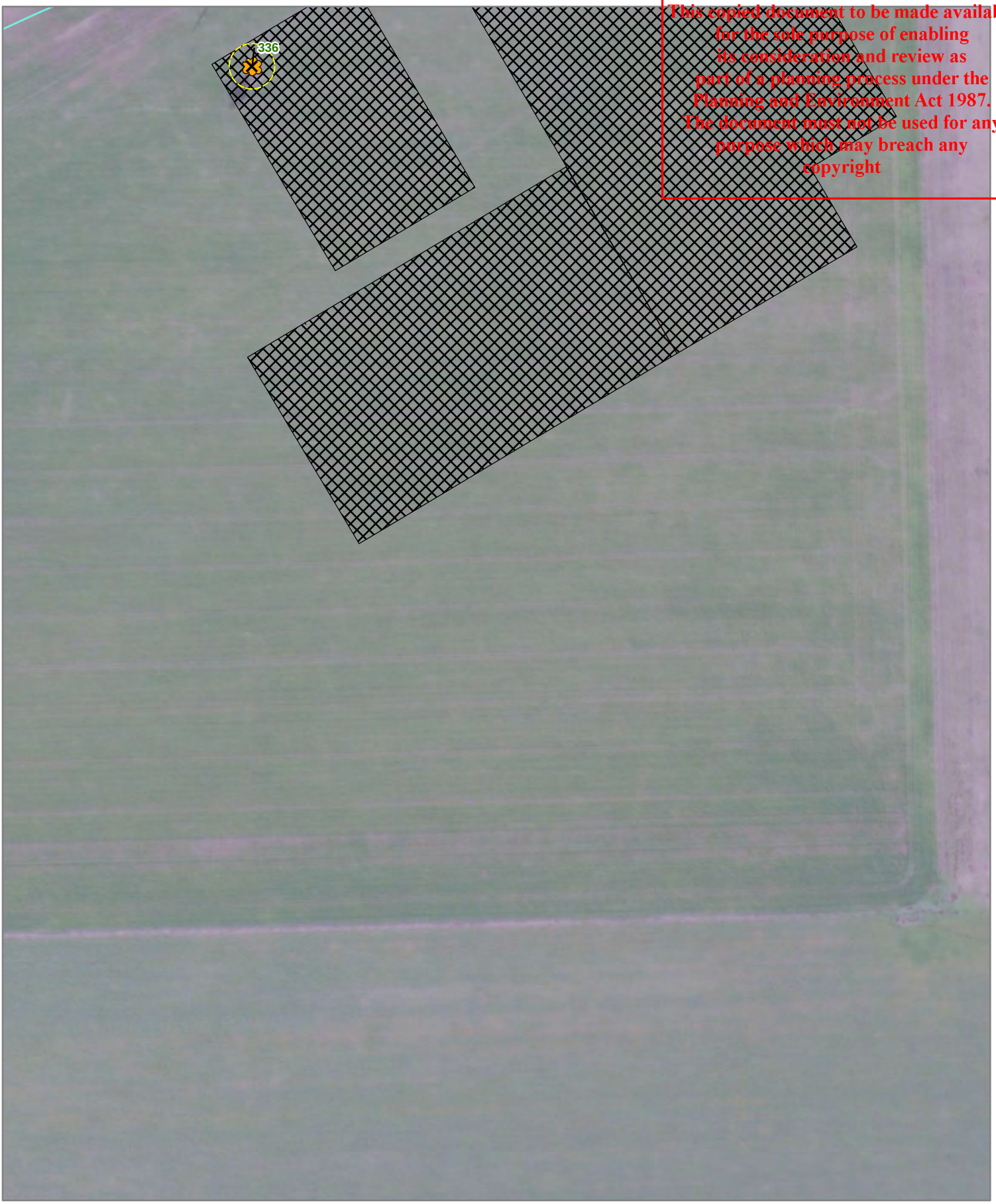
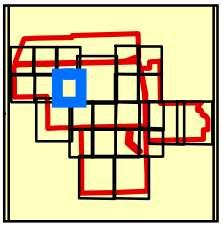


Figure 2h
Ecological features
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

Legend
- Study Area
- Solar Array Fencing
- Substation, Switchyard, BESS and Other Features
- Solar Array
- Scattered Large Tree
- Tree - Direct impact
- Tree Protection Zone



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Map Scale: 1:3,000 @ A4
Coordinate System:
GDA2020 MGA Zone 55

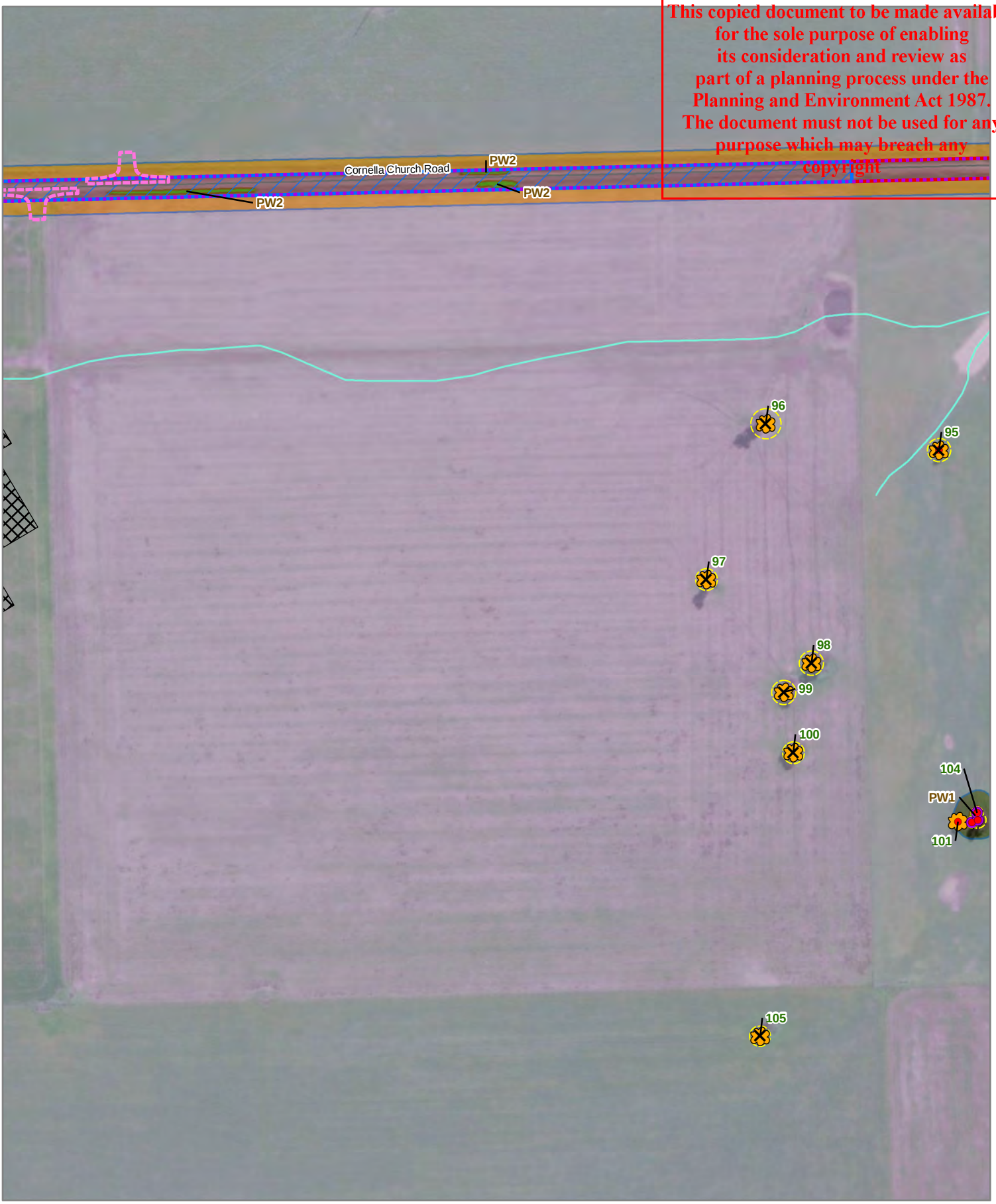


Figure 2i
Ecological features
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

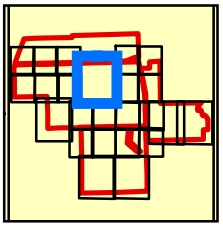
ecology & heritage partners

Legend

- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- MV Cable and OHL Crossing
- Substation, Switchyard, BESS and Other Features
- Solar Array
- Firefighting Easement
- Scattered Large Tree
- Large Tree in patch
- Tree - Direct impact
- Bulokes
- Tree Protection Zone

Ecological Vegetation Classes

- Plains Woodland (EVC 803)



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Metres

Map Scale: 1:5,000 @ A4
Coordinate System: GDA2020 MGA Zone 55

15619_Fig02_EcoFeatPMB_G20 25/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

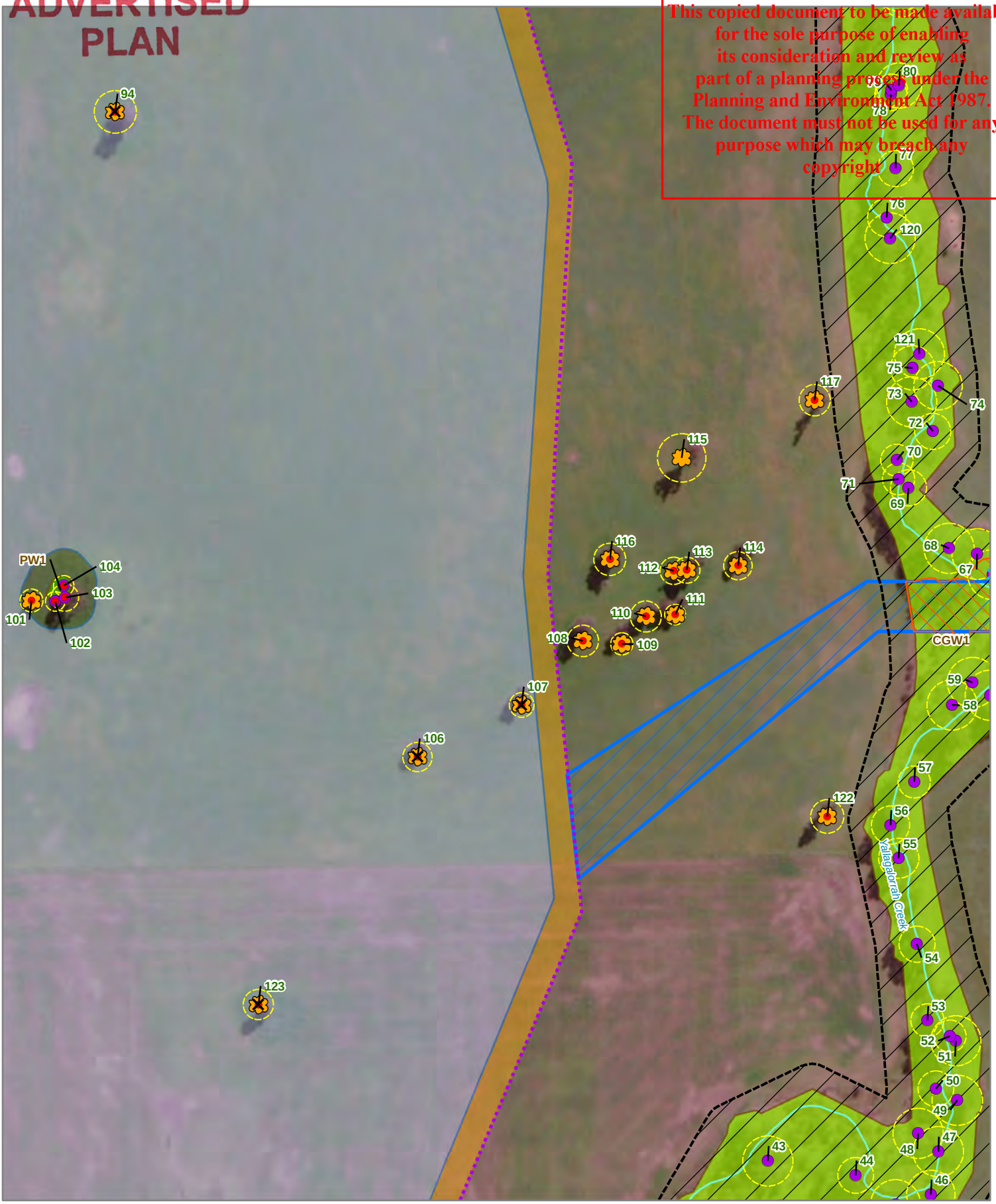


Figure 2j
Ecological features
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

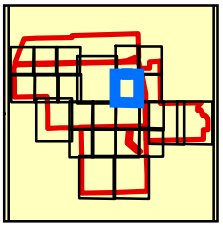
ecology & heritage partners

Legend

- Study Area
- Solar Array Fencing
- MV Cable and OHL Crossing
- Solar Array
- Firefighting Easement
- No-Go zone
- Scattered Large Tree
- Large Tree in patch
- Tree - Direct impact
- Tree - Indirect impact
- Bulokes
- Tree Protection Zone

Ecological Vegetation Classes

- Creekline Grassy Woodland (EVC 68)
- Plains Woodland (EVC 803)
- Impacted vegetation



N

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Metres

Map Scale: 1:3,000 @ A4
Coordinate System: GDA2020 MGA Zone 55

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Figure 2k

Ecological features

Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

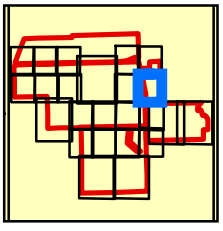
ecology & heritage partners

Legend

- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- MV Cable and OHL Crossing
- Solar Array
- Firefighting Easement
- No-Go zone
- Scattered Large Tree
- Large Tree in patch
- Tree - Direct impact
- Tree - Indirect impact
- Tree Protection Zone

Ecological Vegetation Classes

- Creekline Grassy Woodland (EVC 68)
- Plains Woodland (EVC 803)
- Impacted vegetation



N

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Metres

Map Scale: 1:3,000 @ A4
Coordinate System: GDA2020 MGA Zone 55

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Figure 2l
Ecological features
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

ecology & heritage partners

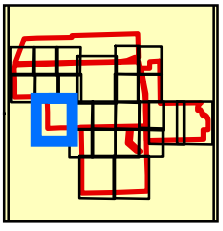
Legend

- Study Area
- Solar Array Fencing
- Solar Array
- Firefighting Easement
- Scattered Large Tree
- Scattered Small Tree
- Large Tree in patch
- Tree Protection Zone

Ecological Vegetation Classes

- Plains Woodland (EVC 803)
- Impacted vegetation

ADVERTISED PLAN



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Metres

Map Scale: 1:4,500 @ A4
Coordinate System: GDA2020 MGA Zone 55

15619_Fig02_EcoFeatPMB_G20 25/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

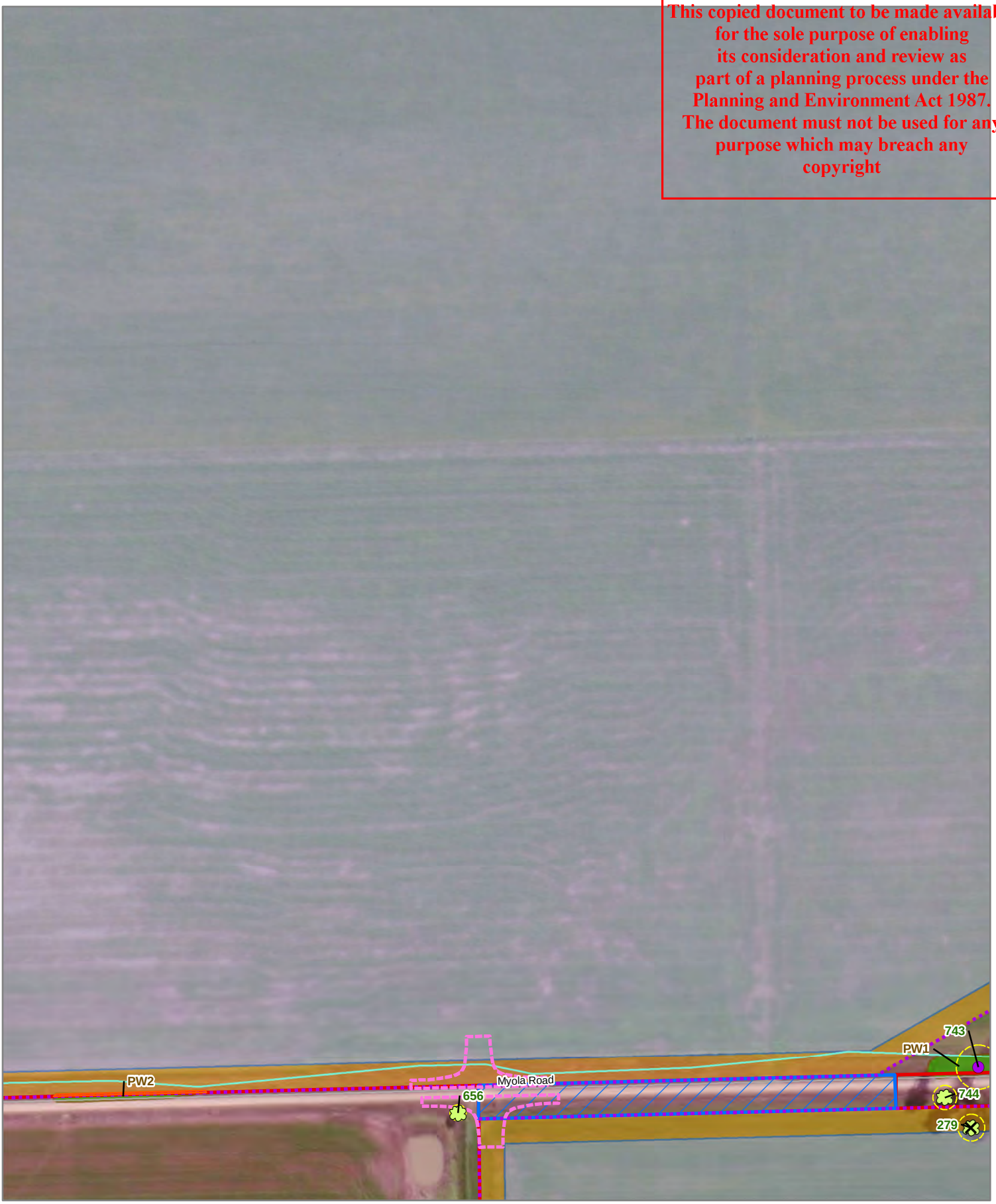


Figure 2m
Ecological features
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

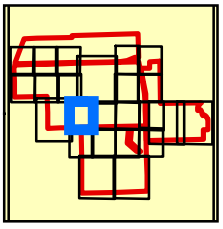
ecology & heritage partners

Legend

- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- MV Cable and OHL Crossing
- Solar Array
- Firefighting Easement
- Scattered Small Tree
- Large Tree in patch
- Tree - Direct impact
- Tree Protection Zone

Ecological Vegetation Classes

- Plains Woodland (EVC 803)
- Impacted vegetation



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Map Scale: 1:3,000 @ A4
Coordinate System: GDA2020 MGA Zone 55

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

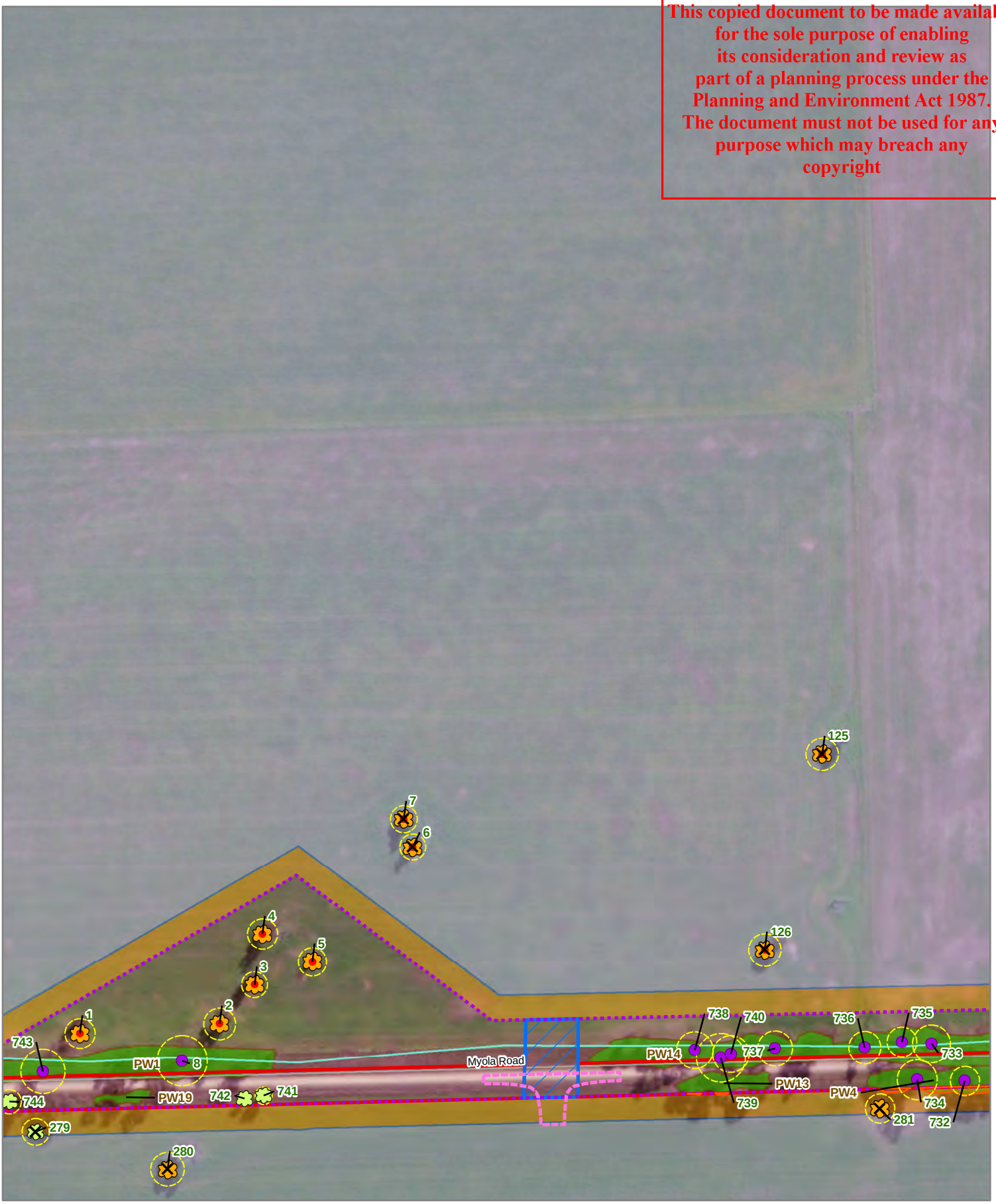


Figure 2n
Ecological features
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

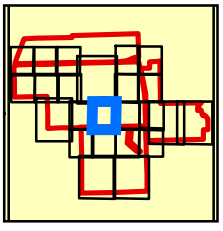
ecology & heritage partners

Legend

- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- MV Cable and OHL Crossing
- Solar Array
- Firefighting Easement
- Scattered Large Tree
- Scattered Small Tree
- Large Tree in patch
- Tree - Direct impact
- Bulokes
- Tree Protection Zone

Ecological Vegetation Classes

- Plains Woodland (EVC 803)
- Impacted vegetation



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Metres

Map Scale: 1:3,000 @ A4
Coordinate System: GDA2020 MGA Zone 55

15619_Fig02_EcoFeatPMB_G20 25/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

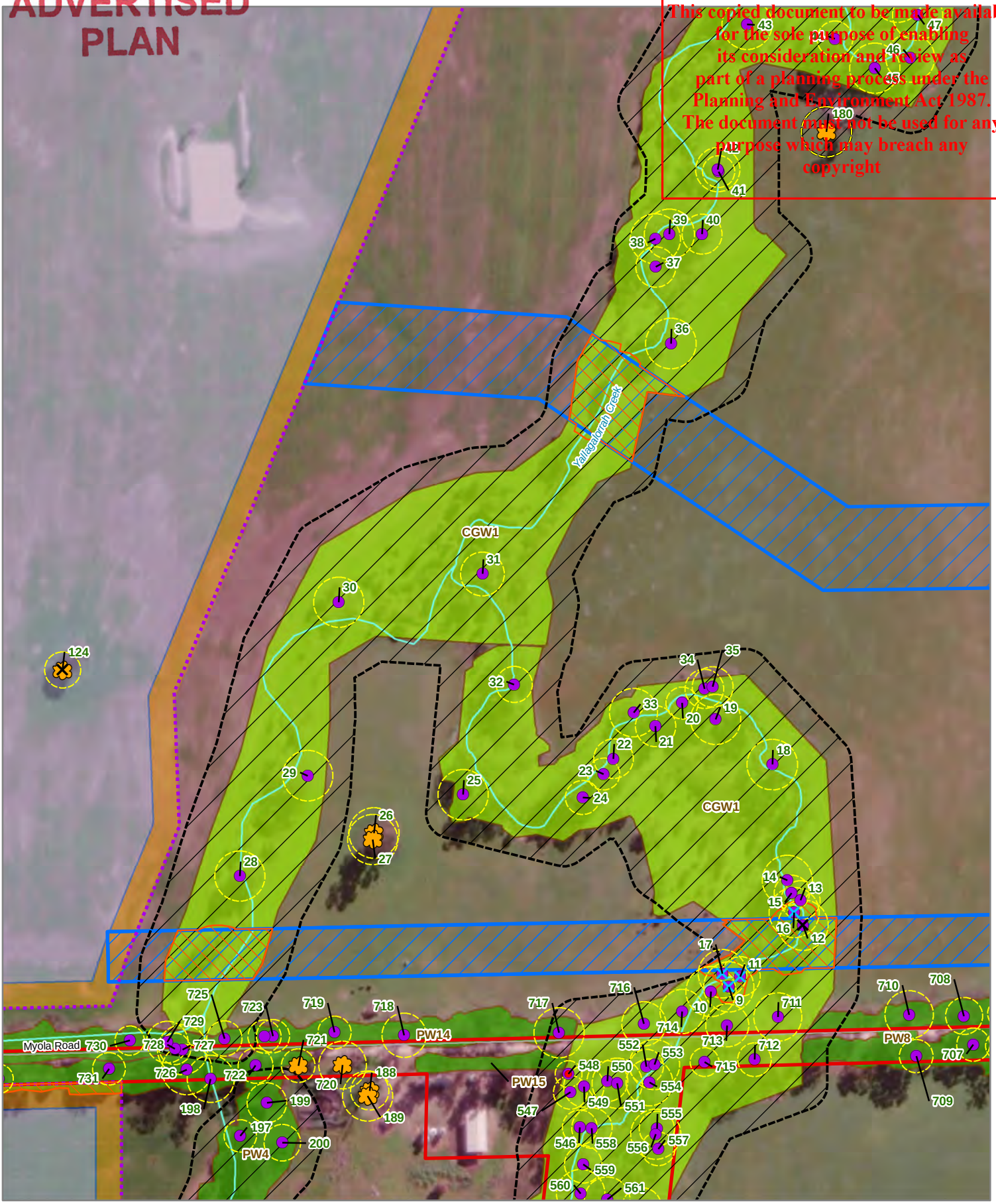


Figure 2o

Ecological features

Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

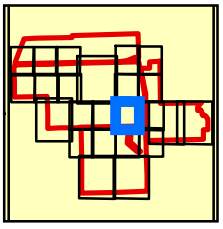
ecology & heritage partners

Legend

- Study Area
- Solar Array Fencing
- MV Cable and OHL Crossing
- Solar Array
- Firefighting Easement
- No-Go zone
- Scattered Large Tree
- Large Tree in patch
- Tree - Direct impact
- Tree - Indirect impact
- Bulokes
- Tree Protection Zone

Ecological Vegetation Classes

- Creekline Grassy Woodland (EVC 68)
- Plains Woodland (EVC 803)
- Impacted vegetation



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Metres

Map Scale: 1:3,000 @ A4
Coordinate System: GDA2020 MGA Zone 55

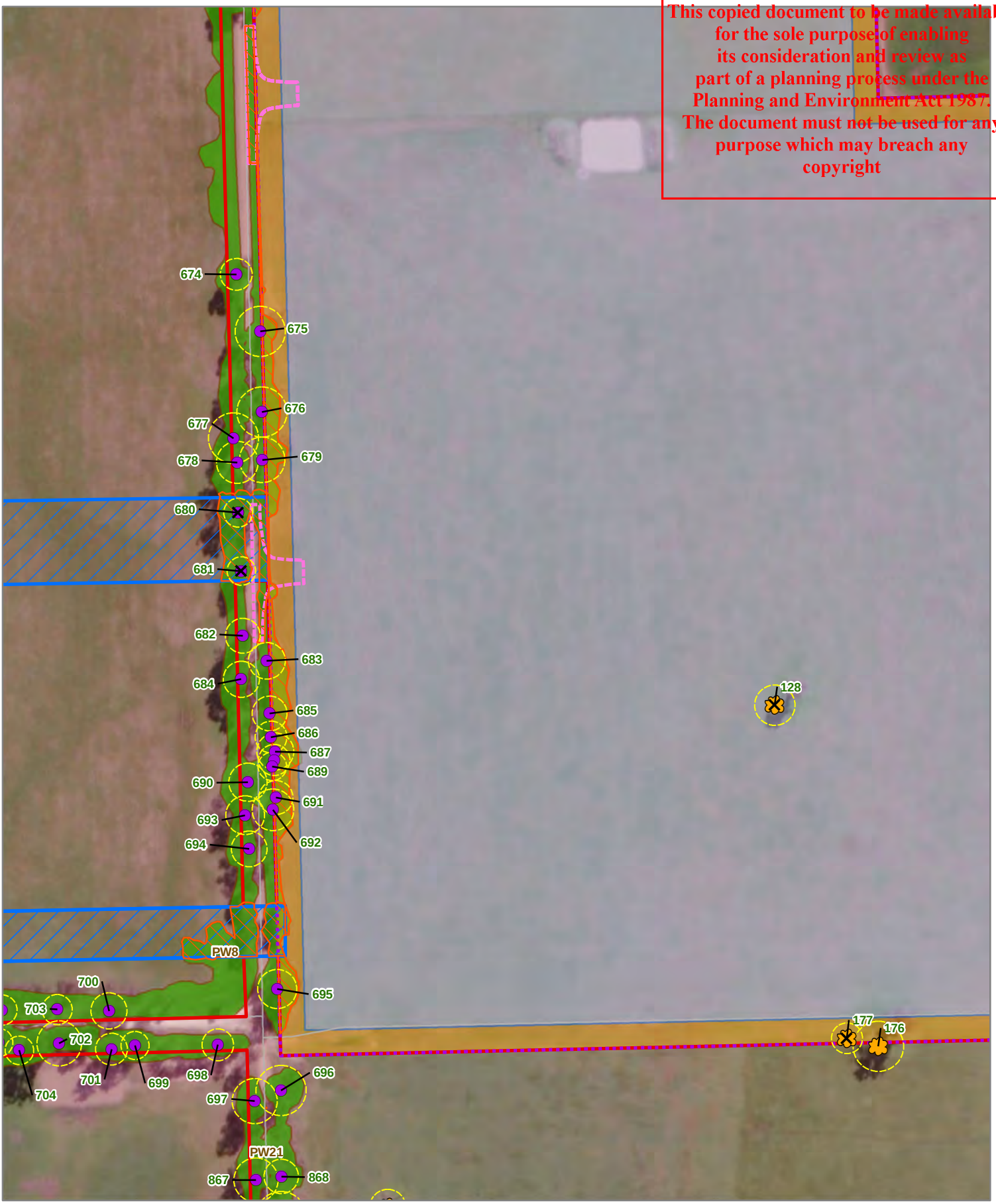


Figure 2p

Ecological features

Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

ecology & heritage partners

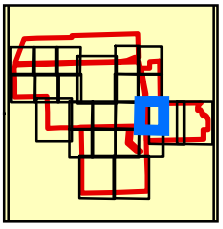
Legend

- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- MV Cable and OHL Crossing
- Solar Array
- Firefighting Easement
- Scattered Large Tree
- Large Tree in patch
- Tree - Direct impact
- Tree Protection Zone

Ecological Vegetation Classes

- Plains Woodland (EVC 803)
- Impacted vegetation

ADVERTISED PLAN



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Metres

Map Scale: 1:3,000 @ A4
Coordinate System: GDA2020 MGA Zone 55

15619_Fig02_EcoFeatPMB_G20 25/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

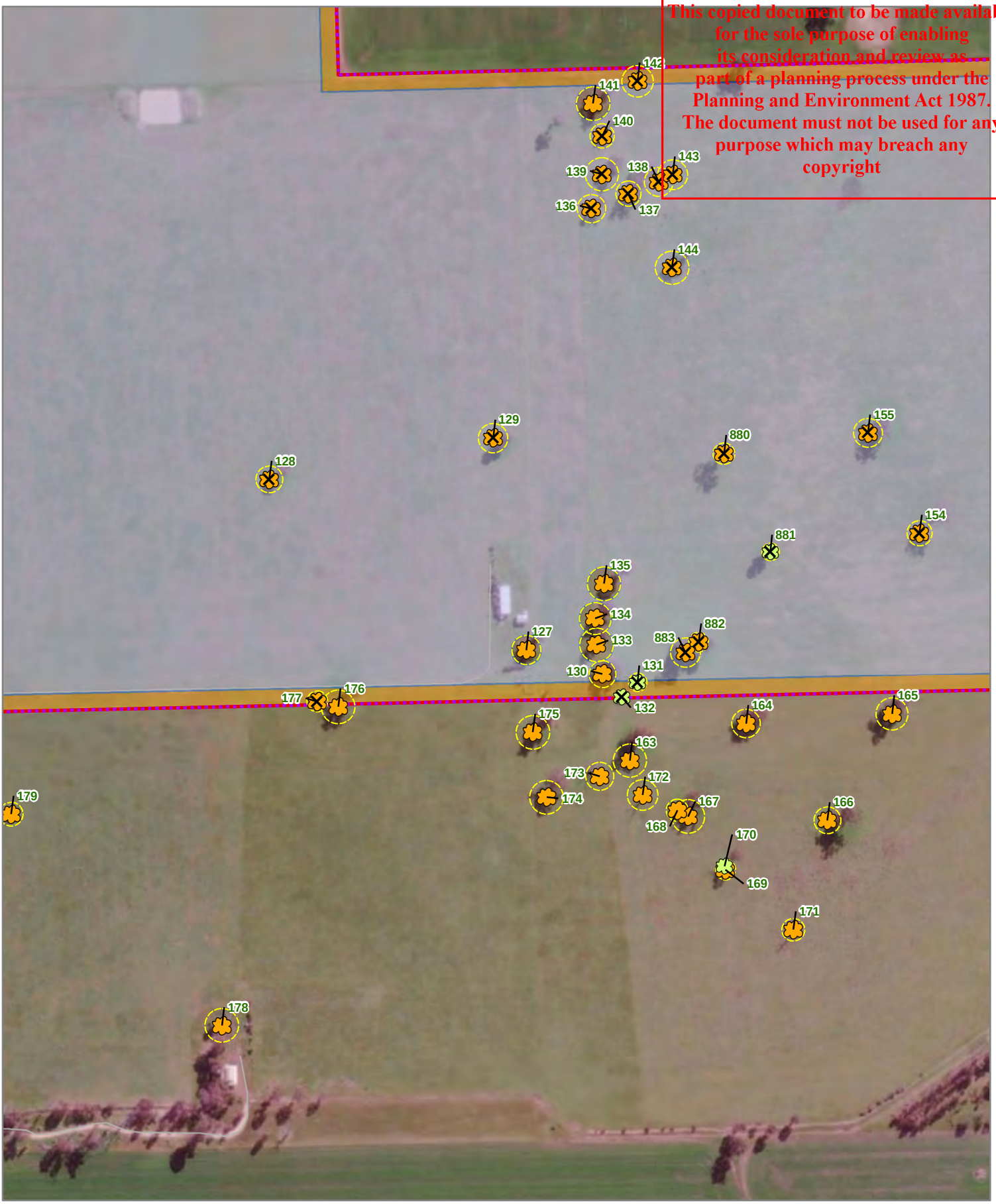
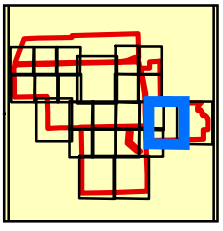


Figure 2q
Ecological features
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

ecology & heritage partners

Legend

- Study Area
- Solar Array Fencing
- Solar Array
- Firefighting Easement
- Scattered Large Tree
- Scattered Small Tree
- Tree - Direct impact
- Tree Protection Zone



N

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Metres

Map Scale: 1:4,500 @ A4
Coordinate System: GDA2020 MGA Zone 55

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

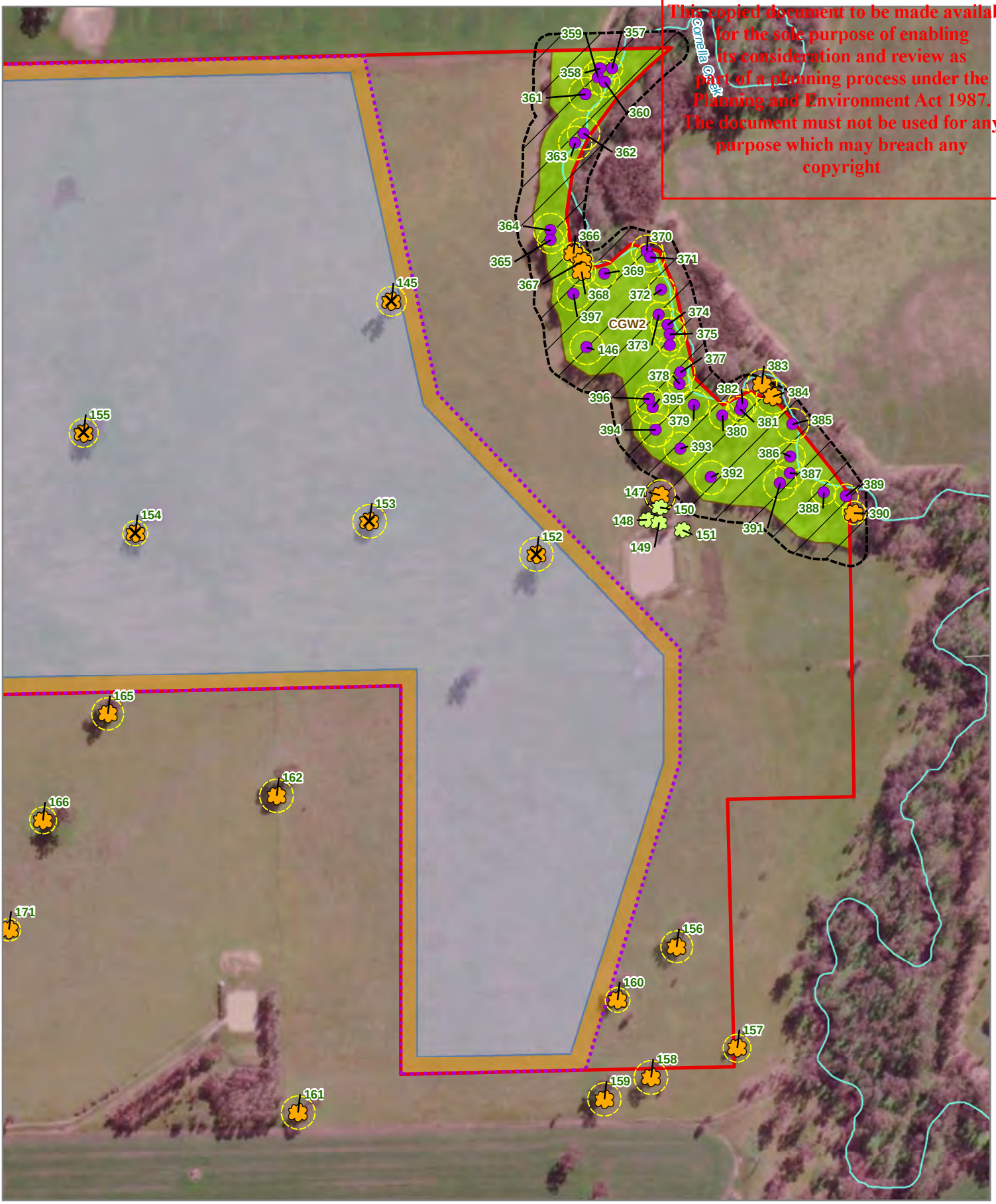


Figure 2r
Ecological features
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

ecology & heritage partners

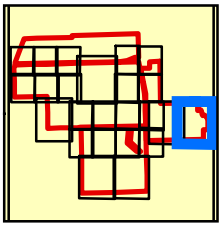
Legend

- Study Area
- Solar Array Fencing
- Solar Array
- Firefighting Easement
- No-Go zone
- Scattered Large Tree
- Scattered Small Tree
- Large Tree in patch
- Tree - Direct impact
- Tree Protection Zone

Ecological Vegetation Classes

- Creekline Grassy Woodland (EVC 68)

ADVERTISED PLAN



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Metres

Map Scale: 1:4,500 @ A4
Coordinate System: GDA2020 MGA Zone 55

15619_Fig02_EcoFeatPMB_G20 25/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

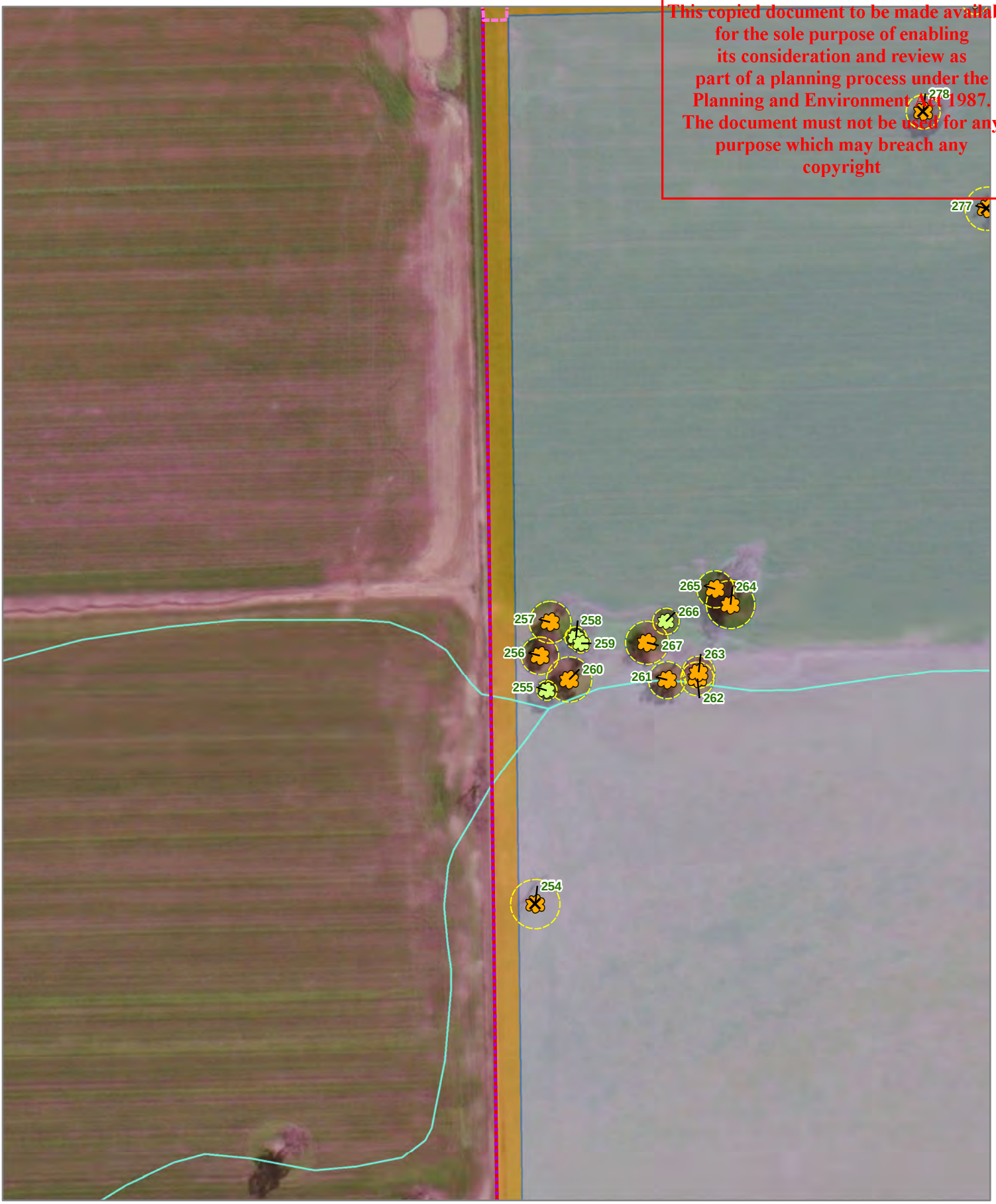
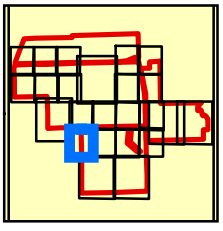


Figure 2s
Ecological features
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

ecology & heritage partners

Legend
- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- Solar Array
- Firefighting Easement
- Scattered Large Tree
- Scattered Small Tree
- Tree - Direct impact
- Tree Protection Zone

ADVERTISED PLAN



N

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Metres

Map Scale: 1:3,000 @ A4
Coordinate System:
GDA2020 MGA Zone 55

15619_Fig02_EcoFeatPMB_G20 25/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Figure 2t
Ecological features
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

ecology & heritage partners

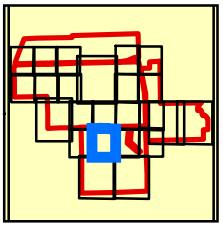
Legend

- Study Area
- Current Wetlands
- Solar Array Fencing
- Solar Array
- Firefighting Easement
- No-Go zone
- Scattered Large Tree
- Scattered Small Tree
- Large Tree in patch
- Tree - Direct impact
- Bulokes
- Tree Protection Zone

Ecological Vegetation Classes

- Plains Woodland (EVC 803)

ADVERTISED PLAN



N

0 25 50
Metres

Map Scale: 1:3,000 @ A4
Coordinate System: GDA2020 MGA Zone 55

15619_Fig02_EcoFeatPMB_G20 25/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

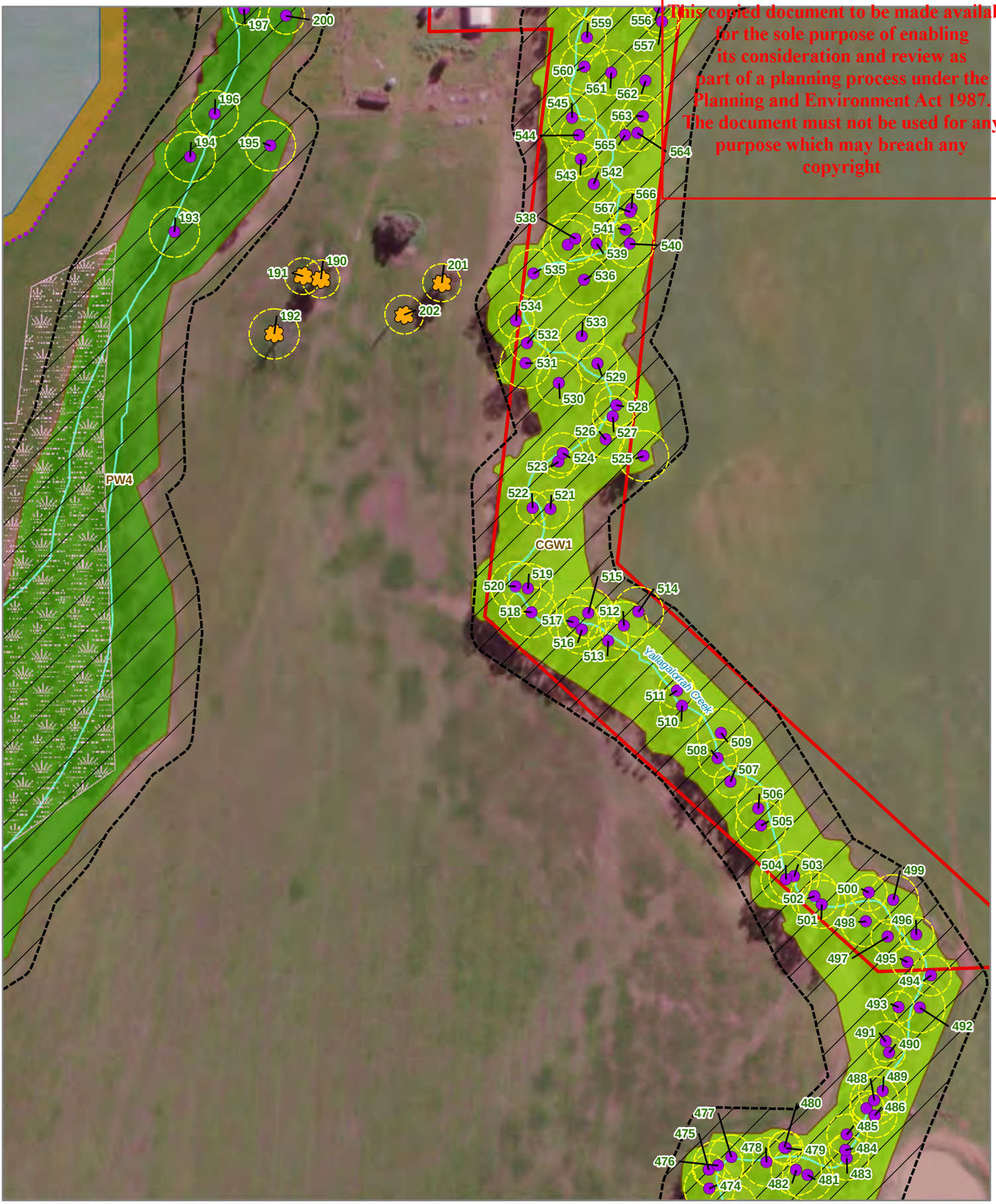


Figure 2u
Ecological features
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

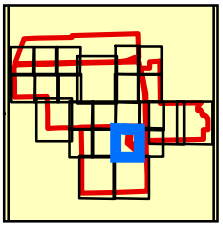
Legend

- Study Area
- Current Wetlands
- Solar Array Fencing
- Solar Array
- Firefighting Easement
- No-Go zone
- Scattered Large Tree
- Large Tree in patch
- Tree Protection Zone

Ecological Vegetation Classes

- Creekline Grassy Woodland (EVC 68)
- Plains Woodland (EVC 803)

ADVERTISED PLAN



N

0 25 50
Metres

Map Scale: 1:3,000 @ A4
Coordinate System: GDA2020 MGA Zone 55

Figure 2v
Ecological features
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

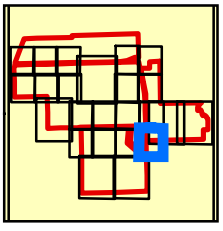
ecology & heritage partners

Legend

- Study Area
- No-Go zone
- Scattered Large Tree
- Large Tree in patch
- Tree Protection Zone

Ecological Vegetation Classes

- Plains Woodland (EVC 803)
- Impacted vegetation



N

0 25 50
Metres

Map Scale: 1:3,000 @ A4
Coordinate System:
GDA2020 MGA Zone 55

Figure 2w
Ecological features
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

ecology & heritage partners

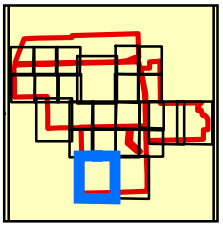
Legend

- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- Solar Array
- Firefighting Easement
- Scattered Large Tree
- Large Tree in patch
- Tree - Direct impact
- Bulokes
- Tree Protection Zone

Ecological Vegetation Classes

- Plains Woodland (EVC 803)
- Impacted vegetation

ADVERTISED PLAN



N

0 40 80
Metres

Map Scale: 1:4,500 @ A4
Coordinate System: GDA2020 MGA Zone 55

15619_Fig02_EcoFeatPMB_G20 25/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

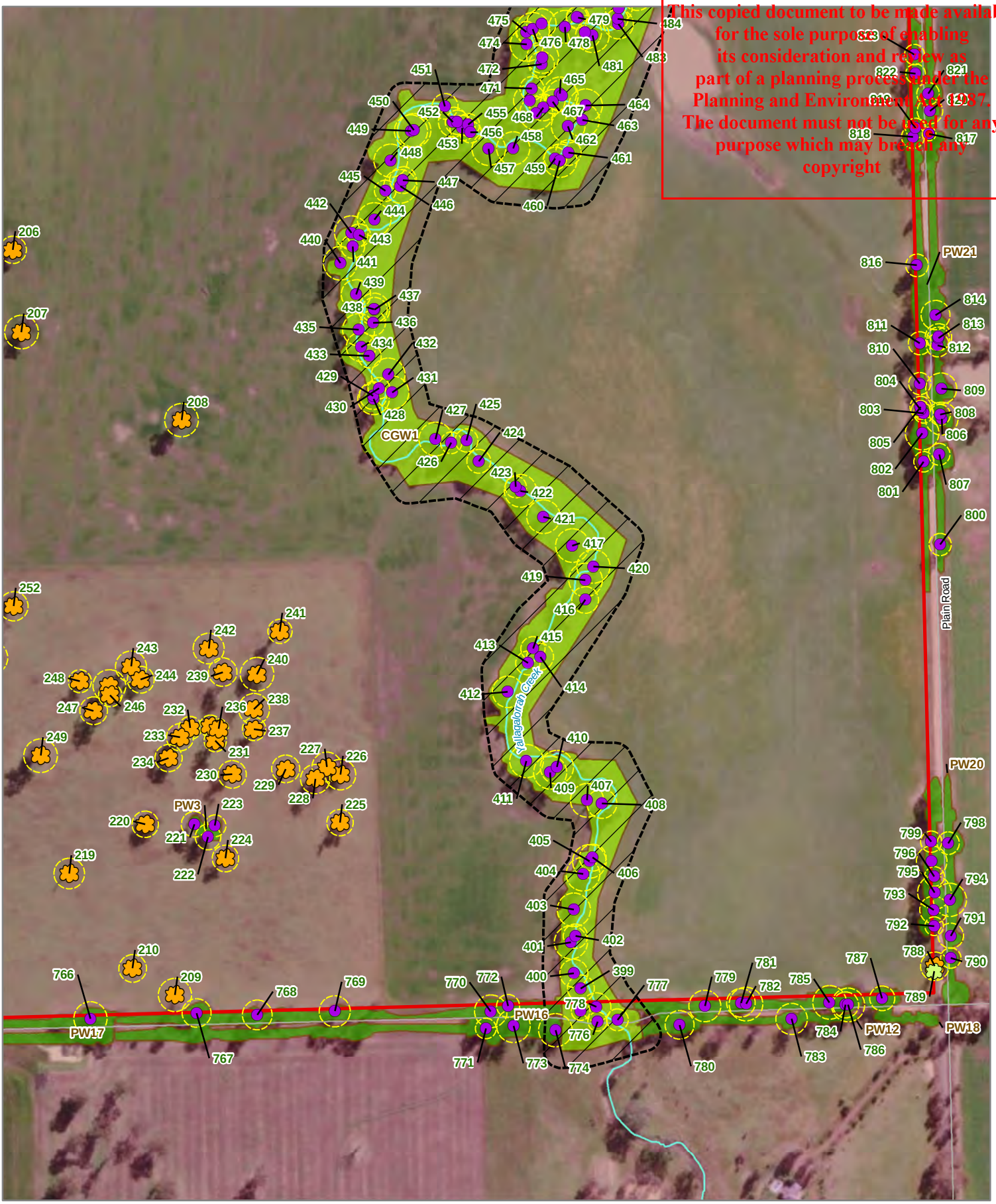


Figure 2x
Ecological features
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

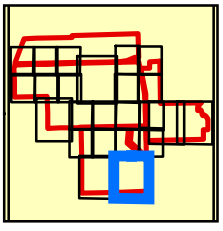
ecology & heritage partners

Legend

- Study Area
- No-Go zone
- Scattered Large Tree
- Scattered Small Tree
- Large Tree in patch
- Bulokes
- Tree Protection Zone

Ecological Vegetation Classes

- Creekline Grassy Woodland (EVC 68)
- Plains Woodland (EVC 803)



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0 40 80
Metres

Map Scale: 1:4,500 @ A4
Coordinate System: GDA2020 MGA Zone 55

15619_Fig02_EcoFeatPMB_G20 25/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Legend

Study Area

Significant flora (VBA 2023)

- Blue Mallee
- Broom Bitter-pea
- Buloke
- Cane Spear-grass
- Coccid Emu-bush
- Dainty Phebalium
- Dwarf Cassinia
- Goldfield Boronia
- Grey Grass-tree
- Heath Spear-grass
- Kamarooka Mallee
- Late-flower Flax-lily
- Spiny Rice-flower
- Velvet Daisy-bush
- Whipstick Crowea
- Whirrakee Wattle

Ecology and Heritage Partners 2023

- Buloke

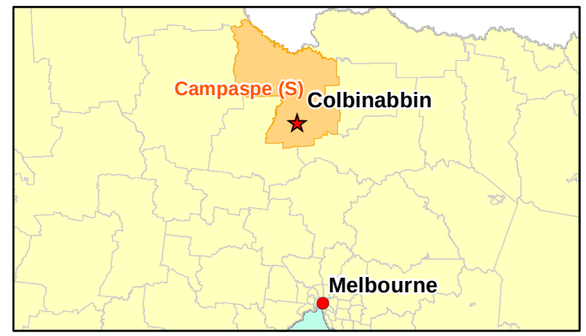


Figure 3

Previously documented significant flora within 10km of the study area

Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

0 2 4

Kilometres

Map Scale: 1:90,000 @ A3
Coordinate System: GDA2020 MGA Zone 55

ecology & heritage partners

Legend

Study Area

Significant fauna (VBA 2023)

- Australasian Bittern
- Australasian Shoveler
- Australian Little Bittern
- Black Falcon
- Blue-billed Duck
- Blue-winged Parrot
- Brolga
- Brown Toadlet
- Brown Treecreeper
- Brush-tailed Phascogale
- Bush Stone-curlew
- Caspian Tern
- Chestnut-rumped Heathwren
- Common Sandpiper
- Crested Bellbird
- Diamond Firetail
- Eastern Great Egret
- Flat-headed Galaxias
- Grey-crowned Babbler
- Growling Grass Frog
- Hardhead
- Hooded Robin
- Lace Monitor
- Little Eagle
- Musk Duck
- Painted Honeyeater
- Regent Honeyeater
- Southern Whiteface
- Speckled Warbler
- Squirrel Glider
- Swift Parrot
- White-bellied Sea-Eagle
- White-throated Needletail

Ecology and Heritage Partners 2023

- Brown Treecreeper
- Squirrel Glider
- Brush-tailed Phascogale

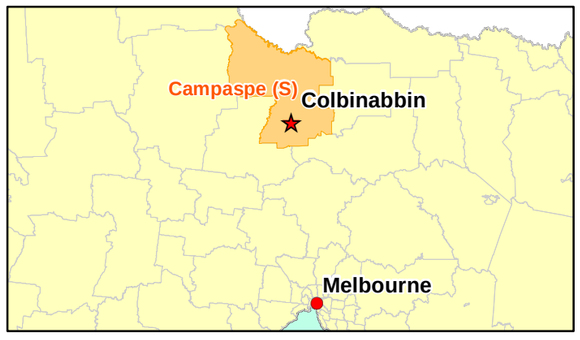


Figure 4

Previously documented significant fauna within 10km of the study area

Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

0 2 4

Kilometres

Map Scale: 1:90,000 @ A3
Coordinate System: GDA2020 MGA Zone 55

ecology & heritage partners

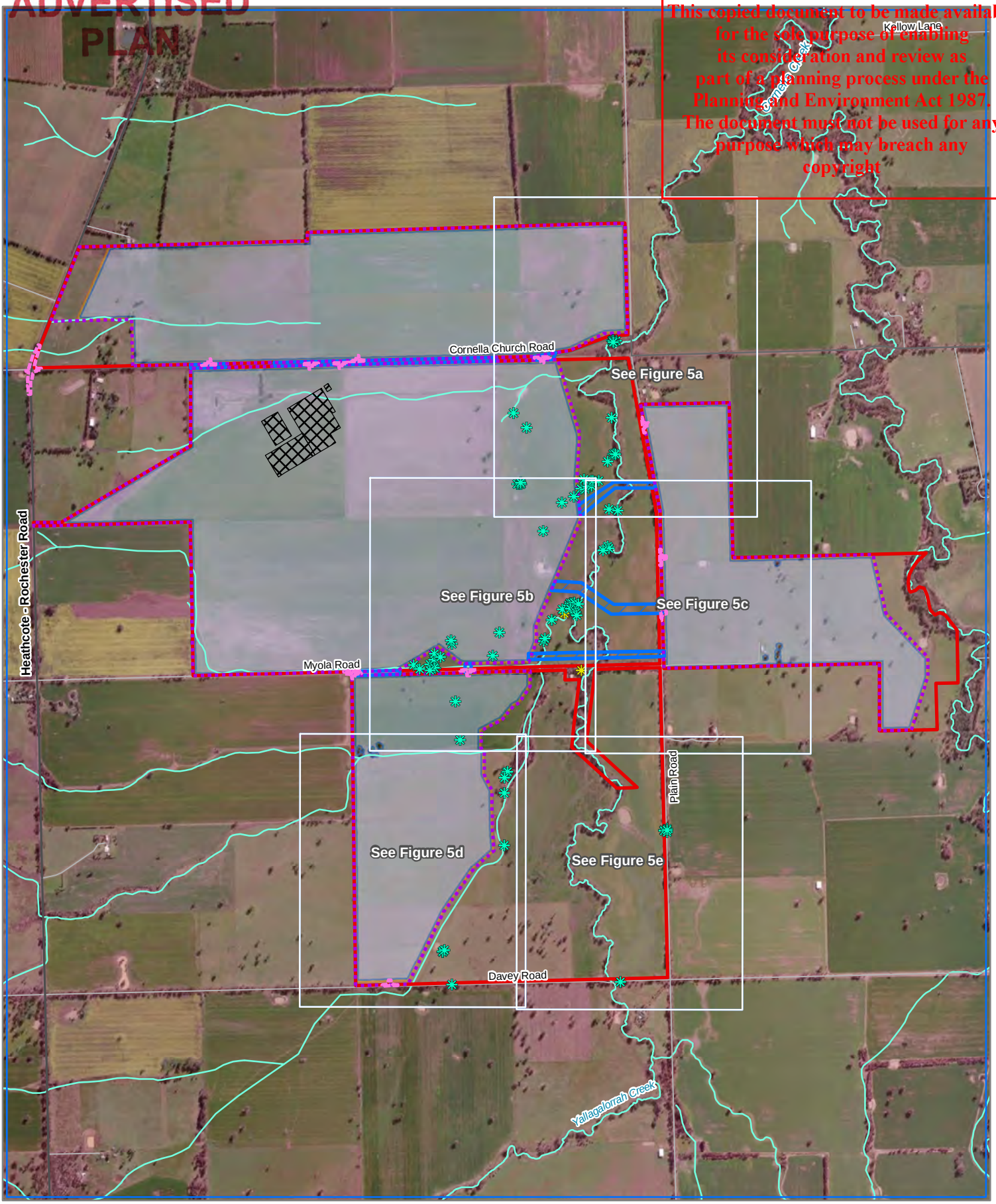


Figure 5 Overview

Targeted flora survey

Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

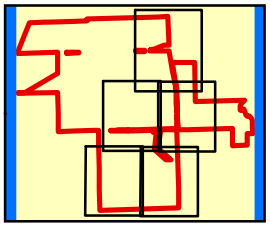
ecology & heritage partners

Legend

- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- MV Cable and OHL Crossing
- Substation, Switchyard, BESS and Other Features
- Solar Array
- Firefighting Easement

FFG Act Listed Flora

- *Allocasuarina luehmannii*
- *Allocasuarina luehmannii stag*



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Metres

Map Scale: 1:26,000 @ A4
Coordinate System: GDA2020 MGA Zone 55

15619_Fig05_FloraSurvPMB_G20 26/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Figure 5a
Targeted flora survey
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

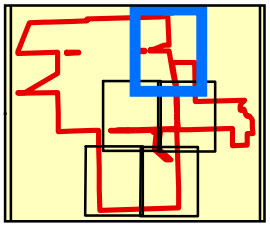
ecology & heritage partners

Legend

- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- MV Cable and OHL Crossing
- Solar Array
- Firefighting Easement

FFG Act Listed Flora

- *Allocasuarina luehmannii*



N

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Metres

Map Scale: 1:7,000 @ A4
Coordinate System:
GDA2020 MGA Zone 55

15619_Fig05_FloraSurvPMB_G20 26/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

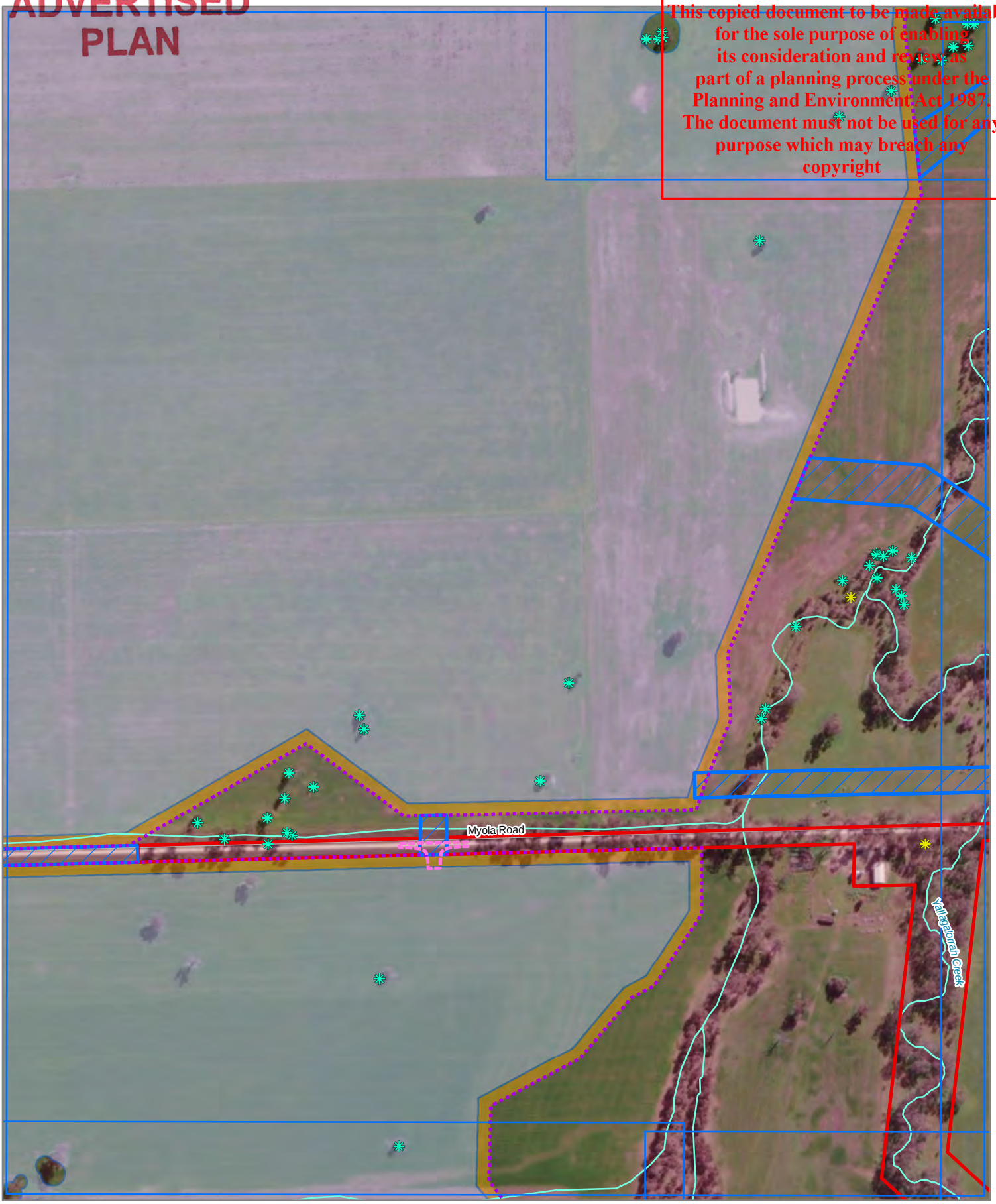


Figure 5b
Targeted flora survey
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

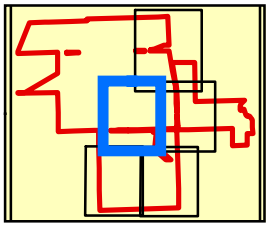
ecology & heritage partners

Legend

- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- MV Cable and OHL Crossing
- Solar Array
- Firefighting Easement

FFG Act Listed Flora

- *Allocasuarina luehmannii*
- *Allocasuarina luehmannii stag*



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Map Scale: 1:6,000 @ A4
Coordinate System:
GDA2020 MGA Zone 55

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

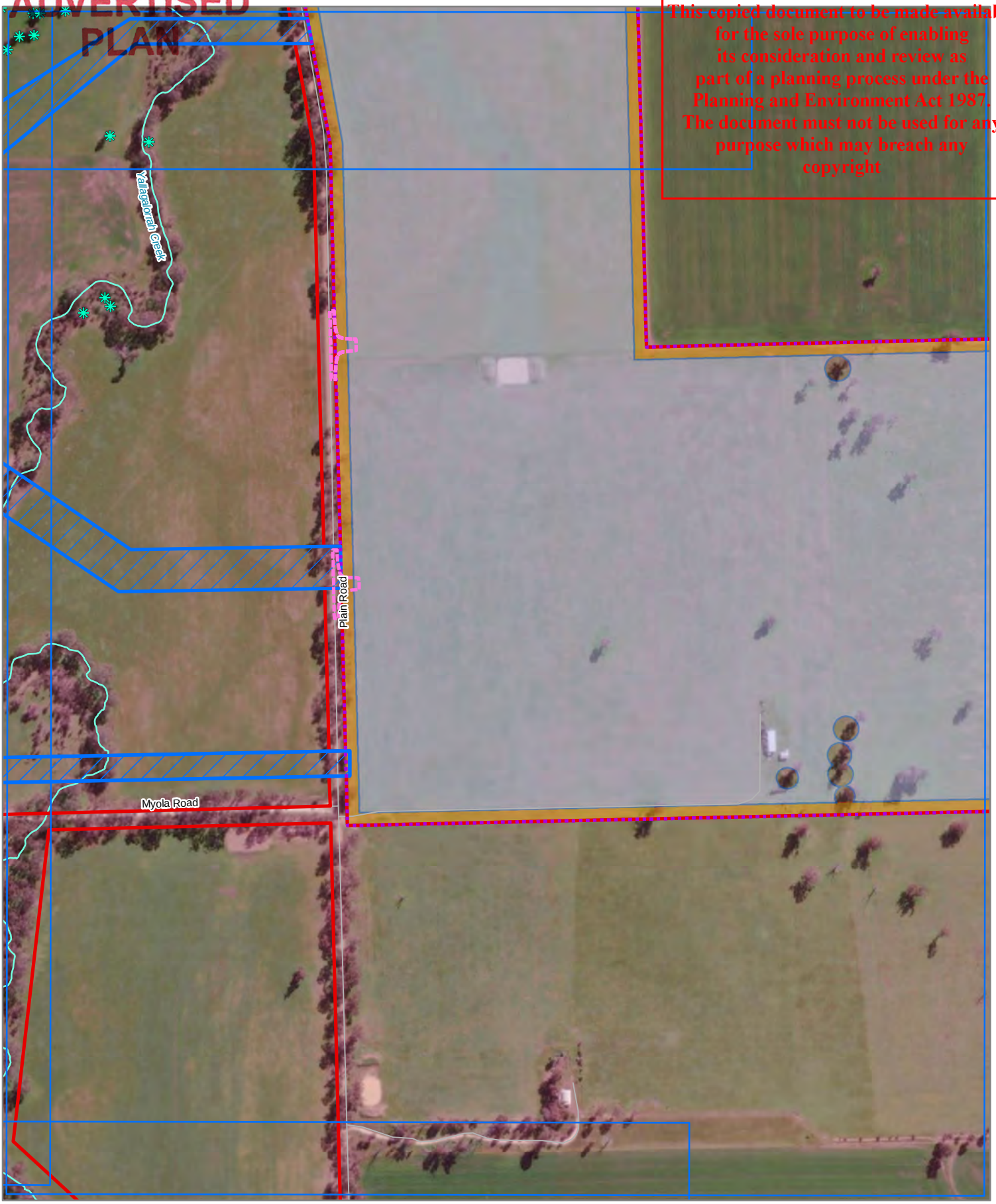


Figure 5c
Targeted flora survey
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

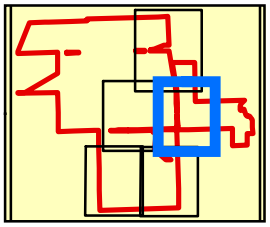
ecology & heritage partners

Legend

- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- MV Cable and OHL Crossing
- Solar Array
- Firefighting Easement

FFG Act Listed Flora

- *Allocasuarina luehmannii*



N

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Metres

Map Scale: 1:6,000 @ A4
Coordinate System:
GDA2020 MGA Zone 55

15619_Fig05_FloraSurvPMB_G20 26/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Figure 5d
Targeted flora survey
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

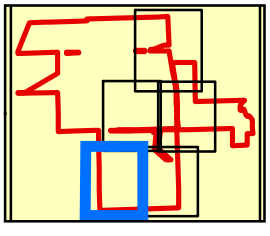
ecology & heritage partners

Legend

- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- Solar Array
- Firefighting Easement

FFG Act Listed Flora

- *Allocasuarina luehmannii*



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Metres

Map Scale: 1:6,000 @ A4
Coordinate System:
GDA2020 MGA Zone 55

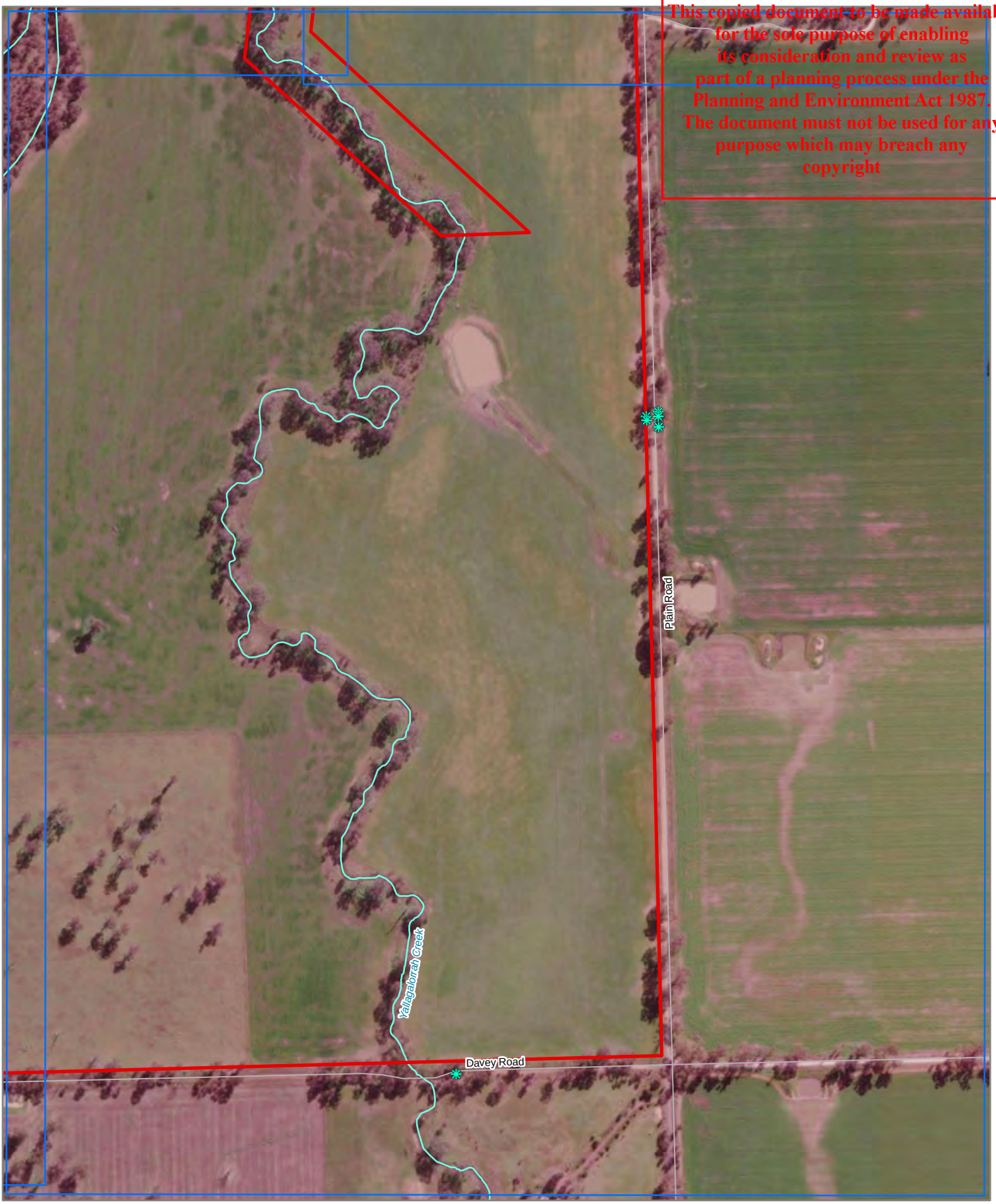


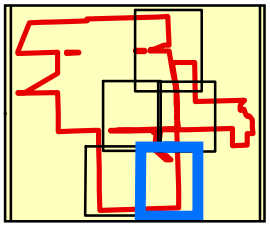
Figure 5e
Targeted flora survey
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

Legend

Study Area

FFG Act Listed Flora

Allocasuarina luehmannii



N

0 45 90

Metres

Map Scale: 1:6,000 @ A4
Coordinate System:
GDA2020 MGA Zone 55

15619_Fig05_FloraSurvPMB_G20 26/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

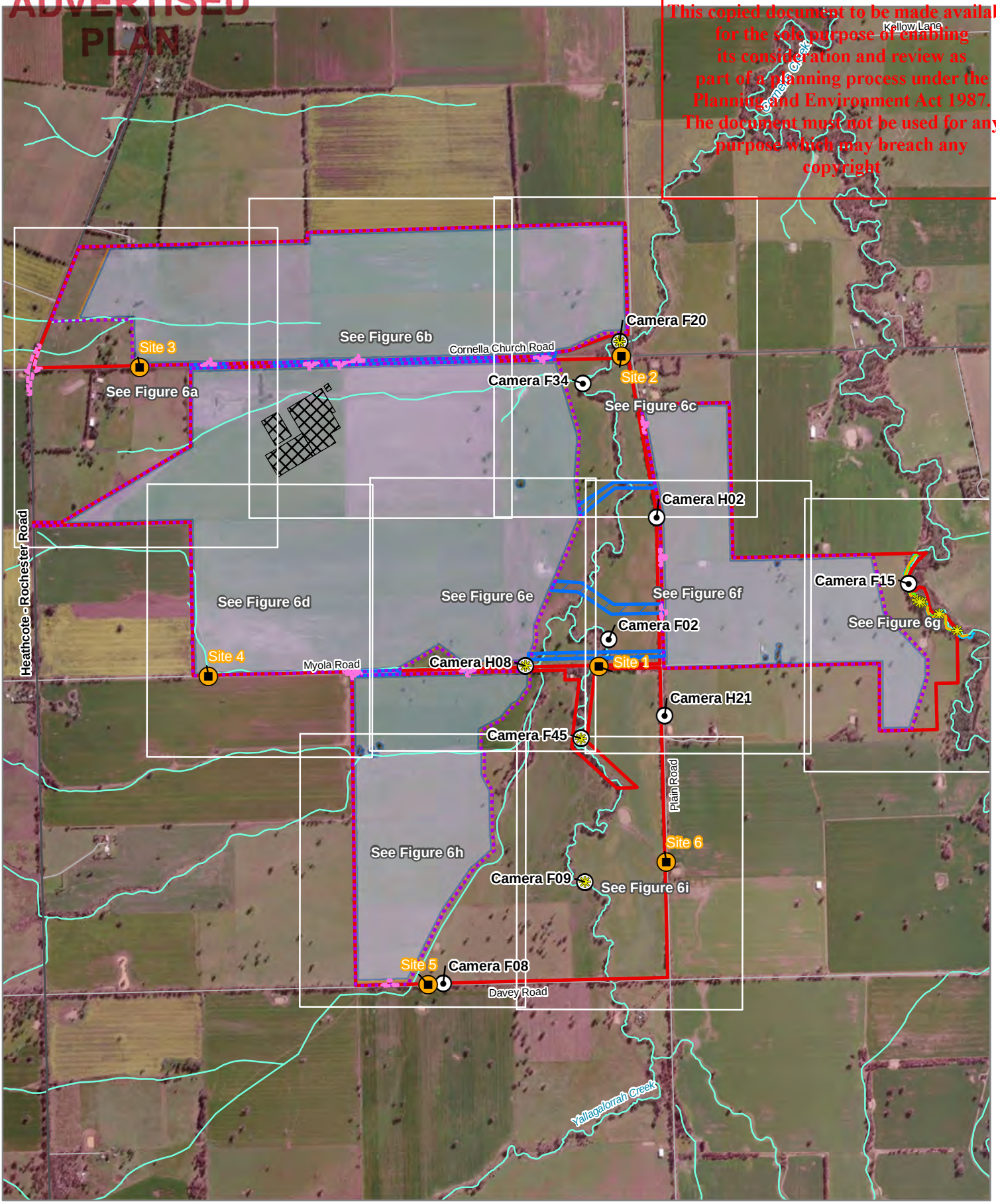


Figure 6 Overview

Targeted fauna survey

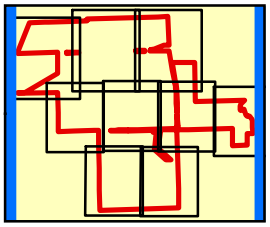
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

Legend

- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- MV Cable and OHL Crossing
- Substation, Switchyard, BESS and Other Features
- Solar Array
- Firefighting Easement
- Avifauna survey site
- Photo point
- EPBC Act and FFG Act Listed Fauna

Survey tracks

- Avifauna roaming transect 1
- Avifauna roaming transect 2
- Avifauna roaming transect 3



N

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Metres

Map Scale: 1:26,000 @ A4
Coordinate System: GDA2020 MGA Zone 55

ecology & heritage partners

15619_Fig06_FaunaSurvPMB_G20 26/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

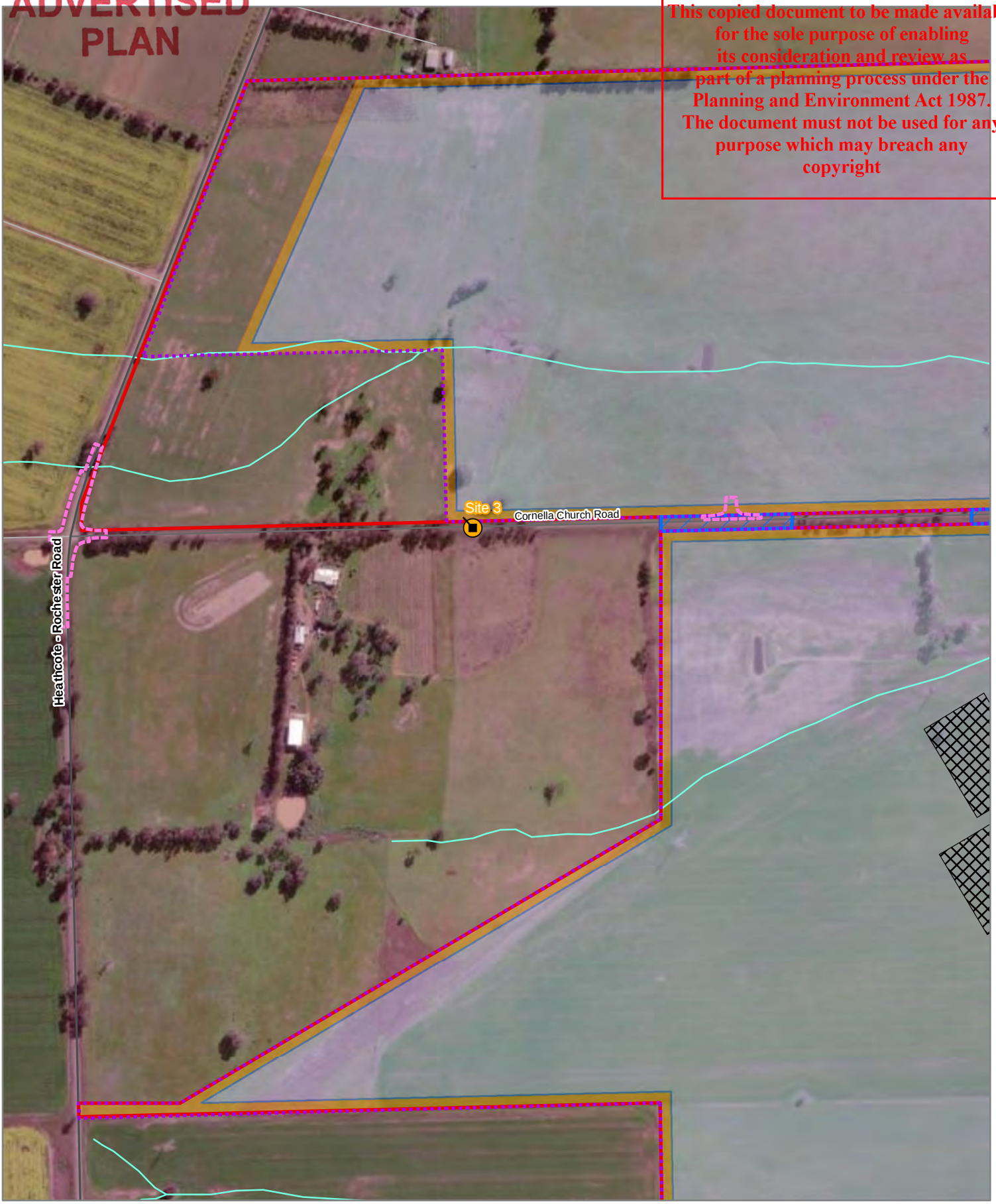


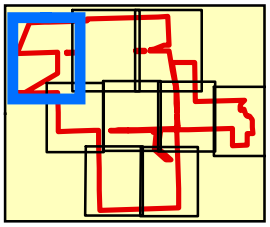
Figure 6a

Targeted fauna survey

Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

Legend

- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- MV Cable and OHL Crossing
- Substation, Switchyard, BESS and Other Features
- Solar Array
- Firefighting Easement
- Avifauna survey site



N

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Metres

Map Scale: 1:7,000 @ A4
Coordinate System:
GDA2020 MGA Zone 55

ecology & heritage partners

15619_Fig06_FaunaSurvPMB_G20 26/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

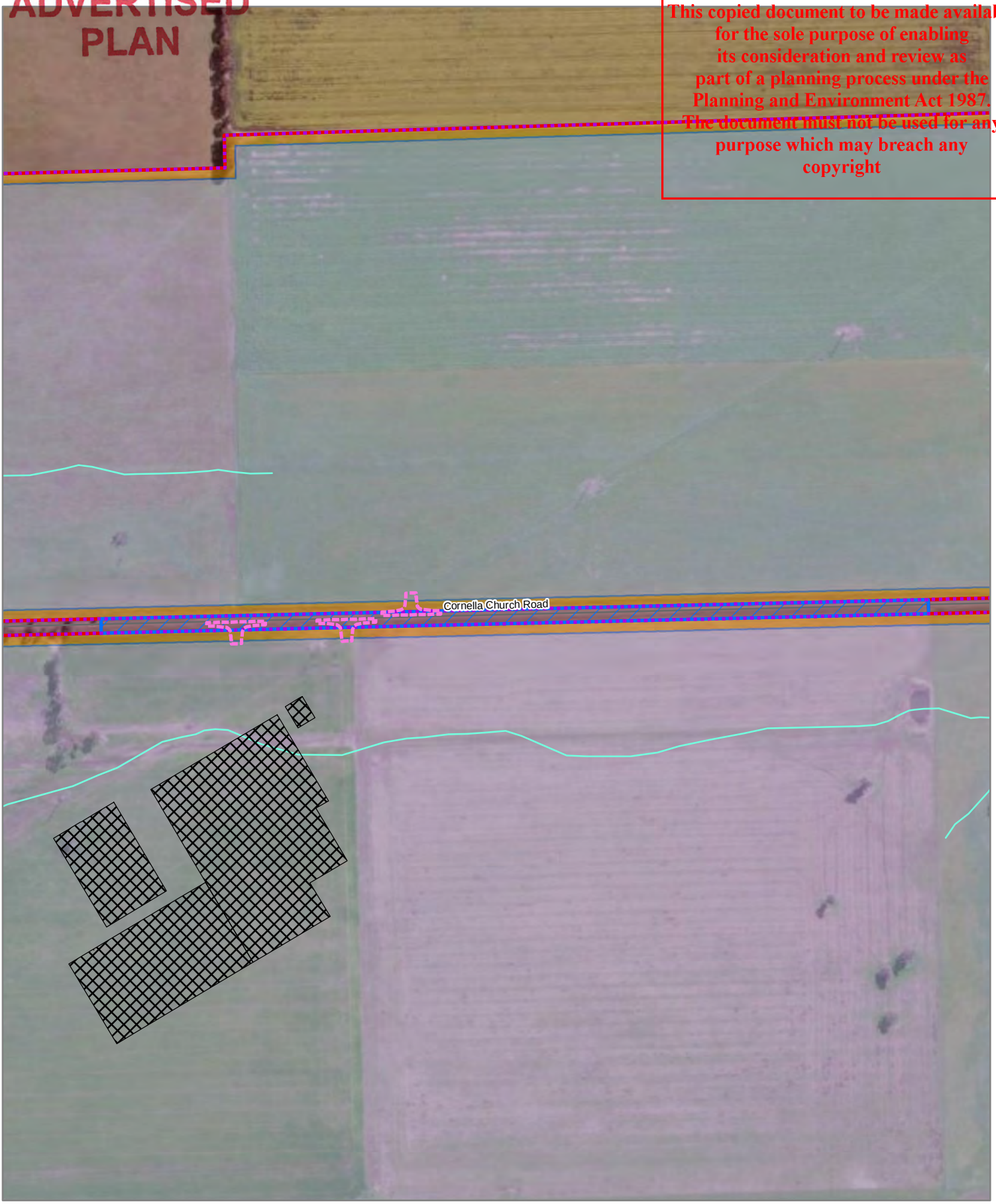


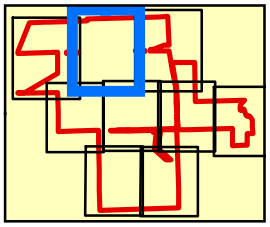
Figure 6b

Targeted fauna survey

Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

Legend

- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- MV Cable and OHL Crossing
- Substation, Switchyard, BESS and Other Features
- Solar Array
- Firefighting Easement



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Metres

Map Scale: 1:7,000 @ A4
Coordinate System:
GDA2020 MGA Zone 55

15619_Fig06_FaunaSurvPMB_G20 26/07/2024 dvaladares

ecology & heritage partners

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Figure 6c

Targeted fauna survey

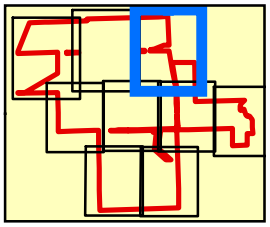
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

Legend

- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- MV Cable and OHL Crossing
- Solar Array
- Firefighting Easement
- Avifauna survey site
- Photo point

FFG Act Listed Fauna

- Squirrel Glider
- Brush-tailed Phascogale



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Metres

Map Scale: 1:7,000 @ A4
Coordinate System:
GDA2020 MGA Zone 55

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15619_Fig06_FaunaSurvPMB_G20 26/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

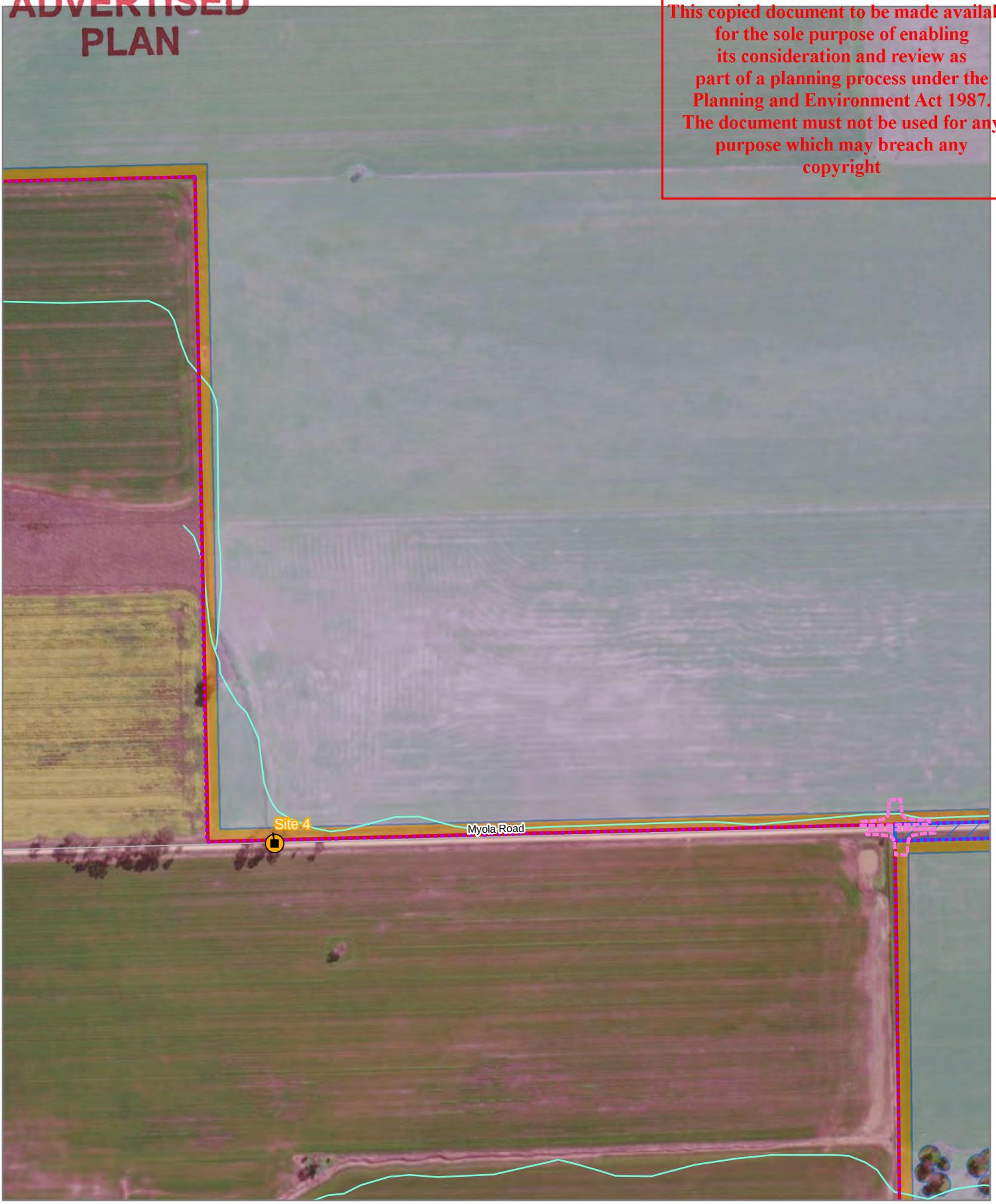


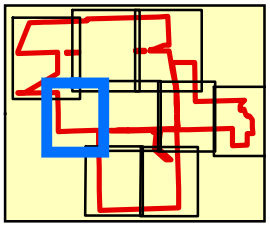
Figure 6d

Targeted fauna survey

Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

Legend

- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- MV Cable and OHL Crossing
- Solar Array
- Firefighting Easement
- Avifauna survey site



N

0 45 90

Metres

Map Scale: 1:6,000 @ A4
Coordinate System:
GDA2020 MGA Zone 55

15619_Fig06_FaunaSurvPMB_G20 26/07/2024 dvaladares

ecology & heritage partners

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Figure 6e

Targeted fauna survey

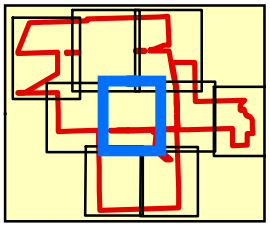
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

Legend

- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- MV Cable and OHL Crossing
- Solar Array
- Firefighting Easement
- Photo point

FFG Act Listed Fauna

- Squirrel Glider
- Brush-tailed Phascogale



N

0 45 90

Metres

Map Scale: 1:6,000 @ A4
Coordinate System:
GDA2020 MGA Zone 55

15619_Fig06_FaunaSurvPMB_G20 26/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

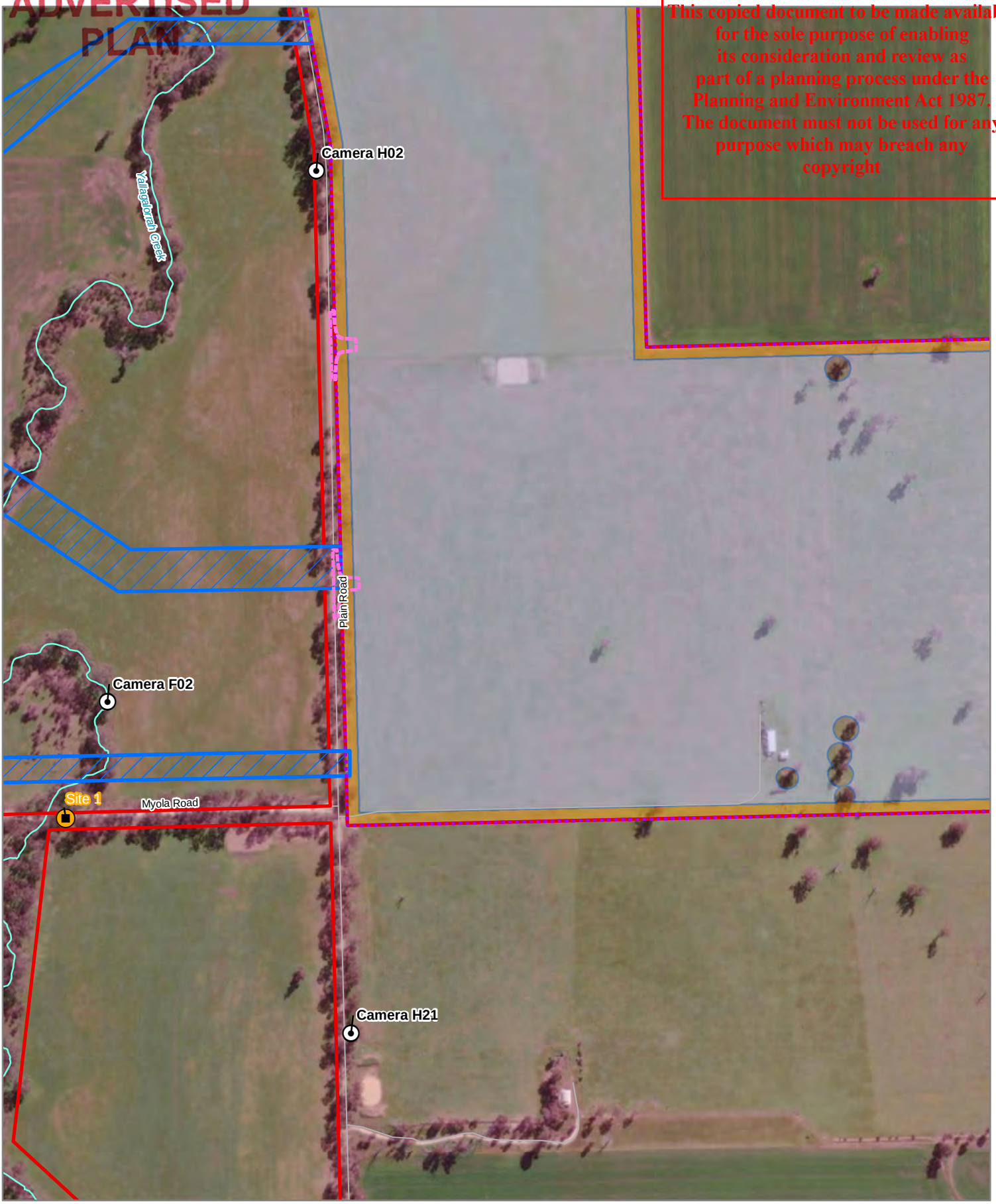


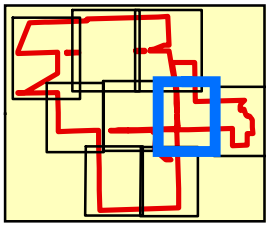
Figure 6f

Targeted fauna survey

Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

Legend

- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- MV Cable and OHL Crossing
- Solar Array
- Firefighting Easement
- Avifauna survey site
- Photo point



N

0 45 90

Metres

Map Scale: 1:6,000 @ A4
Coordinate System:
GDA2020 MGA Zone 55

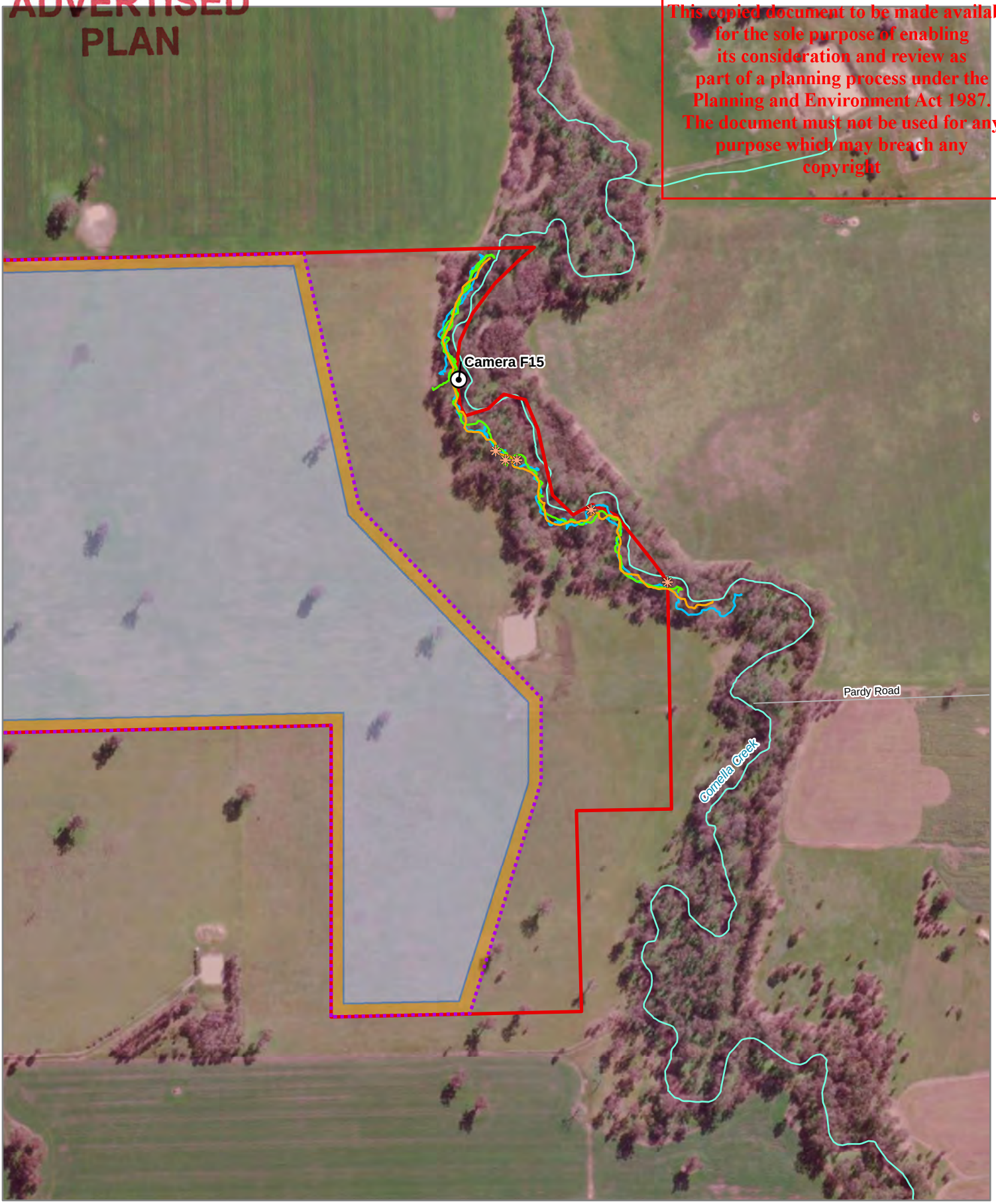


Figure 6g

Targeted fauna survey

Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

Legend

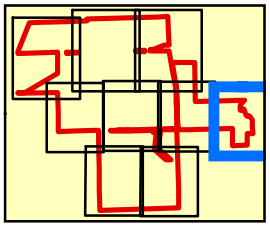
- Study Area
- Solar Array Fencing
- Solar Array
- Firefighting Easement
- Photo point

EPBC Act Listed Fauna

- Brown Treecreeper

Survey tracks

- Avifauna roaming transect 1
- Avifauna roaming transect 2
- Avifauna roaming transect 3



N

0 45 90

Metres

Map Scale: 1:6,000 @ A4
Coordinate System:
GDA2020 MGA Zone 55

ecology & heritage partners

15619_Fig06_FaunaSurvPMB_G20 26/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

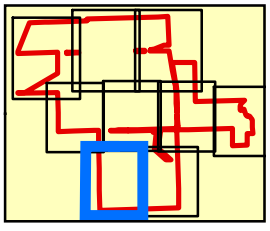
Figure 6h

Targeted fauna survey

Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

Legend

- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- Solar Array
- Firefighting Easement
- Avifauna survey site
- Photo point



N

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Metres

Map Scale: 1:6,000 @ A4
Coordinate System:
GDA2020 MGA Zone 55

ecology & heritage partners

15619_Fig06_FaunaSurvPMB_G20 26/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

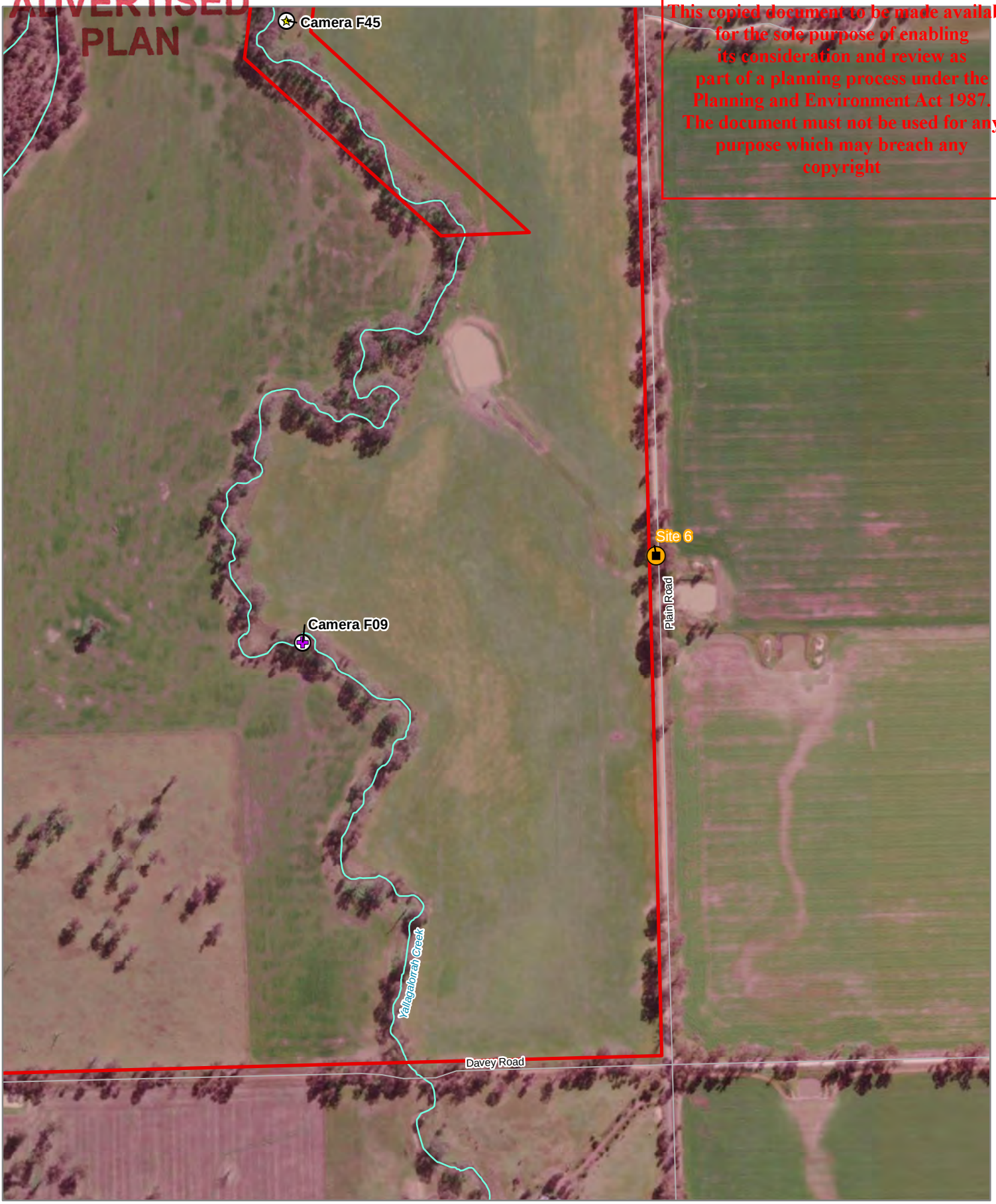


Figure 6i

Targeted fauna survey

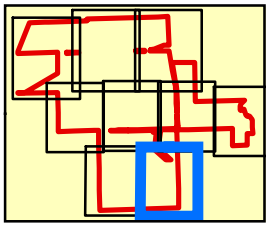
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

Legend

- Study Area
- Avifauna survey site
- Photo point

FFG Act Listed Fauna

- Squirrel Glider
- Brush-tailed Phascogale



N

0 45 90

Metres

Map Scale: 1:6,000 @ A4
Coordinate System:
GDA2020 MGA Zone 55

15619_Fig06_FaunaSurvPMB_G20 26/07/2024 dvaladares

ecology & heritage partners

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

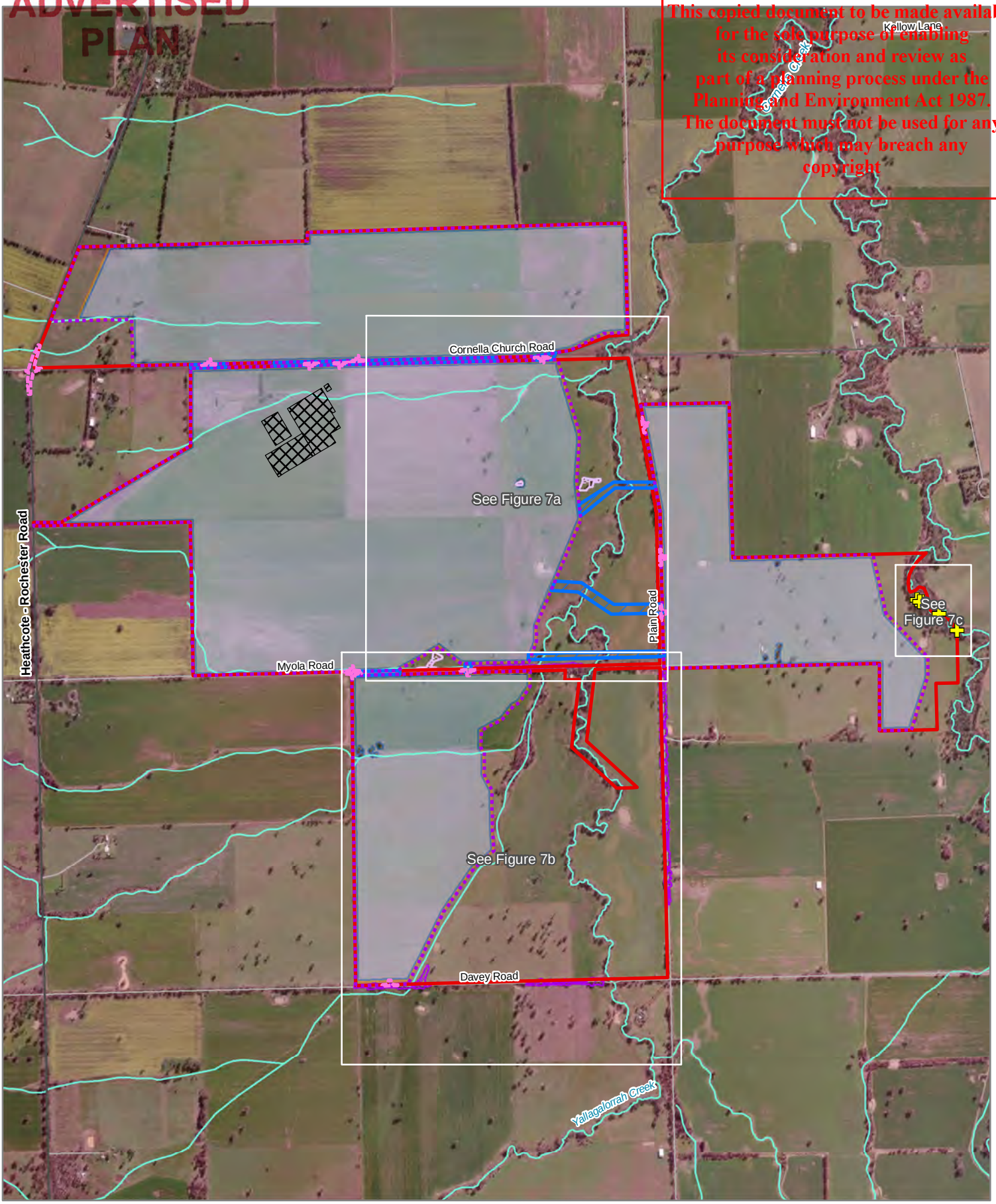


Figure 7 Overview

EPBC Act Listed matters

Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

ecology & heritage partners

Legend

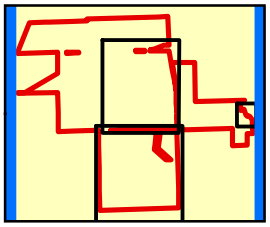
- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- MV Cable and OHL Crossing
- Substation, Switchyard, BESS and Other Features
- Solar Array
- Firefighting Easement

EPBC Act Listed Fauna

- Brown Treecreeper

EPBC Act Listed Ecological Community

- Grey Box (Eucalyptus microcarpa) Grassy Woodlands community
- Buloke Woodland Community



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Metres

Map Scale: 1:26,000 @ A4
Coordinate System: GDA2020 MGA Zone 55

15619_Fig07_EPBC_PMB_G20 26/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

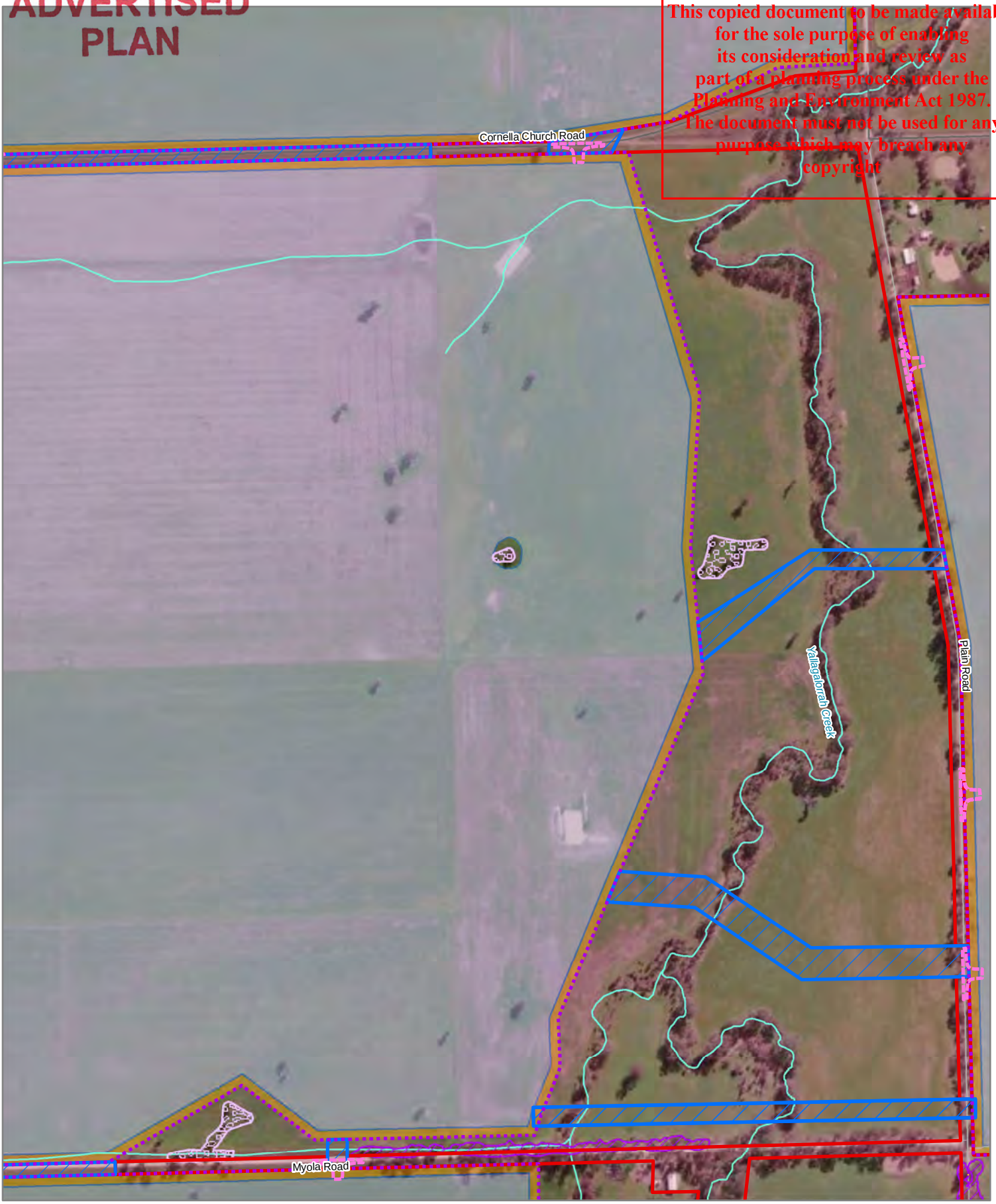


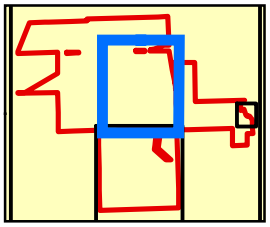
Figure 7a
EPBC Act Listed matters
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

Legend

- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- MV Cable and OHL Crossing
- Solar Array
- Firefighting Easement

EPBC Act Listed Ecological Community

- Grey Box (Eucalyptus microcarpa) Grassy Woodlands community
- Buloke Woodland Community
- Impacted EPBC Act Community



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Map Scale: 1:8,000 @ A4
Coordinate System: GDA2020 MGA Zone 55

ecology & heritage partners

15619_Fig07_EPBC_PMB_G20 26/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

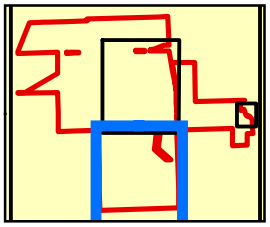
Figure 7b
EPBC Act Listed matters
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

Legend

- Study Area
- Site entry/exit impact area
- Solar Array Fencing
- MV Cable and OHL Crossing
- Solar Array
- Firefighting Easement

EPBC Act Listed Ecological Community

- Grey Box (Eucalyptus microcarpa) Grassy Woodlands community
- Buloke Woodland Community
- Impacted EPBC Act Community



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15619_Fig07_EPBC_PMB_G20 26/07/2024 dvaladares

ecology & heritage partners

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

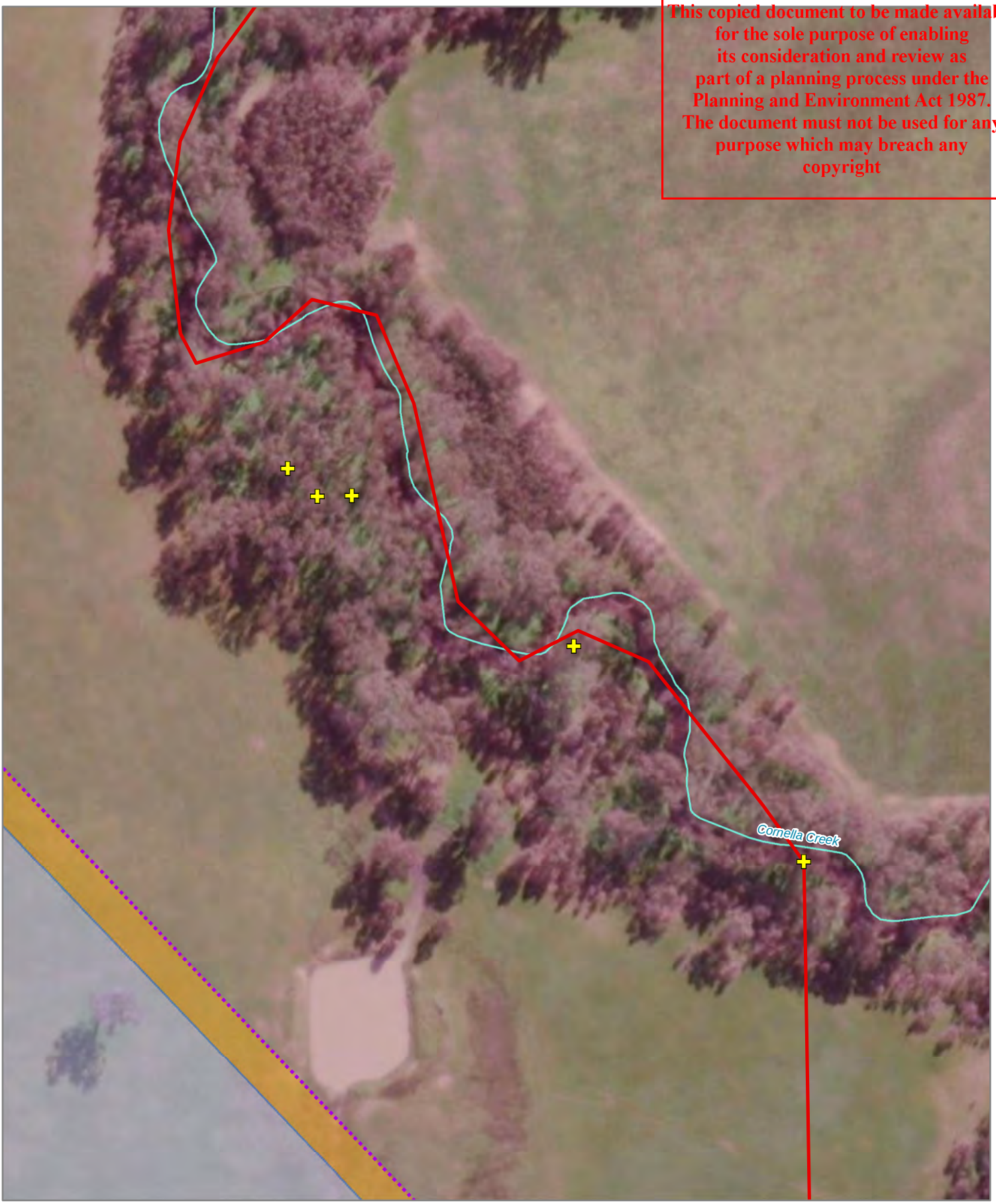
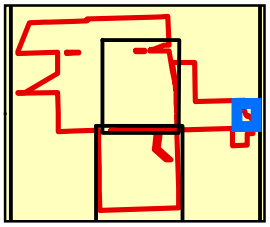


Figure 7c
EPBC Act Listed matters
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

Legend
- Study Area
- Solar Array Fencing
- Solar Array
- Firefighting Easement

EPBC Act Listed Fauna
- Brown Treecreeper



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Map Scale: 1:2,000 @ A4
Coordinate System:
GDA2020 MGA Zone 55

ecology & heritage partners

15619_Fig07_EPBC_PMB_G20 26/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

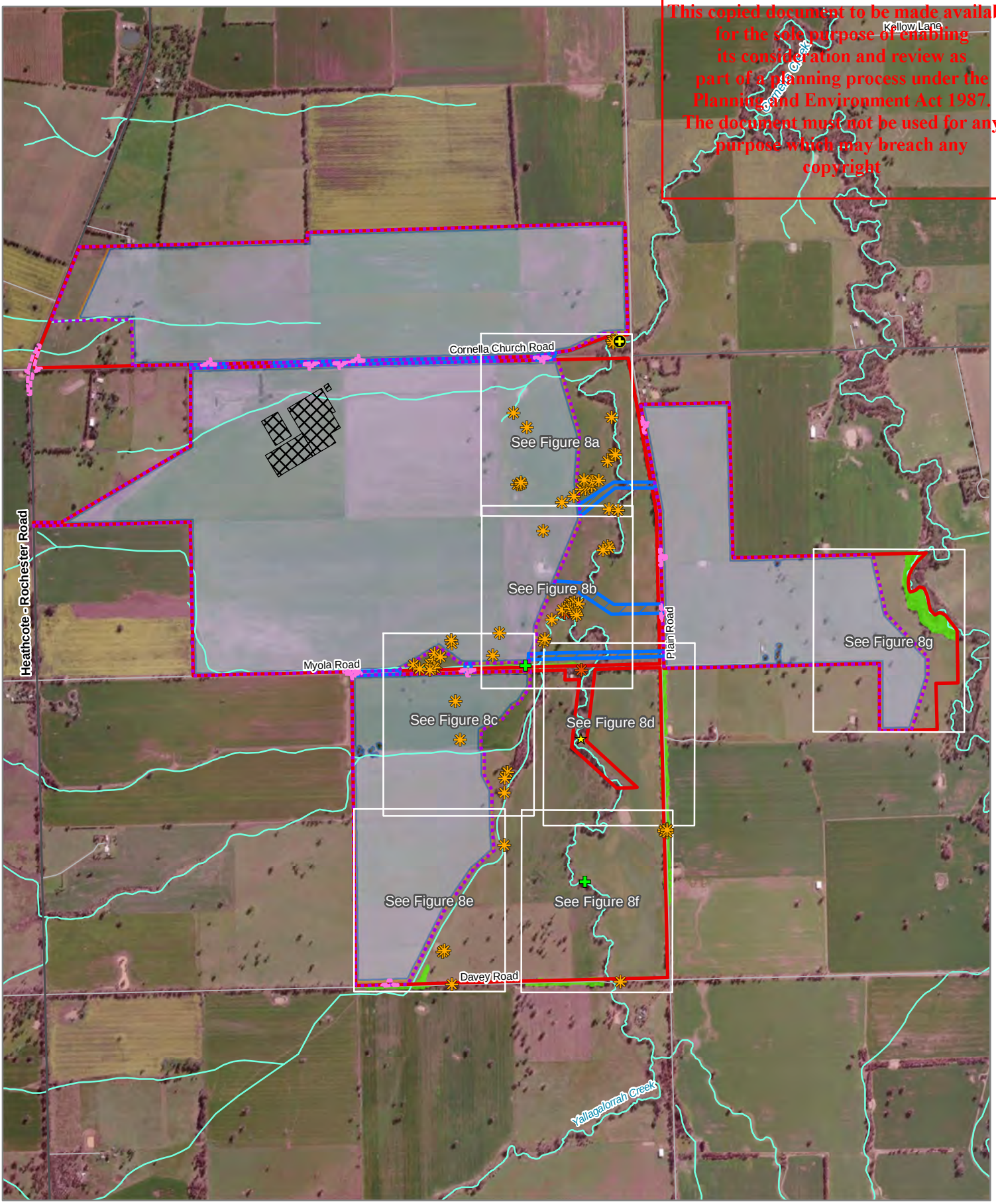


Figure 8 Overview

FFG Act Listed matters

Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

Legend

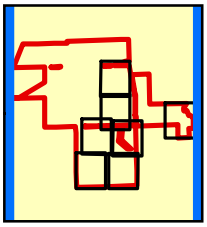
- Study Area
- FFG Act Listed Communities

FFG Act Listed Fauna

- Brush-tailed Phascogale
- Squirrel Glider
- Squirrel Glider and Brush-tailed Phascogale

FFG Act Listed Flora

- Buloke
- Buloke stag



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Metres

Map Scale: 1:26,000 @ A4
Coordinate System: GDA2020 MGA Zone 55

15619_Fig08_FFG_PMB_G20 26/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

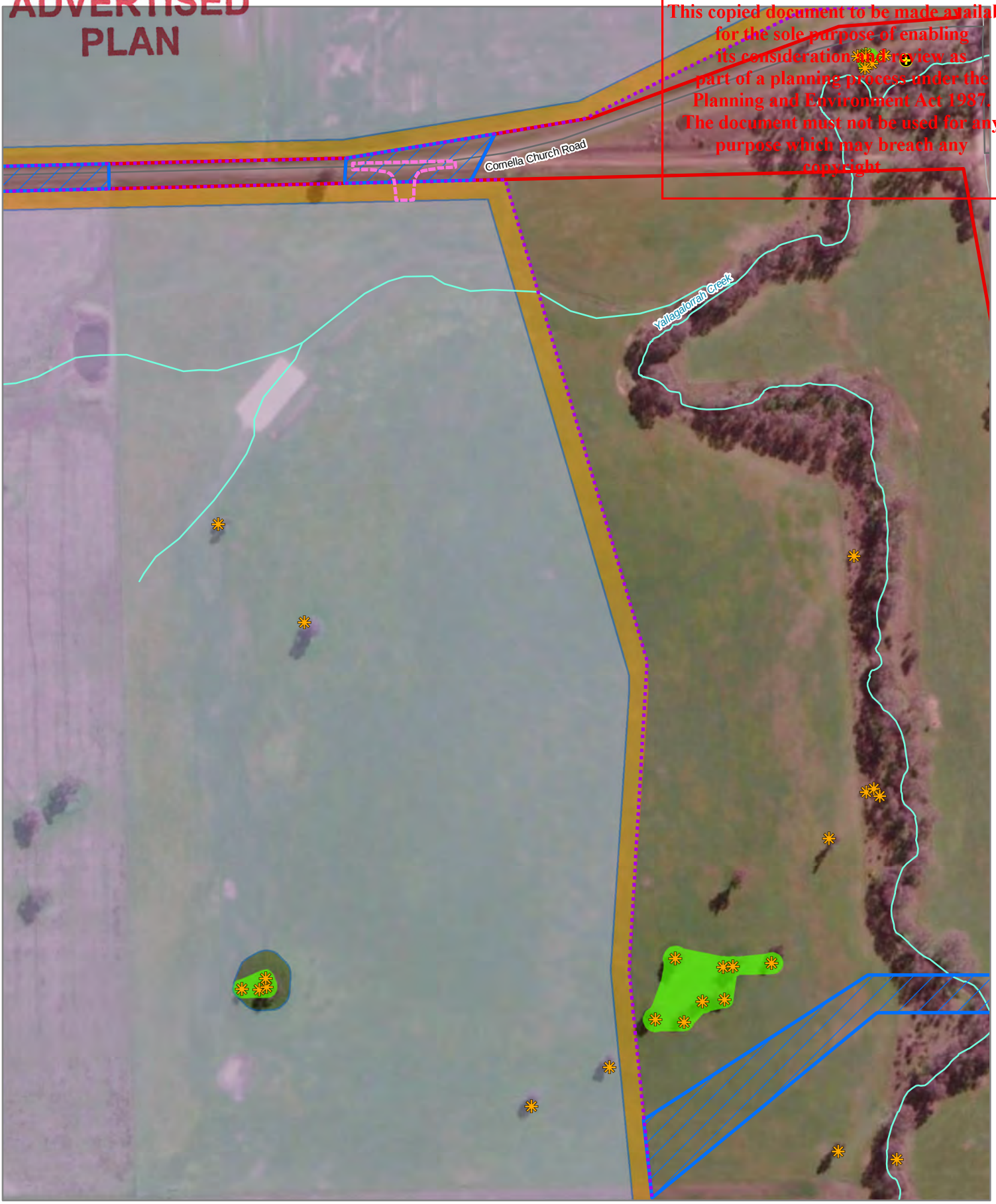


Figure 8a
FFG Act Listed matters
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

Legend

Study Area

FFG Act Listed Fauna

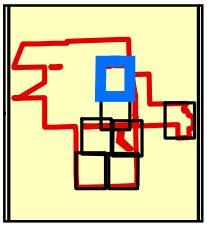
Squirrel Glider and Brush-tailed Phascogale

FFG Act Listed Flora

Buloke

FFG Act Listed Community

Grey Box - Buloke Grassy Woodland Community



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Map Scale: 1:4,000 @ A4
Coordinate System: GDA2020 MGA Zone 55

15619_Fig08_FFG_PMB_G20 26/07/2024 dvaladares

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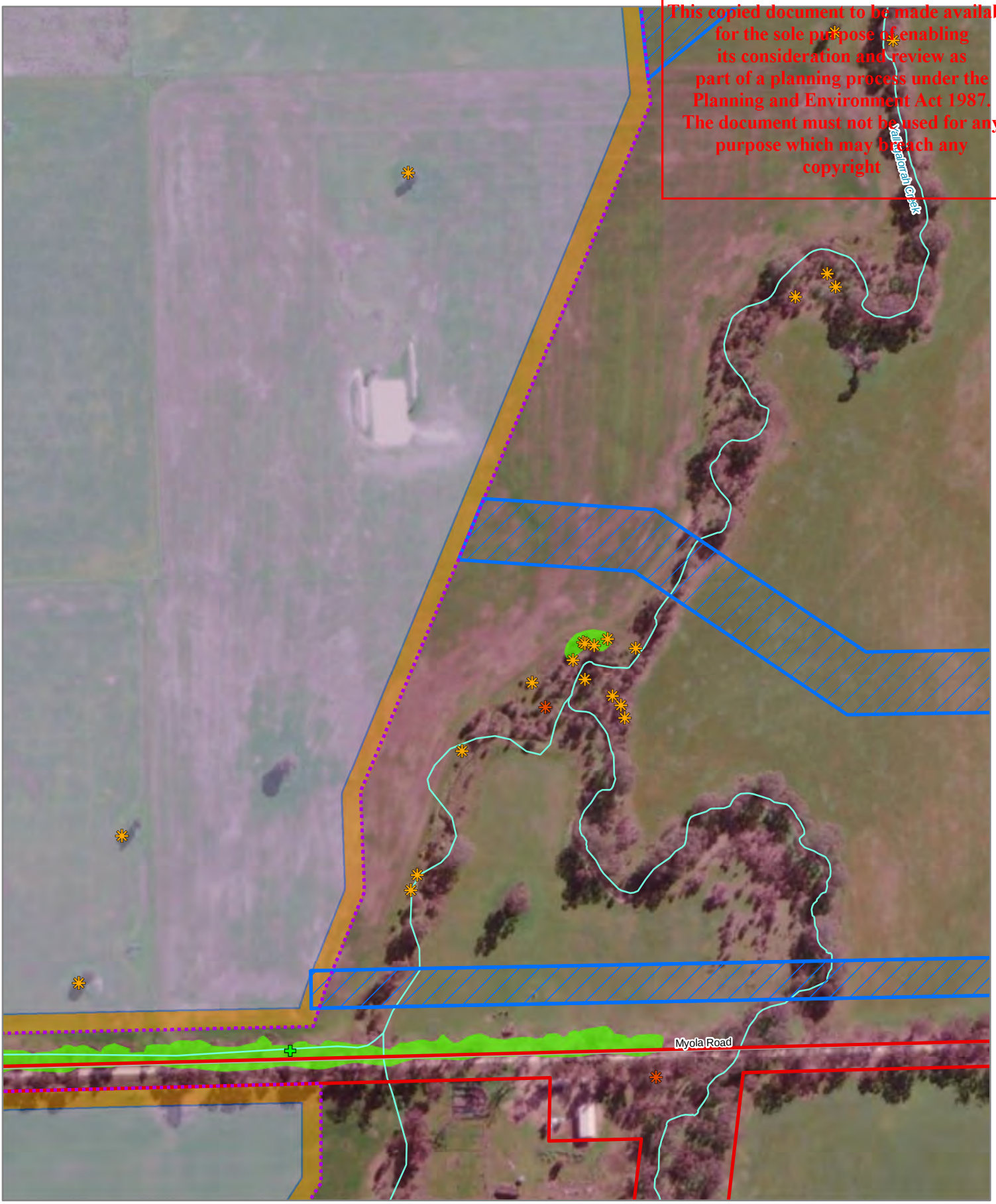


Figure 8b

FFG Act Listed matters

Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

Legend

- Study Area

FFG Act Listed Fauna

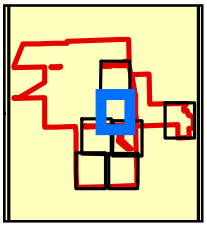
- Squirrel Glider

FFG Act Listed Flora

- Buloke
- Buloke stag

FFG Act Listed Community

- Grey Box - Buloke Grassy Woodland Community



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Metres

Map Scale: 1:4,000 @ A4
Coordinate System: GDA2020 MGA Zone 55

VicMap Data: The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.

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Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

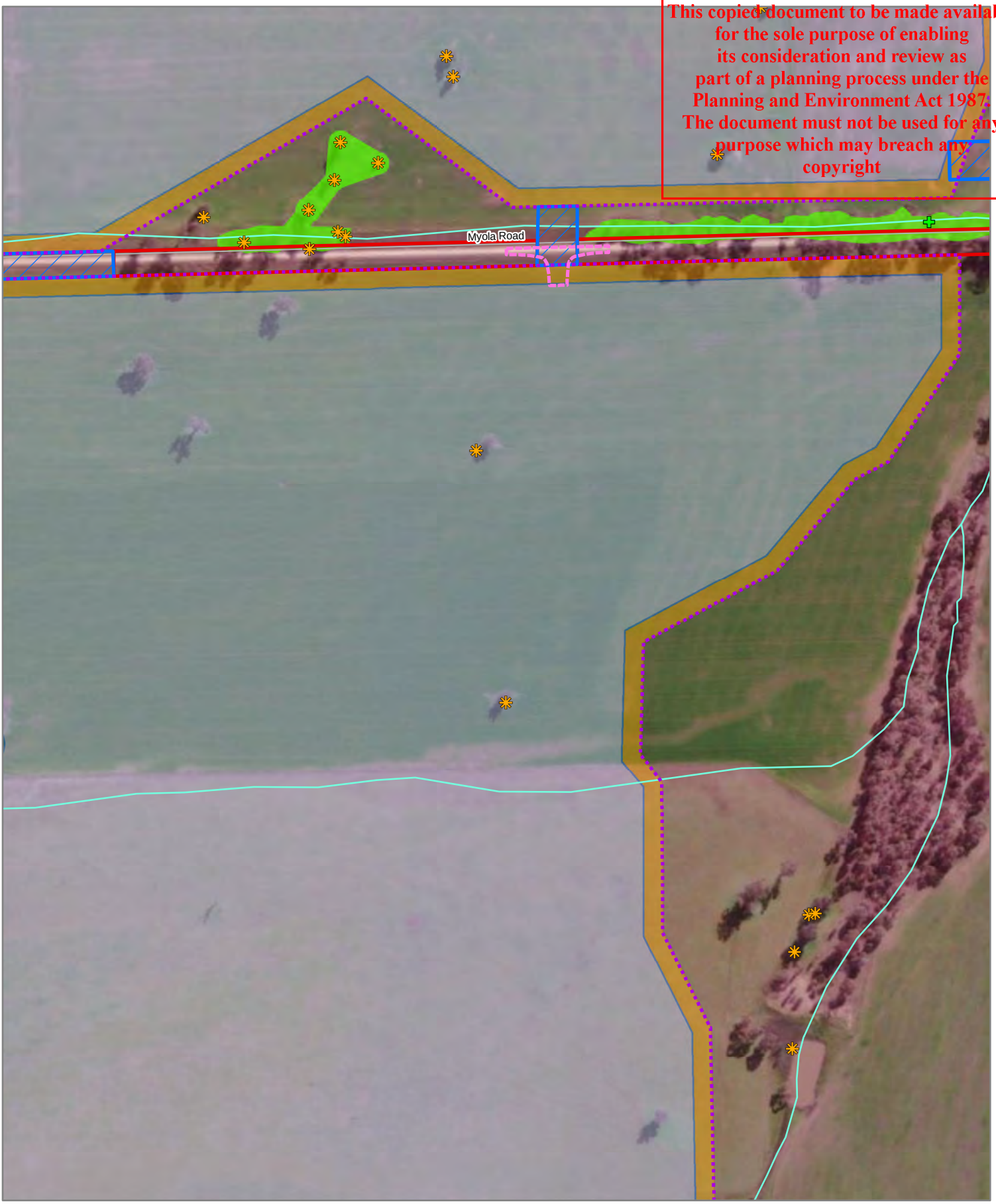


Figure 8c

FFG Act Listed matters

Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

Legend

Study Area

FFG Act Listed Fauna

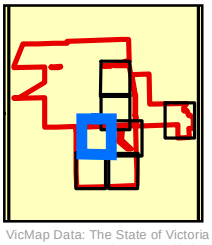
Squirrel Glider

FFG Act Listed Flora

Buloke

FFG Act Listed Community

Grey Box - Buloke Grassy Woodland Community



N

0 30 60

Metres

Map Scale: 1:4,000 @ A4
Coordinate System: GDA2020 MGA Zone 55

ecology & heritage partners

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Figure 8d
FFG Act Listed matters
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

Legend

Study Area

FFG Act Listed Fauna

Brush-tailed Phascogale

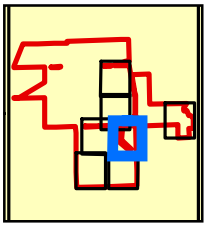
FFG Act Listed Flora

Buloke stag

FFG Act Listed Community

Grey Box - Buloke Grassy Woodland Community

Impacted FFG Act Listed Community



N

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Metres

Map Scale: 1:4,000 @ A4
Coordinate System: GDA2020 MGA Zone 55

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Figure 8e

FFG Act Listed matters

Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

Legend

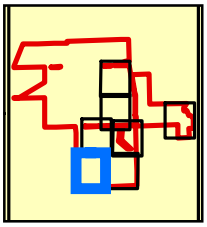
- Study Area

FFG Act Listed Flora

- Buloke

FFG Act Listed Community

- Grey Box - Buloke Grassy Woodland Community
- Impacted FFG Act Listed Community



N

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Metres

Map Scale: 1:4,000 @ A4
Coordinate System: GDA2020 MGA Zone 55

15619_Fig08_FFG_PMB_G20 26/07/2024 dvaladares

ecology & heritage partners

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Figure 8f

FFG Act Listed matters

Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

Legend

Study Area

FFG Act Listed Fauna

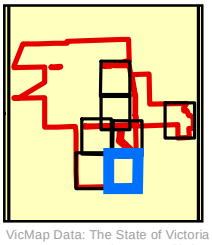
Squirrel Glider

FFG Act Listed Flora

Buloke

FFG Act Listed Community

Grey Box - Buloke Grassy Woodland Community



N

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Metres

Map Scale: 1:4,000 @ A4
Coordinate System: GDA2020 MGA Zone 55

15619_Fig08_FFG_PMB_G20 26/07/2024 dvaladares

ecology & heritage partners

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

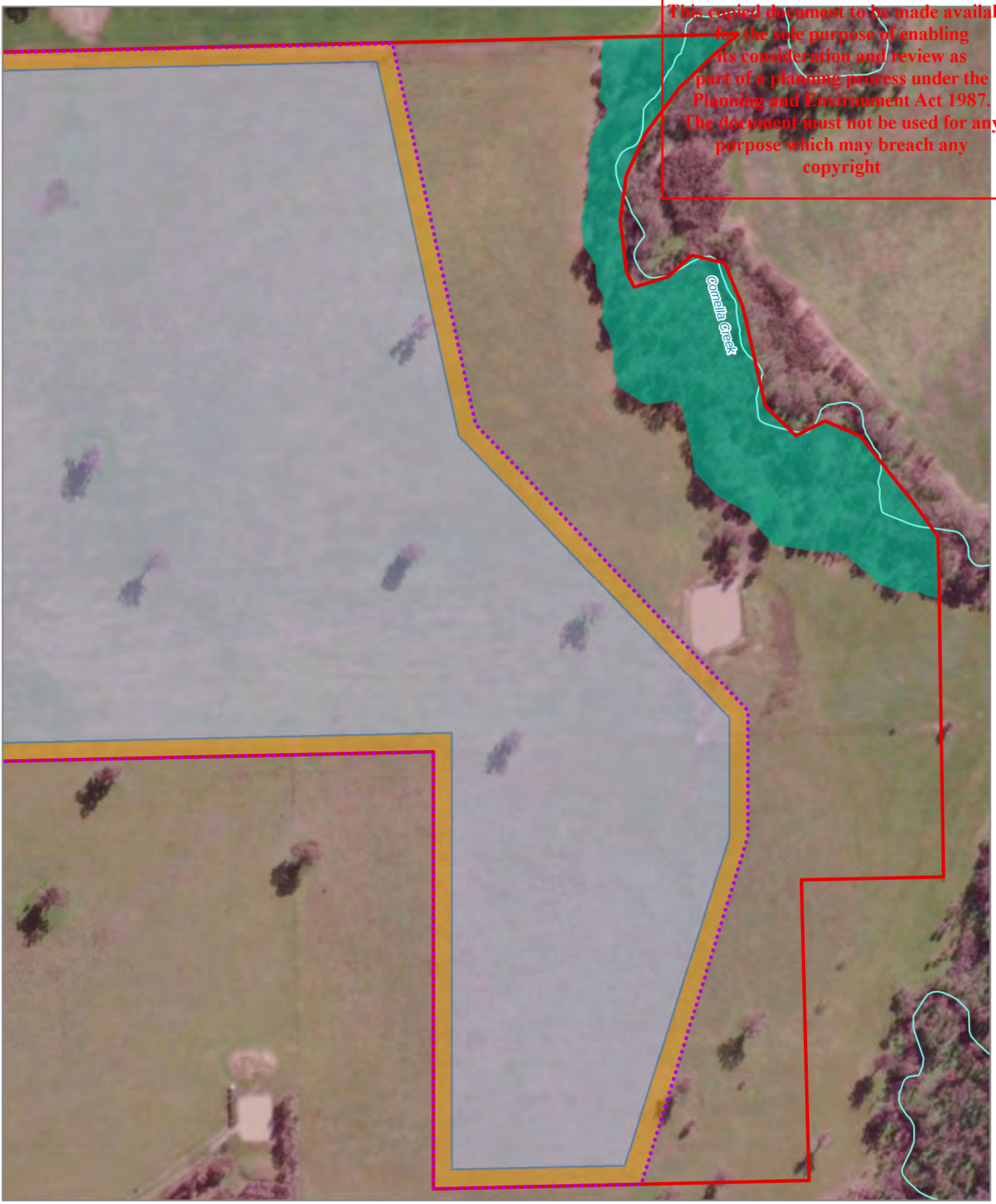
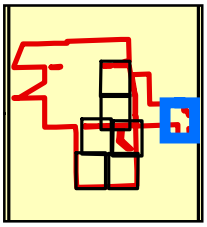


Figure 8g
FFG Act Listed matters
Biodiversity Assessment for Cooba Solar Farm, Colbinabbin

Legend
Study Area
FFG Act Listed Community
Victorian Temperate Woodland Bird Community

ecology & heritage partners



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Map Scale: 1:4,000 @ A4
Coordinate System: GDA2020 MGA Zone 55

15619_Fig08_FFG_PMB_G20 26/07/2024 dvaladares

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

APPENDIX 1 FLORA

Appendix 1.1 Flora Results

Legend:

CR/EN/VU Listed as Critically Endangered/Endangered/Vulnerable under the EPBC Act
cr Listed as critically endangered under the FFG Act (DEECA 2024e)
l Listed as Protected under the FFG Act (DELWP 2019a)
^ Naturally growing (i.e. non-planted) indigenous species to the study area
+ Naturally growing indigenous species that also occurs as planted indigenous vegetation to the study area
****** Planted indigenous species to the study area
# Planted Victorian (non-indigenous) and Australian species
***** Listed as a noxious weed under the CaLP Act
w Weed of National Significance

Table A1.1. Flora within the study area.

Scientific Name	Common Name	Notes
INDIGENOUS SPECIES		
Acacia acinacea	Gold Dust Wattle	^
Acacia dealbata	Silver Wattle	**
Acacia implexa	Lightwood	**
Acacia genistifolia	Spreading Wattle	**
Acacia pycnantha	Golden Wattle	**
Acacia salicina	Broughton Willow	**
Acacia verniciflua	Varnish Wattle	**
Acaena echinata	Sheep's Burr	^
Allocasuarina luehmannii	Buloke	cr
Anthosachne scabra	Common Wheat-grass	^
Arthropodium strictum	Chocolate Lily	^
Austrostipa elegantissima	Feather Spear-grass	^
Austrostipa scabra	Rough Spear-grass	^
Cassinia sifton	Sifton Bush	^
Convolvulus erubescens spp. agg.	Pink Bindweed	^
Eleocharis acuta	Common Spike-sedge	^
Eucalyptus camaldulensis	River Red-gum	^
Eucalyptus leucoxylon	Yellow Gum	^

Scientific Name	Common Name	Notes
Eucalyptus melliodora	Yellow Box	^
Eucalyptus microcarpa	Grey Box	^
Helichrysum luteoalbum	Jersey Cudweed	^
Juncus amabilis	Hollow Rush	^
Lepidosperma spp.	Sword Sedge	^
Microlaena stipoides var. *stipoides*	Weeping Grass	^
Rytidosperma spp.	Wallaby Grass	^
Themeda triandra	Kangaroo Grass	^
Vittadinia gracilis	New Holland Daisy	^
NON-INDIGENOUS OR INTRODUCED SPECIES		
Arctotheca calendula	Cape weed	-
Avena barbata	Bearded Oat	-
Avena fatua	Wild Oat	-
Brassica napus	Canola	-
Briza maxima	Large Quaking-grass	-
Bromus catharticus	Prairie Grass	-
Cirsium vulgare	Spear Thistle	*
Holcus lanatus	Yorkshire Fog	-
Hordeum spp.	Barley	-
Hypochaeris radicata	Flatweed	-
Lolium perenne	Perennial Rye-grass	-
Lolium spp.	Rye Grass	-
Malva spp.	Mallow	-
Medicago polymorpha	Burr Medic	-
Melaleuca spp.	Honey-myrtle	#
Oxalis pes-caprae	Soursob	*
Phalaris aquatica	Toowoomba Canary-grass	-
Pinus radiata	Radiata Pine	#
Plantago lanceolata	Ribwort	-
Romulea rosea	Onion Grass	-
Rumex crispus	Curled Dock	-
Schinus mole	Pepper Tree	#
Trifolium arvense var. *arvense*	Hare's-foot Clover	-
Urtica dioica	Giant Nettle	-
Vulpia myuros	Rat's-tail Fescue	-

Appendix 1.2 Habitat Hectare Assessment

Table A1.2. Habitat Hectare Assessment Table.

Vegetation Zone		CGW1	CGW2	PW1	PW2	PW3	PW4	PW5	CGW3	PW6	PW7
Bioregion		VR	VR	VR	VR	VR	VR	VR	VR	VR	VR
EVC / Tree		CGW	CGW	PW	PW	PW	PW	PW	CGW	PW	PW
EVC Number		68	68	803	803	803	803	803	68	803	803
EVC Conservation Status		Vu	Vu	En	En	En	En	En	En	En	En
Patch Condition	Large Old Trees /10	10	10	10	0	10	3	10	0	0	10
	Canopy Cover /5	5	3	5	0	5	3	5	5	5	3
	Under storey /25	10	5	5	5	5	5	5	5	5	5
	Lack of Weeds /15	4	4	4	4	4	4	0	2	2	2
	Recruitment /10	5	5	3	0	0	3	0	0	0	0
	Organic Matter /5	3	5	5	5	4	5	4	5	3	3
	Logs /5	0	0	0	0	0	0	0	0	0	0
	Treeless EVC Multiplier	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	Subtotal =	37.00	32.00	32.00	14.00	28.00	23.00	24.00	17.00	15.00	23.00
Landscape Scores	Patch Size /10	8	8	1	1	1	2	1	1	1	1
	Neighbour Hood /10	0	1	0	0	0	0	0	0	0	0
	Distance to Core Area /5	1	4	1	1	1	1	1	1	1	1
Landscape Value /25		9	13	2	2	2	2	2	2	2	2
Habitat Points /100		46	44	34	16	30	26	26	19	17	25
Habitat Score		0.46	0.45	0.34	0.16	0.30	0.26	0.26	0.19	0.17	0.25

Note: CGW = Creekline Grassy Woodland; PW = Plains Woodland; VR = Victorian Riverina; En = Endangered

Table A1.2. Habitat Hectare Assessment Table.

Vegetation Zone		PW8	PW9	PW10	PW11	PW12	PW13	PW14	PW15	PW16	PW17	PW18
Bioregion		VR	VR	VR	VR	VR	VR	VR	VR	VR	VR	VR
EVC / Tree		PW	PW	PW	PW	PW	PW	PW	PW	PW	PW	PW
EVC Number		803	803	803	803	803	803	803	803	803	803	803
EVC Conservation Status		En	En	En	En	En	En	En	En	En	En	En
Patch Condition	Large Old Trees /10	10	5	8	6	10	0	10	0	6	6	8
	Canopy Cover /5	5	3	3	3	5	3	3	5	3	5	5
	Under storey /25	5	5	5	5	5	5	5	5	15	5	5
	Lack of Weeds /15	2	2	2	2	2	2	6	6	9	2	2
	Recruitment /10	0	0	0	0	0	0	5	5	5	0	0
	Organic Matter /5	3	3	3	3	3	3	5	3	3	3	3
	Logs /5	0	0	0	0	2	0	2	2	0	2	5
	Treeless EVC Multiplier	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	Subtotal =	25.00	18.00	21.00	19.00	27.00	13.00	36.00	26.00	41.00	23.00	28.00
Landscape Scores	Patch Size /10	2	1	1	1	1	1	1	1	1	1	1
	Neighbour Hood /10	0	0	0	0	0	0	0	0	1	1	1
	Distance to Core Area /5	1	1	1	1	1	1	1	1	1	1	1
Landscape Value /25		3	2	2	2	2	2	2	2	3	3	3
Habitat Points /100		28	20	23	21	29	15	38	28	44	26	31
Habitat Score		0.28	0.20	0.23	0.21	0.29	0.15	0.38	0.28	0.44	0.26	0.31

Note: CGW = Creekline Grassy Woodland; PW = Plains Woodland; VR = Victorian Riverina; En = Endangered

Table A1.2. Habitat Hectare Assessment Table.

Vegetation Zone		PW19	PW20	PW21	PW22	PW23	PW24
Bioregion		VR	VR	VR	VR	VR	VR
EVC / Tree		PW	PW	PW	PW	PW	PW
EVC Number		803	803	803	803	803	803
EVC Conservation Status		En	En	En	En	En	En
Patch Condition	Large Old Trees /10	0	10	10	0	10	10
	Canopy Cover /5	3	5	5	0	5	3
	Under storey /25	5	5	5	5	5	5
	Lack of Weeds /15	2	2	2	4	2	2
	Recruitment /10	0	5	0	0	0	0
	Organic Matter /5	3	3	3	5	3	3
	Logs /5	0	5	2	0	0	0
	Treeless EVC Multiplier	1.00	1.00	1.00	1.00	1.00	1.00
	Subtotal =	13.00	35.00	27.00	14.00	25.00	23.00
Landscape Scores	Patch Size /10	1	1	2	1	2	1
	Neighbour Hood /10	0	0	0	0	0	0
	Distance to Core Area /5	1	1	1	3	3	3
Landscape Value /25		2	2	3	4	5	4
Habitat Points /100		15	37	30	18	30	27
Habitat Score	0.14	0.15	0.37	0.30	0.18	0.30	0.27

Note: CGW = Creekline Grassy Woodland; PW = Plains Woodland; VR = Victorian Riverina; En = Endangered

Appendix 1.3 Scattered Trees and Large Trees in Patches

Table A1.3. Scattered Trees and Large Trees in Patches.

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
1	*Allocasuarina luehmannii*	Buloke	75	9	Scattered Large Tree	-	Retained
2	*Allocasuarina luehmannii*	Buloke	79	9.48	Scattered Large Tree	-	Retained
3	*Allocasuarina luehmannii*	Buloke	64	7.68	Scattered Large Tree	-	Retained
4	*Allocasuarina luehmannii*	Buloke	75	9	Scattered Large Tree	-	Retained
5	*Allocasuarina luehmannii*	Buloke	70	8.4	Scattered Large Tree	-	Retained
6	*Allocasuarina luehmannii*	Buloke	65	7.8	Scattered Large Tree	-	**Direct impact**
7	*Allocasuarina luehmannii*	Buloke	67	8.04	Scattered Large Tree	-	**Direct impact**
8	*Eucalyptus microcarpa*	Grey Box	158	15	Large Tree in patch	Y	Retained
9	*Eucalyptus camaldulensis*	River Red-gum	130	15	Large Tree in patch	-	**TPZ impact**
10	*Eucalyptus camaldulensis*	River Red-gum	199	15	Large Tree in patch	-	Retained
11	*Eucalyptus camaldulensis*	River Red-gum	99	11.88	Large Tree in patch	-	**TPZ impact**
12	*Eucalyptus camaldulensis*	River Red-gum	143	15	Large Tree in patch	-	**Direct impact**
13	*Eucalyptus camaldulensis*	River Red-gum	*97*	11.64	Large Tree in patch	-	Retained
14	*Eucalyptus camaldulensis*	River Red-gum	180	15	Large Tree in patch	-	Retained
15	*Eucalyptus camaldulensis*	River Red-gum	88	10.56	Large Tree in patch	-	Retained
16	*Eucalyptus camaldulensis*	River Red-gum	133	15	Large Tree in patch	-	**TPZ impact**
17	*Eucalyptus camaldulensis*	River Red-gum	120	14.4	Large Tree in patch	-	**TPZ impact**
18	*Eucalyptus camaldulensis*	River Red-gum	236	15	Large Tree in patch	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
19	*Eucalyptus camaldulensis*	River Red-gum	177	15	Large Tree in patch	-	Retained
20	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	-	Retained
21	*Eucalyptus camaldulensis*	River Red-gum	101	12.12	Large Tree in patch	-	Retained
22	*Eucalyptus camaldulensis*	River Red-gum	98	11.76	Large Tree in patch	-	Retained
23	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	-	Retained
24	*Eucalyptus camaldulensis*	River Red-gum	85	10.2	Large Tree in patch	-	Retained
25	*Eucalyptus leucoxylon*	Yellow Gum	143	15	Large Tree in patch	-	Retained
26	*Eucalyptus leucoxylon*	Yellow Gum	159	15	Scattered Large Tree	-	Retained
27	*Eucalyptus camaldulensis*	River Red-gum	126	15	Scattered Large Tree	-	Retained
28	*Eucalyptus camaldulensis*	River Red-gum	145	15	Large Tree in patch	-	Retained
29	*Eucalyptus camaldulensis*	River Red-gum	151	15	Large Tree in patch	-	Retained
30	*Eucalyptus leucoxylon*	Yellow Gum	199	15	Large Tree in patch	-	Retained
31	*Eucalyptus camaldulensis*	River Red-gum	109	13.08	Large Tree in patch	-	Retained
32	*Eucalyptus camaldulensis*	River Red-gum	90	10.8	Large Tree in patch	-	Retained
33	*Eucalyptus camaldulensis*	River Red-gum	120	14.4	Large Tree in patch	-	Retained
34	*Eucalyptus camaldulensis*	River Red-gum	97	11.64	Large Tree in patch	-	Retained
35	*Eucalyptus camaldulensis*	River Red-gum	101	12.12	Large Tree in patch	-	Retained
36	*Eucalyptus camaldulensis*	River Red-gum	150	15	Large Tree in patch	-	Retained
37	*Eucalyptus camaldulensis*	River Red-gum	100	12	Large Tree in patch	-	Retained
38	*Eucalyptus camaldulensis*	River Red-gum	250	15	Large Tree in patch	-	Retained
39	*Eucalyptus camaldulensis*	River Red-gum	257	15	Large Tree in patch	-	Retained
40	*Eucalyptus camaldulensis*	River Red-gum	100	12	Large Tree in patch	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
41	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	-	Retained
42	*Eucalyptus camaldulensis*	River Red-gum	110	13.2	Large Tree in patch	-	Retained
43	*Eucalyptus camaldulensis*	River Red-gum	210	15	Large Tree in patch	-	Retained
44	*Eucalyptus camaldulensis*	River Red-gum	89	10.68	Large Tree in patch	-	Retained
45	*Eucalyptus camaldulensis*	River Red-gum	250	15	Large Tree in patch	-	Retained
46	*Eucalyptus camaldulensis*	River Red-gum	121	14.52	Large Tree in patch	-	Retained
47	*Eucalyptus camaldulensis*	River Red-gum	140	15	Large Tree in patch	-	Retained
48	*Eucalyptus camaldulensis*	River Red-gum	150	15	Large Tree in patch	-	Retained
49	*Eucalyptus camaldulensis*	River Red-gum	168	15	Large Tree in patch	-	Retained
50	*Eucalyptus camaldulensis*	River Red-gum	89	10.68	Large Tree in patch	-	Retained
51	*Eucalyptus camaldulensis*	River Red-gum	140	15	Large Tree in patch	-	Retained
52	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	-	Retained
53	*Eucalyptus camaldulensis*	River Red-gum	82	9.84	Large Tree in patch	-	Retained
54	*Eucalyptus camaldulensis*	River Red-gum	90	10.8	Large Tree in patch	-	Retained
55	*Eucalyptus camaldulensis*	River Red-gum	100	12	Large Tree in patch	-	Retained
56	*Eucalyptus camaldulensis*	River Red-gum	95	11.4	Large Tree in patch	-	Retained
57	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	-	Retained
58	*Eucalyptus camaldulensis*	River Red-gum	180	15	Large Tree in patch	Y	Retained
59	*Eucalyptus camaldulensis*	River Red-gum	140	15	Large Tree in patch	Y	Retained
60	*Eucalyptus camaldulensis*	River Red-gum	145	15	Large Tree in patch	-	Retained
61	*Eucalyptus camaldulensis*	River Red-gum	138	15	Scattered Large Tree	Y	Retained
62	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
63	*Eucalyptus camaldulensis*	River Red-gum	145	15	Large Tree in patch	-	Retained
64	*Eucalyptus camaldulensis*	River Red-gum	100	12	Large Tree in patch	-	Retained
65	*Eucalyptus camaldulensis*	River Red-gum	90	10.8	Large Tree in patch	-	TPZ impact
66	*Eucalyptus camaldulensis*	River Red-gum	150	15	Large Tree in patch	-	TPZ impact
67	*Eucalyptus camaldulensis*	River Red-gum	186	15	Large Tree in patch	Y	Retained
68	*Eucalyptus camaldulensis*	River Red-gum	230	15	Large Tree in patch	Y	Retained
69	*Eucalyptus camaldulensis*	River Red-gum	90	10.8	Large Tree in patch	-	Retained
70	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	-	Retained
71	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	-	Retained
72	*Eucalyptus camaldulensis*	River Red-gum	90	10.8	Large Tree in patch	-	Retained
73	*Eucalyptus camaldulensis*	River Red-gum	160	15	Large Tree in patch	Y	Retained
74	*Eucalyptus camaldulensis*	River Red-gum	120	14.4	Large Tree in patch	Y	Retained
75	*Eucalyptus camaldulensis*	River Red-gum	110	13.2	Large Tree in patch	Y	Retained
76	*Eucalyptus camaldulensis*	River Red-gum	95	11.4	Large Tree in patch	-	Retained
77	*Eucalyptus camaldulensis*	River Red-gum	90	10.8	Large Tree in patch	-	Retained
78	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	-	Retained
79	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	-	Retained
80	*Eucalyptus camaldulensis*	River Red-gum	112	13.44	Large Tree in patch	-	Retained
81	*Eucalyptus camaldulensis*	River Red-gum	100	12	Large Tree in patch	-	Retained
82	*Eucalyptus camaldulensis*	River Red-gum	125	15	Large Tree in patch	-	Retained
83	*Eucalyptus camaldulensis*	River Red-gum	125	15	Large Tree in patch	-	Retained
84	*Eucalyptus camaldulensis*	River Red-gum	110	13.2	Large Tree in patch	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
85	*Eucalyptus camaldulensis*	River Red-gum	90	10.8	Large Tree in patch	-	Retained
86	*Eucalyptus camaldulensis*	River Red-gum	85	10.2	Large Tree in patch	-	Retained
87	*Eucalyptus camaldulensis*	River Red-gum	110	13.2	Large Tree in patch	-	Retained
88	*Eucalyptus camaldulensis*	River Red-gum	180	15	Large Tree in patch	-	Retained
89	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	-	Retained
90	*Eucalyptus camaldulensis*	River Red-gum	90	10.8	Large Tree in patch	-	Retained
91	*Eucalyptus camaldulensis*	River Red-gum	160	15	Large Tree in patch	-	Retained
92	*Eucalyptus camaldulensis*	River Red-gum	130	15	Large Tree in patch	-	Retained
93	*Eucalyptus camaldulensis*	River Red-gum	90	10.8	Large Tree in patch	-	Retained
94	*Allocasuarina luehmannii*	Buloke	105	12.6	Scattered Large Tree	-	**Direct impact**
95	*Allocasuarina luehmannii*	Buloke	96	11.52	Scattered Large Tree	-	**Direct impact**
96	*Eucalyptus microcarpa*	Grey Box	*130*	15	Scattered Large Tree	-	**Direct impact**
97	*Eucalyptus microcarpa*	Grey Box	*90*	10.8	Scattered Large Tree	-	**Direct impact**
98	*Eucalyptus microcarpa*	Grey Box	*100*	12	Scattered Large Tree	Y	**Direct impact**
99	*Eucalyptus microcarpa*	Grey Box	*100*	12	Scattered Large Tree	-	**Direct impact**
100	*Eucalyptus microcarpa*	Grey Box	90	10.8	Scattered Large Tree	Y	**Direct impact**
101	*Allocasuarina luehmannii*	Buloke	57	6.84	Scattered Large Tree	-	Retained
102	*Allocasuarina luehmannii*	Buloke	49	5.88	Large Tree in patch	-	Retained
103	*Allocasuarina luehmannii*	Buloke	68	8.16	Large Tree in patch	-	Retained
104	*Allocasuarina luehmannii*	Buloke	51	6.12	Large Tree in patch	-	Retained
105	*Eucalyptus microcarpa*	Grey Box	85	10.2	Scattered Large Tree	-	**Direct impact**
106	*Allocasuarina luehmannii*	Buloke	73	8.76	Scattered Large Tree	-	**Direct impact**

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
107	*Allocasuarina luehmannii*	Buloke	61	7.32	Scattered Large Tree	-	Direct impact
108	*Allocasuarina luehmannii*	Buloke	78	9.36	Scattered Large Tree	-	Retained
109	*Allocasuarina luehmannii*	Buloke	55	6.6	Scattered Large Tree	-	Retained
110	*Allocasuarina luehmannii*	Buloke	77	9.24	Scattered Large Tree	-	Retained
111	*Allocasuarina luehmannii*	Buloke	51	6.12	Scattered Large Tree	-	Retained
112	*Allocasuarina luehmannii*	Buloke	68	8.16	Scattered Large Tree	-	Retained
113	*Allocasuarina luehmannii*	Buloke	65	7.8	Scattered Large Tree	-	Retained
114	*Allocasuarina luehmannii*	Buloke	70	8.4	Scattered Large Tree	-	Retained
115	*Eucalyptus microcarpa*	Grey Box	121	14.52	Scattered Large Tree	-	Retained
116	*Allocasuarina luehmannii*	Buloke	80	9.6	Scattered Large Tree	-	Retained
117	*Allocasuarina luehmannii*	Buloke	78	9.36	Scattered Large Tree	-	Retained
118	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	-	Retained
119	*Eucalyptus camaldulensis*	River Red-gum	85	10.2	Large Tree in patch	-	Retained
120	*Eucalyptus camaldulensis*	River Red-gum	149	15	Large Tree in patch	-	Retained
121	*Eucalyptus camaldulensis*	River Red-gum	140	15	Large Tree in patch	-	Retained
122	*Allocasuarina luehmannii*	Buloke	83	9.96	Scattered Large Tree	-	Retained
123	*Allocasuarina luehmannii*	Buloke	75	9	Scattered Large Tree	-	Direct impact
124	*Eucalyptus microcarpa*	Grey Box	90	10.8	Scattered Large Tree	-	Direct impact
125	*Allocasuarina luehmannii*	Buloke	80	9.6	Scattered Large Tree	-	Direct impact
126	*Allocasuarina luehmannii*	Buloke	80	9.6	Scattered Large Tree	-	Direct impact
127	*Eucalyptus microcarpa*	Grey Box	108	12.96	Scattered Large Tree	-	Retained
128	*Eucalyptus microcarpa*	Grey Box	100	12	Scattered Large Tree	-	Direct impact

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
129	*Eucalyptus microcarpa*	Grey Box	*110*	13.2	Scattered Large Tree	-	**Direct impact**
130	*Eucalyptus microcarpa*	Grey Box	*100*	12	Scattered Large Tree	-	Retained
131	*Eucalyptus microcarpa*	Grey Box	68	8.16	Scattered Small Tree	-	**Direct impact**
132	*Eucalyptus microcarpa*	Grey Box	40	4.8	Scattered Small Tree	-	**Direct impact**
133	*Eucalyptus microcarpa*	Grey Box	125	15	Scattered Large Tree	-	Retained
134	*Eucalyptus microcarpa*	Grey Box	118	14.16	Scattered Large Tree	-	Retained
135	*Eucalyptus microcarpa*	Grey Box	124	14.88	Scattered Large Tree	-	Retained
136	*Eucalyptus microcarpa*	Grey Box	105	12.6	Scattered Large Tree	Y	**Direct impact**
137	*Eucalyptus microcarpa*	Grey Box	93	11.16	Scattered Large Tree	-	**Direct impact**
138	*Eucalyptus microcarpa*	Grey Box	107	12.84	Scattered Large Tree	-	**Direct impact**
139	*Eucalyptus microcarpa*	Grey Box	124	14.88	Scattered Large Tree	-	**Direct impact**
140	*Eucalyptus microcarpa*	Grey Box	90	10.8	Scattered Large Tree	-	**Direct impact**
141	*Eucalyptus microcarpa*	Grey Box	132	15	Scattered Large Tree	-	Retained
142	*Eucalyptus microcarpa*	Grey Box	118	14.16	Scattered Large Tree	-	**Direct impact**
143	*Eucalyptus microcarpa*	Grey Box	112	13.44	Scattered Large Tree	Y	**Direct impact**
144	*Eucalyptus microcarpa*	Grey Box	136	15	Scattered Large Tree	Y	**Direct impact**
145	*Eucalyptus microcarpa*	Grey Box	110	13.2	Scattered Large Tree	-	**Direct impact**
146	*Eucalyptus microcarpa*	Grey Box	137	15	Large Tree in patch	-	Retained
147	*Eucalyptus microcarpa*	Grey Box	113	13.56	Scattered Large Tree	-	Retained
148	*Eucalyptus microcarpa*	Grey Box	25	3	Scattered Small Tree	-	Retained
149	*Eucalyptus microcarpa*	Grey Box	26	3.12	Scattered Small Tree	-	Retained
150	*Eucalyptus microcarpa*	Grey Box	28	3.36	Scattered Small Tree	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
151	*Eucalyptus microcarpa*	Grey Box	38	4.56	Scattered Small Tree	-	Retained
152	*Eucalyptus microcarpa*	Grey Box	143	15	Scattered Large Tree	-	**Direct impact**
153	*Eucalyptus microcarpa*	Grey Box	133	15	Scattered Large Tree	-	**Direct impact**
154	*Eucalyptus microcarpa*	Grey Box	94	11.28	Scattered Large Tree	-	**Direct impact**
155	*Eucalyptus microcarpa*	Grey Box	107	12.84	Scattered Large Tree	Y	**Direct impact**
156	*Eucalyptus microcarpa*	Grey Box	119	14.28	Scattered Large Tree	-	Retained
157	*Eucalyptus microcarpa*	Grey Box	103	12.36	Scattered Large Tree	-	Retained
158	*Eucalyptus microcarpa*	Grey Box	128	15	Scattered Large Tree	-	Retained
159	*Eucalyptus microcarpa*	Grey Box	124	14.88	Scattered Large Tree	-	Retained
160	*Eucalyptus leucoxylon*	Yellow Gum	92	11.04	Scattered Large Tree	-	Retained
161	*Eucalyptus microcarpa*	Grey Box	144	15	Scattered Large Tree	-	Retained
162	*Eucalyptus microcarpa*	Grey Box	126	15	Scattered Large Tree	-	Retained
163	*Eucalyptus microcarpa*	Grey Box	126	15	Scattered Large Tree	-	Retained
164	*Eucalyptus microcarpa*	Grey Box	106	12.72	Scattered Large Tree	-	Retained
165	*Eucalyptus microcarpa*	Grey Box	120	14.4	Scattered Large Tree	-	Retained
166	*Eucalyptus microcarpa*	Grey Box	100	12	Scattered Large Tree	-	Retained
167	*Eucalyptus microcarpa*	Grey Box	176	15	Scattered Large Tree	-	Retained
168	*Eucalyptus microcarpa*	Grey Box	82	9.84	Scattered Large Tree	-	Retained
169	*Eucalyptus microcarpa*	Grey Box	75	9	Scattered Large Tree	-	Retained
170	*Eucalyptus microcarpa*	Grey Box	53	6.36	Scattered Small Tree	-	Retained
171	*Eucalyptus microcarpa*	Grey Box	85	10.2	Scattered Large Tree	Y	Retained
172	*Eucalyptus microcarpa*	Grey Box	114	13.68	Scattered Large Tree	Y	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
173	*Eucalyptus microcarpa*	Grey Box	105	12.6	Scattered Large Tree	Y	Retained
174	*Eucalyptus microcarpa*	Grey Box	174	15	Scattered Large Tree	Y	Retained
175	*Eucalyptus microcarpa*	Grey Box	160	15	Scattered Large Tree	Y	Retained
176	*Eucalyptus microcarpa*	Grey Box	149	15	Scattered Large Tree	-	Retained
177	*Eucalyptus microcarpa*	Grey Box	77	9.24	Scattered Large Tree	-	**Direct impact**
178	*Eucalyptus microcarpa*	Grey Box	130	15	Scattered Large Tree	-	Retained
179	*Eucalyptus microcarpa*	Grey Box	89	10.68	Scattered Large Tree	-	Retained
180	*Eucalyptus melliodora*	Yellow Box	170	15	Scattered Large Tree	Y	Retained
181	*Eucalyptus camaldulensis*	River Red-gum	104	12.48	Large Tree in patch	-	Retained
182	*Eucalyptus camaldulensis*	River Red-gum	107	12.84	Large Tree in patch	-	Retained
183	*Eucalyptus microcarpa*	Grey Box	114	13.68	Large Tree in patch	-	Retained
184	*Eucalyptus microcarpa*	Grey Box	229	15	Scattered Large Tree	-	**Direct impact**
185	*Eucalyptus microcarpa*	Grey Box	100	12	Scattered Large Tree	-	**Direct impact**
186	*Eucalyptus microcarpa*	Grey Box	100	12	Scattered Large Tree	-	**Direct impact**
187	*Eucalyptus microcarpa*	Grey Box	150	15	Scattered Large Tree	-	**Direct impact**
188	*Eucalyptus leucoxylon*	Yellow Gum	95	11.4	Scattered Large Tree	-	Retained
189	*Eucalyptus leucoxylon*	Yellow Gum	130	15	Scattered Large Tree	-	Retained
190	*Eucalyptus microcarpa*	Grey Box	94	11.28	Scattered Large Tree	-	Retained
191	*Eucalyptus microcarpa*	Grey Box	91	10.92	Scattered Large Tree	-	Retained
192	*Eucalyptus* spp.	Stag	152	15	Scattered Large Tree	-	Retained
193	*Eucalyptus leucoxylon*	Yellow Gum	173	15	Large Tree in patch	-	Retained
194	*Eucalyptus leucoxylon*	Yellow Gum	141	15	Large Tree in patch	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
195	*Eucalyptus leucoxylon*	Yellow Gum	127	15	Large Tree in patch	Y	Retained
196	*Eucalyptus leucoxylon*	Yellow Gum	117	14.04	Large Tree in patch	-	Retained
197	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	-	Retained
198	*Eucalyptus camaldulensis*	River Red-gum	117	14.04	Large Tree in patch	-	Retained
199	*Eucalyptus leucoxylon*	Yellow Gum	99	11.88	Large Tree in patch	-	Retained
200	*Eucalyptus microcarpa*	Grey Box	91	10.92	Large Tree in patch	Y	Retained
201	*Eucalyptus microcarpa*	Grey Box	95	11.4	Scattered Large Tree	-	Retained
202	*Eucalyptus* spp.	Stag	97	11.64	Scattered Large Tree	Y	Retained
203	*Eucalyptus leucoxylon*	Yellow Gum	54	6.48	Scattered Small Tree	-	Retained
204	*Allocasuarina luehmannii*	Buloke	77	9.24	Scattered Large Tree	-	Retained
205	*Allocasuarina luehmannii*	Buloke	79	9.48	Scattered Large Tree	-	Retained
206	*Eucalyptus microcarpa*	Grey Box	101	12.12	Scattered Large Tree	-	Retained
207	*Eucalyptus microcarpa*	Grey Box	136	15	Scattered Large Tree	-	Retained
208	*Eucalyptus microcarpa*	Grey Box	136	15	Scattered Large Tree	-	Retained
209	*Eucalyptus* spp.	Stag	126	15	Scattered Large Tree	Y	Retained
210	*Eucalyptus* spp.	Stag	103	12.36	Scattered Large Tree	Y	Retained
211	*Eucalyptus leucoxylon*	Yellow Gum	242	15	Large Tree in patch	-	Retained
212	*Eucalyptus microcarpa*	Grey Box	116	13.92	Scattered Large Tree	-	Retained
213	*Allocasuarina luehmannii*	Buloke	48	5.76	Scattered Large Tree	-	Retained
214	*Allocasuarina luehmannii*	Buloke	84	10.08	Scattered Large Tree	-	Retained
215	*Allocasuarina luehmannii*	Buloke	53	6.36	Scattered Large Tree	-	Retained
216	*Eucalyptus melliodora*	Yellow Box	150	15	Scattered Large Tree	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
217	*Eucalyptus microcarpa*	Grey Box	107	12.84	Scattered Large Tree	Y	Retained
218	*Eucalyptus leucoxylon*	Yellow Gum	126	15	Scattered Large Tree	-	Retained
219	*Eucalyptus* spp.	Stag	114	13.68	Scattered Large Tree	Y	Retained
220	*Eucalyptus microcarpa*	Grey Box	99	11.88	Scattered Large Tree	-	Retained
221	*Eucalyptus microcarpa*	Grey Box	96	11.52	Large Tree in patch	-	Retained
222	*Eucalyptus microcarpa*	Grey Box	95	11.4	Large Tree in patch	Y	Retained
223	*Eucalyptus microcarpa*	Grey Box	82	9.84	Large Tree in patch	-	Retained
224	*Eucalyptus microcarpa*	Grey Box	99	11.88	Scattered Large Tree	Y	Retained
225	*Eucalyptus microcarpa*	Grey Box	98	11.76	Scattered Large Tree	Y	Retained
226	*Eucalyptus microcarpa*	Grey Box	114	13.68	Scattered Large Tree	-	Retained
227	*Eucalyptus microcarpa*	Grey Box	111	13.32	Scattered Large Tree	Y	Retained
228	*Eucalyptus microcarpa*	Grey Box	110	13.2	Scattered Large Tree	Y	Retained
229	*Eucalyptus microcarpa*	Grey Box	104	12.48	Scattered Large Tree	Y	Retained
230	*Eucalyptus microcarpa*	Grey Box	104	12.48	Scattered Large Tree	Y	Retained
231	*Eucalyptus microcarpa*	Grey Box	83	9.96	Scattered Large Tree	-	Retained
232	*Eucalyptus microcarpa*	Grey Box	85	10.2	Scattered Large Tree	-	Retained
233	*Eucalyptus microcarpa*	Grey Box	101	12.12	Scattered Large Tree	-	Retained
234	*Eucalyptus microcarpa*	Grey Box	101	12.12	Scattered Large Tree	-	Retained
235	*Eucalyptus* spp.	Stag	82	9.84	Scattered Large Tree	-	Retained
236	*Eucalyptus microcarpa*	Grey Box	73	8.76	Scattered Large Tree	-	Retained
237	*Eucalyptus melliodora*	Yellow Box	87	10.44	Scattered Large Tree	Y	Retained
238	*Eucalyptus* spp.	Stag	115	13.8	Scattered Large Tree	Y	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
239	*Eucalyptus microcarpa*	Grey Box	106	12.72	Scattered Large Tree	-	Retained
240	*Eucalyptus microcarpa*	Grey Box	158	15	Scattered Large Tree	Y	Retained
241	*Eucalyptus microcarpa*	Grey Box	90	10.8	Scattered Large Tree	Y	Retained
242	*Eucalyptus* spp.	Stag	115	13.8	Scattered Large Tree	Y	Retained
243	*Eucalyptus microcarpa*	Grey Box	116	13.92	Scattered Large Tree	-	Retained
244	*Eucalyptus microcarpa*	Grey Box	100	12	Scattered Large Tree	-	Retained
245	*Eucalyptus microcarpa*	Grey Box	121	14.52	Scattered Large Tree	-	Retained
246	*Eucalyptus microcarpa*	Grey Box	86	10.32	Scattered Large Tree	-	Retained
247	*Eucalyptus microcarpa*	Grey Box	103	12.36	Scattered Large Tree	-	Retained
248	*Eucalyptus microcarpa*	Grey Box	85	10.2	Scattered Large Tree	Y	Retained
249	*Eucalyptus microcarpa*	Grey Box	146	15	Scattered Large Tree	Y	Retained
250	*Eucalyptus microcarpa*	Grey Box	99	11.88	Scattered Large Tree	-	Retained
251	*Eucalyptus microcarpa*	Grey Box	127	15	Scattered Large Tree	-	Retained
252	*Eucalyptus microcarpa*	Grey Box	109	13.08	Scattered Large Tree	-	Retained
253	*Eucalyptus microcarpa*	Grey Box	100	12	Scattered Large Tree	-	Retained
254	*Eucalyptus microcarpa*	Grey Box	122	14.64	Scattered Large Tree	Y	Direct impact
255	*Eucalyptus microcarpa*	Grey Box	49	5.88	Scattered Small Tree	-	Retained
256	*Eucalyptus microcarpa*	Grey Box	93	11.16	Scattered Large Tree	Y	Retained
257	*Eucalyptus microcarpa*	Grey Box	104	12.48	Scattered Large Tree	-	Retained
258	*Eucalyptus microcarpa*	Grey Box	54	6.48	Scattered Small Tree	-	Retained
259	*Eucalyptus microcarpa*	Grey Box	47	5.64	Scattered Small Tree	-	Retained
260	*Eucalyptus microcarpa*	Grey Box	112	13.44	Scattered Large Tree	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
261	*Eucalyptus microcarpa*	Grey Box	92	11.04	Scattered Large Tree	-	Retained
262	*Eucalyptus microcarpa*	Grey Box	83	9.96	Scattered Large Tree	-	Retained
263	*Eucalyptus microcarpa*	Grey Box	80	9.6	Scattered Large Tree	-	Retained
264	*Eucalyptus microcarpa*	Grey Box	120	14.4	Scattered Large Tree	Y	Retained
265	*Eucalyptus microcarpa*	Grey Box	92	11.04	Scattered Large Tree	Y	Retained
266	*Eucalyptus microcarpa*	Grey Box	66	7.92	Scattered Small Tree	-	Retained
267	*Eucalyptus microcarpa*	Grey Box	107	12.84	Scattered Large Tree	Y	Retained
268	*Eucalyptus microcarpa*	Grey Box	87	10.44	Scattered Large Tree	-	Direct impact
269	*Eucalyptus microcarpa*	Grey Box	134	15	Scattered Large Tree	-	Direct impact
270	*Eucalyptus leucoxylon*	Yellow Gum	209	15	Scattered Large Tree	Y	Retained
271	*Eucalyptus microcarpa*	Grey Box	103	12.36	Scattered Large Tree	-	Retained
272	*Allocasuarina luehmannii*	Buloke	79	9.48	Large Tree in patch	-	Retained
273	*Allocasuarina luehmannii*	Buloke	65	7.8	Large Tree in patch	-	Retained
274	*Allocasuarina luehmannii*	Buloke	86	10.32	Large Tree in patch	-	Retained
275	*Allocasuarina luehmannii*	Buloke	64	7.68	Scattered Large Tree	-	Direct impact
276	*Allocasuarina luehmannii*	Buloke	55	6.6	Scattered Large Tree	-	Direct impact
277	*Eucalyptus microcarpa*	Grey Box	108	12.96	Scattered Large Tree	-	Direct impact
278	*Eucalyptus microcarpa*	Grey Box	85	10.2	Scattered Large Tree	-	Direct impact
279	*Eucalyptus microcarpa*	Grey Box	67	8.04	Scattered Small Tree	-	Direct impact
280	*Eucalyptus microcarpa*	Grey Box	84	10.08	Scattered Large Tree	-	Direct impact
281	*Eucalyptus microcarpa*	Grey Box	73	8.76	Scattered Large Tree	-	Direct impact
282	*Eucalyptus melliodora*	Yellow Box	115	13.8	Scattered Large Tree	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
283	*Eucalyptus melliodora*	Yellow Box	157	15	Scattered Large Tree	-	Retained
284	*Eucalyptus* spp.	Stag	*160*	15	Scattered Large Tree	Y	Retained
285	*Eucalyptus melliodora*	Yellow Box	*65*	7.8	Scattered Small Tree	Y	Retained
286	*Eucalyptus melliodora*	Yellow Box	73	8.76	Scattered Large Tree	-	Retained
287	*Eucalyptus microcarpa*	Grey Box	*170*	15	Scattered Large Tree	-	Direct impact
288	*Eucalyptus* spp.	Stag	*125*	15	Scattered Large Tree	Y	Retained
289	*Eucalyptus melliodora*	Yellow Box	99	11.88	Large Tree in patch	-	Retained
290	*Eucalyptus melliodora*	Yellow Box	86	10.32	Large Tree in patch	-	Retained
291	*Eucalyptus melliodora*	Yellow Box	138	15	Large Tree in patch	-	Retained
292	*Eucalyptus melliodora*	Yellow Box	88	10.56	Large Tree in patch	-	Retained
293	*Eucalyptus melliodora*	Yellow Box	80	9.6	Large Tree in patch	-	Retained
294	*Eucalyptus melliodora*	Yellow Box	83	9.96	Large Tree in patch	-	Retained
295	*Eucalyptus melliodora*	Yellow Box	141	15	Scattered Large Tree	-	Retained
296	*Eucalyptus melliodora*	Yellow Box	82	9.84	Large Tree in patch	-	Retained
297	*Eucalyptus melliodora*	Yellow Box	120	14.4	Large Tree in patch	-	Retained
298	*Eucalyptus melliodora*	Yellow Box	*90*	10.8	Large Tree in patch	Y	Retained
299	*Eucalyptus melliodora*	Yellow Box	*110*	13.2	Large Tree in patch	Y	Retained
300	*Eucalyptus melliodora*	Yellow Box	110	13.2	Large Tree in patch	-	Retained
301	*Eucalyptus melliodora*	Yellow Box	111	13.32	Scattered Large Tree	-	Retained
302	*Eucalyptus* spp.	Stag	105	12.6	Scattered Large Tree	-	Retained
303	*Eucalyptus melliodora*	Yellow Box	111	13.32	Scattered Large Tree	-	Retained
304	*Eucalyptus melliodora*	Yellow Box	116	13.92	Scattered Large Tree	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
305	*Eucalyptus melliodora*	Yellow Box	*100*	12	Scattered Large Tree	Y	Retained
306	*Eucalyptus melliodora*	Yellow Box	193	15	Scattered Large Tree	-	Retained
307	*Eucalyptus melliodora*	Yellow Box	129	15	Scattered Large Tree	-	Retained
308	*Eucalyptus microcarpa*	Grey Box	79	9.48	Scattered Large Tree	-	**Direct impact**
309	*Eucalyptus microcarpa*	Grey Box	58	6.96	Scattered Small Tree	-	**Direct impact**
310	*Eucalyptus microcarpa*	Grey Box	77	9.24	Scattered Large Tree	-	**Direct impact**
311	*Eucalyptus melliodora*	Yellow Box	98	11.76	Scattered Large Tree	-	**Direct impact**
312	*Eucalyptus melliodora*	Yellow Box	92	11.04	Scattered Large Tree	-	**Direct impact**
313	*Eucalyptus microcarpa*	Grey Box	82	9.84	Scattered Large Tree	-	**Direct impact**
314	*Eucalyptus microcarpa*	Grey Box	68	8.16	Scattered Small Tree	-	**Direct impact**
315	*Eucalyptus microcarpa*	Grey Box	80	9.6	Scattered Large Tree	Y	**Direct impact**
316	*Eucalyptus* spp.	Stag	66	7.92	Scattered Small Tree	-	**Direct impact**
317	*Eucalyptus melliodora*	Yellow Box	112	13.44	Scattered Large Tree	Y	**Direct impact**
318	*Eucalyptus leucoxylon*	Yellow Gum	72	8.64	Scattered Large Tree	-	Retained
319	*Eucalyptus leucoxylon*	Yellow Gum	68	8.16	Scattered Small Tree	-	Retained
320	*Eucalyptus microcarpa*	Grey Box	90	10.8	Scattered Large Tree	-	Retained
321	*Eucalyptus microcarpa*	Grey Box	129	15	Scattered Large Tree	-	Retained
322	*Eucalyptus* spp.	Stag	75	9	Scattered Large Tree	-	Retained
323	*Eucalyptus microcarpa*	Grey Box	88	10.56	Scattered Large Tree	-	Retained
324	*Eucalyptus camaldulensis*	River Red-gum	110	13.2	Large Tree in patch	-	Retained
325	*Eucalyptus camaldulensis*	River Red-gum	100	12	Large Tree in patch	-	Retained
326	*Eucalyptus* spp.	Stag	100	12	Scattered Large Tree	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
327	*Eucalyptus melliodora*	Yellow Box	*120*	14.4	Scattered Large Tree	-	Retained
328	*Eucalyptus microcarpa*	Grey Box	*120*	14.4	Scattered Large Tree	Y	Retained
329	*Eucalyptus microcarpa*	Grey Box	83	9.96	Scattered Large Tree	Y	Retained
330	*Eucalyptus* spp.	Stag	*90*	10.8	Scattered Large Tree	Y	Retained
331	*Eucalyptus microcarpa*	Grey Box	90	10.8	Scattered Large Tree	Y	Retained
332	*Eucalyptus leucoxylon*	Yellow Gum	107	12.84	Scattered Large Tree	-	Retained
333	*Eucalyptus* spp.	Stag	90	10.8	Scattered Large Tree	Y	Retained
334	*Eucalyptus camaldulensis*	River Red-gum	50	6	Scattered Small Tree	-	Retained
335	*Eucalyptus leucoxylon*	Yellow Gum	111	13.32	Scattered Large Tree	Y	Direct impact
336	*Eucalyptus leucoxylon*	Yellow Gum	113	13.56	Scattered Large Tree	Y	Direct impact
337	*Eucalyptus leucoxylon*	Yellow Gum	140	15	Scattered Large Tree	Y	Retained
338	*Eucalyptus melliodora*	Yellow Box	99	11.88	Scattered Large Tree	-	Retained
339	*Eucalyptus leucoxylon*	Yellow Gum	73	8.76	Large Tree in patch	-	Retained
340	*Eucalyptus melliodora*	Yellow Box	74	8.88	Large Tree in patch	-	Retained
341	*Eucalyptus melliodora*	Yellow Box	83	9.96	Large Tree in patch	-	Retained
342	*Eucalyptus melliodora*	Yellow Box	100	12	Scattered Large Tree	-	Retained
343	*Eucalyptus melliodora*	Yellow Box	*140*	15	Scattered Large Tree	Y	Retained
344	*Eucalyptus melliodora*	Yellow Box	136	15	Scattered Large Tree	-	Retained
345	*Eucalyptus melliodora*	Yellow Box	40	4.8	Scattered Small Tree	-	Retained
346	*Eucalyptus melliodora*	Yellow Box	138	15	Large Tree in patch	-	Retained
347	*Eucalyptus microcarpa*	Grey Box	180	15	Large Tree in patch	Y	Retained
348	*Eucalyptus microcarpa*	Grey Box	35	4.2	Scattered Small Tree	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
349	*Eucalyptus melliodora*	Yellow Box	183	15	Large Tree in patch	-	Retained
350	*Eucalyptus microcarpa*	Grey Box	101	12.12	Large Tree in patch	-	Retained
351	*Eucalyptus melliodora*	Yellow Box	81	9.72	Large Tree in patch	-	Retained
352	*Eucalyptus melliodora*	Yellow Box	76	9.12	Scattered Large Tree	-	Retained
353	*Eucalyptus melliodora*	Yellow Box	110	13.2	Large Tree in patch	-	Retained
354	*Eucalyptus* spp.	Stag	71	8.52	Scattered Large Tree	-	Retained
355	*Eucalyptus melliodora*	Yellow Box	15	2	Scattered Small Tree	-	Retained
356	*Eucalyptus microcarpa*	Grey Box	118	14.16	Large Tree in patch	-	Retained
357	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	-	Retained
358	*Eucalyptus camaldulensis*	River Red-gum	90	10.8	Large Tree in patch	-	Retained
359	*Eucalyptus camaldulensis*	River Red-gum	129	15	Large Tree in patch	-	Retained
360	*Eucalyptus camaldulensis*	River Red-gum	110	13.2	Large Tree in patch	Y	Retained
361	*Eucalyptus camaldulensis*	River Red-gum	144	15	Large Tree in patch	-	Retained
362	*Eucalyptus camaldulensis*	River Red-gum	120	14.4	Large Tree in patch	Y	Retained
363	*Eucalyptus camaldulensis*	River Red-gum	140	15	Large Tree in patch	-	Retained
364	*Eucalyptus microcarpa*	Grey Box	169	15	Large Tree in patch	Y	Retained
365	*Eucalyptus camaldulensis*	River Red-gum	100	12	Large Tree in patch	Y	Retained
366	*Eucalyptus* spp.	Stag	85	10.2	Scattered Large Tree	Y	Retained
367	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Scattered Large Tree	-	Retained
368	*Eucalyptus camaldulensis*	River Red-gum	106	12.72	Scattered Large Tree	-	Retained
369	*Eucalyptus camaldulensis*	River Red-gum	97	11.64	Large Tree in patch	-	Retained
370	*Eucalyptus camaldulensis*	River Red-gum	120	14.4	Large Tree in patch	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
371	*Eucalyptus camaldulensis*	River Red-gum	110	13.2	Large Tree in patch	Y	Retained
372	*Eucalyptus* spp.	Stag	100	12	Large Tree in patch	Y	Retained
373	*Eucalyptus* spp.	Stag	96	11.52	Large Tree in patch	-	Retained
374	*Eucalyptus camaldulensis*	River Red-gum	130	15	Large Tree in patch	Y	Retained
375	*Eucalyptus* spp.	Stag	130	15	Large Tree in patch	Y	Retained
376	*Eucalyptus camaldulensis*	River Red-gum	81	9.72	Large Tree in patch	-	Retained
377	*Eucalyptus* spp.	Stag	110	13.2	Large Tree in patch	Y	Retained
378	*Eucalyptus camaldulensis*	River Red-gum	90	10.8	Large Tree in patch	-	Retained
379	*Eucalyptus* spp.	Stag	110	13.2	Large Tree in patch	-	Retained
380	*Eucalyptus leucoxylon*	Yellow Gum	100	12	Large Tree in patch	-	Retained
381	*Eucalyptus camaldulensis*	River Red-gum	100	12	Large Tree in patch	-	Retained
382	*Eucalyptus camaldulensis*	River Red-gum	108	12.96	Large Tree in patch	-	Retained
383	*Eucalyptus camaldulensis*	River Red-gum	110	13.2	Scattered Large Tree	-	Retained
384	*Eucalyptus camaldulensis*	River Red-gum	150	15	Scattered Large Tree	Y	Retained
385	*Eucalyptus camaldulensis*	River Red-gum	120	14.4	Large Tree in patch	Y	Retained
386	*Eucalyptus camaldulensis*	River Red-gum	110	13.2	Large Tree in patch	-	Retained
387	*Eucalyptus camaldulensis*	River Red-gum	110	13.2	Large Tree in patch	-	Retained
388	*Eucalyptus camaldulensis*	River Red-gum	90	10.8	Large Tree in patch	-	Retained
389	*Eucalyptus camaldulensis*	River Red-gum	90	10.8	Large Tree in patch	-	Retained
390	*Eucalyptus camaldulensis*	River Red-gum	88	10.56	Scattered Large Tree	-	Retained
391	*Eucalyptus camaldulensis*	River Red-gum	165	15	Large Tree in patch	-	Retained
392	*Eucalyptus camaldulensis*	River Red-gum	173	15	Large Tree in patch	Y	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
393	*Eucalyptus camaldulensis*	River Red-gum	122	14.64	Large Tree in patch	-	Retained
394	*Eucalyptus camaldulensis*	River Red-gum	223	15	Large Tree in patch	Y	Retained
395	*Eucalyptus camaldulensis*	River Red-gum	120	14.4	Large Tree in patch	-	Retained
396	*Eucalyptus camaldulensis*	River Red-gum	104	12.48	Large Tree in patch	-	Retained
397	*Eucalyptus camaldulensis*	River Red-gum	169	15	Large Tree in patch	-	Retained
398	*Eucalyptus microcarpa*	Grey Box	160	15	Scattered Large Tree	Y	Retained
399	*Eucalyptus camaldulensis*	River Red-gum	100	12	Large Tree in patch	-	Retained
400	*Eucalyptus camaldulensis*	River Red-gum	105	12.6	Large Tree in patch	-	Retained
401	*Eucalyptus camaldulensis*	River Red-gum	130	15	Large Tree in patch	Y	Retained
402	*Eucalyptus camaldulensis*	River Red-gum	90	10.8	Large Tree in patch	-	Retained
403	*Eucalyptus microcarpa*	Grey Box	163	15	Large Tree in patch	Y	Retained
404	*Eucalyptus camaldulensis*	River Red-gum	173	15	Large Tree in patch	Y	Retained
405	*Eucalyptus camaldulensis*	River Red-gum	150	15	Large Tree in patch	Y	Retained
406	*Eucalyptus camaldulensis*	River Red-gum	100	12	Large Tree in patch	Y	Retained
407	*Eucalyptus* spp.	Stag	182	15	Large Tree in patch	Y	Retained
408	*Eucalyptus camaldulensis*	River Red-gum	110	13.2	Large Tree in patch	-	Retained
409	*Eucalyptus camaldulensis*	River Red-gum	123	14.76	Large Tree in patch	-	Retained
410	*Eucalyptus camaldulensis*	River Red-gum	127	15	Large Tree in patch	-	Retained
411	*Eucalyptus camaldulensis*	River Red-gum	174	15	Large Tree in patch	Y	Retained
412	*Eucalyptus microcarpa*	Grey Box	116	13.92	Large Tree in patch	Y	Retained
413	*Eucalyptus camaldulensis*	River Red-gum	90	10.8	Large Tree in patch	Y	Retained
414	*Eucalyptus* spp.	Stag	100	12	Large Tree in patch	Y	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
415	*Eucalyptus* spp.	Stag	90	10.8	Large Tree in patch	Y	Retained
416	*Eucalyptus camaldulensis*	River Red-gum	100	12	Large Tree in patch	Y	Retained
417	*Eucalyptus camaldulensis*	River Red-gum	231	15	Large Tree in patch	-	Retained
419	*Eucalyptus camaldulensis*	River Red-gum	128	15	Large Tree in patch	-	Retained
420	*Eucalyptus camaldulensis*	River Red-gum	130	15	Large Tree in patch	Nest	Retained
421	*Eucalyptus camaldulensis*	River Red-gum	170	15	Large Tree in patch	Y	Retained
422	*Eucalyptus camaldulensis*	River Red-gum	121	14.52	Large Tree in patch	Y	Retained
423	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	Y	Retained
424	*Eucalyptus camaldulensis*	River Red-gum	88	10.56	Large Tree in patch	-	Retained
425	*Eucalyptus camaldulensis*	River Red-gum	86	10.32	Large Tree in patch	-	Retained
426	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	-	Retained
427	*Eucalyptus camaldulensis*	River Red-gum	140	15	Large Tree in patch	-	Retained
428	*Eucalyptus microcarpa*	Grey Box	117	14.04	Large Tree in patch	Y	Retained
429	*Eucalyptus* spp.	Stag	102	12.24	Large Tree in patch	Y	Retained
430	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	-	Retained
431	*Eucalyptus camaldulensis*	River Red-gum	139	15	Large Tree in patch	Y	Retained
432	*Eucalyptus camaldulensis*	River Red-gum	172	15	Large Tree in patch	Y	Retained
433	*Eucalyptus* spp.	Stag	87	10.44	Large Tree in patch	Y	Retained
434	*Eucalyptus camaldulensis*	River Red-gum	110	13.2	Large Tree in patch	Y	Retained
435	*Eucalyptus camaldulensis*	River Red-gum	120	14.4	Large Tree in patch	Y	Retained
436	*Eucalyptus microcarpa*	Grey Box	94	11.28	Large Tree in patch	Y	Retained
437	*Eucalyptus microcarpa*	Grey Box	94	11.28	Large Tree in patch	Y	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
438	*Eucalyptus camaldulensis*	River Red-gum	118	14.16	Large Tree in patch	Y	Retained
439	*Eucalyptus camaldulensis*	River Red-gum	110	13.2	Large Tree in patch	Y	Retained
440	*Eucalyptus camaldulensis*	River Red-gum	127	15	Large Tree in patch	Y	Retained
441	*Eucalyptus camaldulensis*	River Red-gum	88	10.56	Large Tree in patch	-	Retained
442	*Eucalyptus camaldulensis*	River Red-gum	130	15	Large Tree in patch	-	Retained
443	*Eucalyptus camaldulensis*	River Red-gum	85	10.2	Large Tree in patch	-	Retained
444	*Eucalyptus camaldulensis*	River Red-gum	200	15	Large Tree in patch	Y	Retained
445	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	-	Retained
446	*Eucalyptus camaldulensis*	River Red-gum	180	15	Large Tree in patch	-	Retained
447	*Eucalyptus camaldulensis*	River Red-gum	100	12	Large Tree in patch	-	Retained
448	*Eucalyptus microcarpa*	Grey Box	147	15	Large Tree in patch	Y	Retained
449	*Eucalyptus camaldulensis*	River Red-gum	123	14.76	Large Tree in patch	-	Retained
450	*Eucalyptus camaldulensis*	River Red-gum	177	15	Large Tree in patch	-	Retained
451	*Eucalyptus camaldulensis*	River Red-gum	96	11.52	Large Tree in patch	-	Retained
452	*Eucalyptus camaldulensis*	River Red-gum	110	13.2	Large Tree in patch	-	Retained
453	*Eucalyptus camaldulensis*	River Red-gum	95	11.4	Large Tree in patch	-	Retained
454	*Eucalyptus camaldulensis*	River Red-gum	90	10.8	Large Tree in patch	-	Retained
455	*Eucalyptus camaldulensis*	River Red-gum	85	10.2	Large Tree in patch	-	Retained
456	*Eucalyptus* spp.	Stag	81	9.72	Large Tree in patch	Y	Retained
457	*Eucalyptus camaldulensis*	River Red-gum	191	15	Large Tree in patch	-	Retained
458	*Eucalyptus camaldulensis*	River Red-gum	140	15	Large Tree in patch	Y	Retained
459	*Eucalyptus camaldulensis*	River Red-gum	84	10.08	Large Tree in patch	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
460	*Eucalyptus camaldulensis*	River Red-gum	128	15	Large Tree in patch	-	Retained
461	*Eucalyptus camaldulensis*	River Red-gum	95	11.4	Large Tree in patch	Y	Retained
462	*Eucalyptus camaldulensis*	River Red-gum	150	15	Large Tree in patch	-	Retained
463	*Eucalyptus camaldulensis*	River Red-gum	136	15	Large Tree in patch	-	Retained
464	*Eucalyptus camaldulensis*	River Red-gum	125	15	Large Tree in patch	-	Retained
465	*Eucalyptus camaldulensis*	River Red-gum	130	15	Large Tree in patch	-	Retained
466	*Eucalyptus camaldulensis*	River Red-gum	120	14.4	Large Tree in patch	-	Retained
467	*Eucalyptus camaldulensis*	River Red-gum	90	10.8	Large Tree in patch	-	Retained
468	*Eucalyptus camaldulensis*	River Red-gum	100	12	Large Tree in patch	-	Retained
469	*Eucalyptus camaldulensis*	River Red-gum	140	15	Large Tree in patch	-	Retained
470	*Eucalyptus camaldulensis*	River Red-gum	120	14.4	Large Tree in patch	Y	Retained
471	*Eucalyptus camaldulensis*	River Red-gum	90	10.8	Large Tree in patch	Y	Retained
472	*Eucalyptus camaldulensis*	River Red-gum	95	11.4	Large Tree in patch	-	Retained
473	*Eucalyptus camaldulensis*	River Red-gum	120	14.4	Large Tree in patch	-	Retained
474	*Eucalyptus camaldulensis*	River Red-gum	126	15	Large Tree in patch	-	Retained
475	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	-	Retained
476	*Eucalyptus camaldulensis*	River Red-gum	153	15	Large Tree in patch	-	Retained
477	*Eucalyptus camaldulensis*	River Red-gum	110	13.2	Large Tree in patch	Y	Retained
478	*Eucalyptus* spp.	Stag	122	14.64	Large Tree in patch	Y	Retained
479	*Eucalyptus camaldulensis*	River Red-gum	85	10.2	Large Tree in patch	-	Retained
480	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	-	Retained
481	*Eucalyptus camaldulensis*	River Red-gum	183	15	Large Tree in patch	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
482	*Eucalyptus camaldulensis*	River Red-gum	149	15	Large Tree in patch	-	Retained
483	*Eucalyptus camaldulensis*	River Red-gum	110	13.2	Large Tree in patch	-	Retained
484	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	-	Retained
485	*Eucalyptus camaldulensis*	River Red-gum	100	12	Large Tree in patch	-	Retained
486	*Eucalyptus camaldulensis*	River Red-gum	110	13.2	Large Tree in patch	-	Retained
487	*Eucalyptus camaldulensis*	River Red-gum	85	10.2	Large Tree in patch	-	Retained
488	*Eucalyptus camaldulensis*	River Red-gum	120	14.4	Large Tree in patch	-	Retained
489	*Eucalyptus camaldulensis*	River Red-gum	120	14.4	Large Tree in patch	-	Retained
490	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	-	Retained
491	*Eucalyptus camaldulensis*	River Red-gum	100	12	Large Tree in patch	-	Retained
492	*Eucalyptus camaldulensis*	River Red-gum	130	15	Large Tree in patch	-	Retained
493	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	-	Retained
494	*Eucalyptus camaldulensis*	River Red-gum	100	12	Large Tree in patch	-	Retained
495	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	-	Retained
496	*Eucalyptus camaldulensis*	River Red-gum	85	10.2	Large Tree in patch	-	Retained
497	*Eucalyptus camaldulensis*	River Red-gum	85	10.2	Large Tree in patch	-	Retained
498	*Eucalyptus* spp.	Stag	150	15	Large Tree in patch	Y	Retained
499	*Eucalyptus* spp.	Stag	133	15	Large Tree in patch	-	Retained
500	*Eucalyptus camaldulensis*	River Red-gum	90	10.8	Large Tree in patch	-	Retained
501	*Eucalyptus camaldulensis*	River Red-gum	120	14.4	Large Tree in patch	-	Retained
502	*Eucalyptus camaldulensis*	River Red-gum	120	14.4	Large Tree in patch	-	Retained
503	*Eucalyptus camaldulensis*	River Red-gum	140	15	Large Tree in patch	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
504	*Eucalyptus camaldulensis*	River Red-gum	135	15	Large Tree in patch	-	Retained
505	*Eucalyptus camaldulensis*	River Red-gum	140	15	Large Tree in patch	-	Retained
506	*Eucalyptus camaldulensis*	River Red-gum	110	13.2	Large Tree in patch	-	Retained
507	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	-	Retained
508	*Eucalyptus camaldulensis*	River Red-gum	95	11.4	Large Tree in patch	-	Retained
509	*Eucalyptus camaldulensis*	River Red-gum	120	14.4	Large Tree in patch	-	Retained
510	*Eucalyptus camaldulensis*	River Red-gum	110	13.2	Large Tree in patch	-	Retained
511	*Eucalyptus camaldulensis*	River Red-gum	90	10.8	Large Tree in patch	-	Retained
512	*Eucalyptus camaldulensis*	River Red-gum	120	14.4	Large Tree in patch	-	Retained
513	*Eucalyptus camaldulensis*	River Red-gum	100	12	Large Tree in patch	-	Retained
514	*Eucalyptus camaldulensis*	River Red-gum	126	15	Large Tree in patch	-	Retained
515	*Eucalyptus camaldulensis*	River Red-gum	130	15	Large Tree in patch	-	Retained
516	*Eucalyptus camaldulensis*	River Red-gum	120	14.4	Large Tree in patch	-	Retained
517	*Eucalyptus camaldulensis*	River Red-gum	130	15	Large Tree in patch	Y	Retained
518	*Eucalyptus camaldulensis*	River Red-gum	130	15	Large Tree in patch	-	Retained
519	*Eucalyptus camaldulensis*	River Red-gum	150	15	Large Tree in patch	-	Retained
520	*Eucalyptus camaldulensis*	River Red-gum	135	15	Large Tree in patch	-	Retained
521	*Eucalyptus camaldulensis*	River Red-gum	95	11.4	Large Tree in patch	-	Retained
522	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	-	Retained
523	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Large Tree in patch	-	Retained
524	*Eucalyptus camaldulensis*	River Red-gum	100	12	Large Tree in patch	-	Retained
525	*Eucalyptus melliodora*	Yellow Box	126	15	Large Tree in patch	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
526	*Eucalyptus camaldulensis*	River Red-gum	90	10.8	Large Tree in patch	-	Retained
527	*Eucalyptus camaldulensis*	River Red-gum	102	12.24	Large Tree in patch	Y	Retained
528	*Eucalyptus camaldulensis*	River Red-gum	105	12.6	Large Tree in patch	Y	Retained
529	*Eucalyptus camaldulensis*	River Red-gum	100	12	Large Tree in patch	-	Retained
530	*Eucalyptus camaldulensis*	River Red-gum	112	13.44	Large Tree in patch	-	Retained
531	*Eucalyptus camaldulensis*	River Red-gum	152	15	Large Tree in patch	-	Retained
532	*Eucalyptus* spp.	Stag	90	10.8	Large Tree in patch	Y	Retained
533	*Eucalyptus camaldulensis*	River Red-gum	110	13.2	Large Tree in patch	Y	Retained
534	*Eucalyptus camaldulensis*	River Red-gum	90	10.8	Large Tree in patch	-	Retained
535	*Eucalyptus camaldulensis*	River Red-gum	119	14.28	Large Tree in patch	-	Retained
536	*Eucalyptus camaldulensis*	River Red-gum	140	15	Large Tree in patch	Y	Retained
537	*Eucalyptus camaldulensis*	River Red-gum	130	15	Large Tree in patch	Y	Retained
538	*Eucalyptus camaldulensis*	River Red-gum	125	15	Large Tree in patch	-	Retained
539	*Eucalyptus* spp.	Stag	80	9.6	Large Tree in patch	-	Retained
540	*Eucalyptus camaldulensis*	River Red-gum	120	14.4	Large Tree in patch	-	Retained
541	*Eucalyptus camaldulensis*	River Red-gum	90	10.8	Large Tree in patch	-	Retained
542	*Eucalyptus camaldulensis*	River Red-gum	89	10.68	Large Tree in patch	-	Retained
543	*Eucalyptus camaldulensis*	River Red-gum	86	10.32	Large Tree in patch	-	Retained
544	*Eucalyptus camaldulensis*	River Red-gum	95	11.4	Large Tree in patch	-	Retained
545	*Eucalyptus camaldulensis*	River Red-gum	119	14.28	Large Tree in patch	-	Retained
546	*Eucalyptus camaldulensis*	River Red-gum	87	10.44	Large Tree in patch	-	Retained
547	*Eucalyptus leucoxylon*	Yellow Gum	84	10.08	Large Tree in patch	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
548	*Allocasuarina luehmannii*	Buloke stag	67	8.04	Large Tree in patch	-	Retained
549	*Eucalyptus* spp.	Stag	101	12.12	Large Tree in patch	Y	Retained
550	*Eucalyptus camaldulensis*	River Red-gum	101	12.12	Large Tree in patch	Y	Retained
551	*Eucalyptus leucoxylon*	Yellow Gum	132	15	Large Tree in patch	Y	Retained
552	*Eucalyptus leucoxylon*	Yellow Gum	85	10.2	Large Tree in patch	-	Retained
553	*Eucalyptus camaldulensis*	River Red-gum	150	15	Large Tree in patch	-	Retained
554	*Eucalyptus leucoxylon*	Yellow Gum	117	14.04	Large Tree in patch	-	Retained
555	*Eucalyptus camaldulensis*	River Red-gum	87	10.44	Large Tree in patch	-	Retained
556	*Eucalyptus leucoxylon*	Yellow Gum	153	15	Large Tree in patch	-	Retained
557	*Eucalyptus microcarpa*	Grey Box	84	10.08	Large Tree in patch	-	Retained
558	*Eucalyptus camaldulensis*	River Red-gum	100	12	Large Tree in patch	-	Retained
559	*Eucalyptus microcarpa*	Grey Box	93	11.16	Large Tree in patch	Y	Retained
560	*Eucalyptus camaldulensis*	River Red-gum	120	14.4	Large Tree in patch	Y	Retained
561	*Eucalyptus leucoxylon*	Yellow Gum	113	13.56	Large Tree in patch	-	Retained
562	*Eucalyptus leucoxylon*	Yellow Gum	100	12	Large Tree in patch	-	Retained
563	*Eucalyptus leucoxylon*	Yellow Gum	104	12.48	Large Tree in patch	-	Retained
564	*Eucalyptus leucoxylon*	Yellow Gum	90	10.8	Large Tree in patch	-	Retained
565	*Eucalyptus camaldulensis*	River Red-gum	85	10.2	Large Tree in patch	-	Retained
566	*Eucalyptus camaldulensis*	River Red-gum	97	11.64	Large Tree in patch	-	Retained
567	*Eucalyptus camaldulensis*	River Red-gum	100	12	Large Tree in patch	-	Retained
568	*Eucalyptus camaldulensis*	River Red-gum	86	10.32	Large Tree in patch	-	Retained
569	*Eucalyptus camaldulensis*	River Red-gum	81	9.72	Large Tree in patch	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
570	*Eucalyptus camaldulensis*	River Red-gum	124	14.88	Large Tree in patch	Y	Retained
571	*Eucalyptus camaldulensis*	River Red-gum	89	10.68	Large Tree in patch	-	Retained
572	*Eucalyptus camaldulensis*	River Red-gum	*100*	12	Large Tree in patch	-	Retained
573	*Eucalyptus camaldulensis*	River Red-gum	89	10.68	Large Tree in patch	-	Retained
574	*Eucalyptus camaldulensis*	River Red-gum	100	12	Large Tree in patch	-	Retained
575	*Eucalyptus camaldulensis*	River Red-gum	*120*	14.4	Large Tree in patch	Y	Retained
576	*Eucalyptus camaldulensis*	River Red-gum	*164*	15	Large Tree in patch	-	Retained
577	*Eucalyptus camaldulensis*	River Red-gum	106	12.72	Large Tree in patch	-	Retained
578	*Eucalyptus camaldulensis*	River Red-gum	89	10.68	Large Tree in patch	-	Retained
579	*Eucalyptus camaldulensis*	River Red-gum	80	9.6	Scattered Large Tree	-	Retained
580	*Eucalyptus* spp.	Stag	129	15	Large Tree in patch	Y	Retained
581	*Eucalyptus camaldulensis*	River Red-gum	133	15	Large Tree in patch	-	Retained
582	*Eucalyptus camaldulensis*	River Red-gum	124	14.88	Large Tree in patch	-	Retained
583	*Eucalyptus camaldulensis*	River Red-gum	140	15	Large Tree in patch	-	Retained
584	*Eucalyptus camaldulensis*	River Red-gum	160	15	Large Tree in patch	-	Retained
585	*Eucalyptus camaldulensis*	River Red-gum	140	15	Large Tree in patch	-	Retained
586	*Eucalyptus camaldulensis*	River Red-gum	*120*	14.4	Large Tree in patch	-	Retained
587	*Allocasuarina luehmannii*	Buloke	67	8.04	Large Tree in patch	Y	Retained
588	*Eucalyptus camaldulensis*	River Red-gum	172	15	Large Tree in patch	-	Retained
589	*Eucalyptus camaldulensis*	River Red-gum	51	6.12	Scattered Small Tree	-	Retained
590	*Eucalyptus camaldulensis*	River Red-gum	104	12.48	Scattered Large Tree	-	Retained
591	*Eucalyptus microcarpa*	Grey Box	63	7.56	Scattered Small Tree	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
592	*Eucalyptus melliodora*	Yellow Box	61	7.32	Scattered Small Tree	-	Retained
593	*Eucalyptus melliodora*	Yellow Box	43	5.16	Scattered Small Tree	-	Retained
594	*Eucalyptus melliodora*	Yellow Box	29	3.48	Scattered Small Tree	-	Retained
595	*Eucalyptus melliodora*	Yellow Box	43	5.16	Scattered Small Tree	-	Retained
596	*Eucalyptus melliodora*	Yellow Box	35	4.2	Scattered Small Tree	-	Retained
597	*Eucalyptus melliodora*	Yellow Box	84	10.08	Scattered Large Tree	-	Retained
598	*Eucalyptus melliodora*	Yellow Box	16	2	Scattered Small Tree	-	Retained
599	*Eucalyptus melliodora*	Yellow Box	41	4.92	Scattered Small Tree	-	Retained
600	*Eucalyptus melliodora*	Yellow Box	42	5.04	Scattered Small Tree	-	Retained
601	*Eucalyptus melliodora*	Yellow Box	61	7.32	Scattered Small Tree	Y	Retained
602	*Eucalyptus melliodora*	Yellow Box	47	5.64	Scattered Small Tree	-	Retained
603	*Eucalyptus melliodora*	Yellow Box	46	5.52	Scattered Small Tree	-	Retained
604	*Eucalyptus melliodora*	Yellow Box	13	2	Scattered Small Tree	-	Retained
605	*Eucalyptus melliodora*	Yellow Box	30	3.6	Scattered Small Tree	-	Direct impact
606	*Eucalyptus melliodora*	Yellow Box	29	3.48	Scattered Small Tree	-	Direct impact
607	*Eucalyptus melliodora*	Yellow Box	97	11.64	Large Tree in patch	-	Retained
608	*Eucalyptus melliodora*	Yellow Box	101	12.12	Large Tree in patch	-	Retained
609	*Eucalyptus melliodora*	Yellow Box	70	8.4	Large Tree in patch	-	Retained
610	*Eucalyptus melliodora*	Yellow Box	104	12.48	Large Tree in patch	-	Retained
611	*Eucalyptus melliodora*	Yellow Box	81	9.72	Large Tree in patch	-	Retained
612	*Eucalyptus melliodora*	Yellow Box	71	8.52	Large Tree in patch	-	Retained
613	*Eucalyptus melliodora*	Yellow Box	112	13.44	Large Tree in patch	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
614	*Eucalyptus melliodora*	Yellow Box	112	13.44	Large Tree in patch	-	Retained
615	*Eucalyptus melliodora*	Yellow Box	86	10.32	Large Tree in patch	-	Retained
616	*Eucalyptus melliodora*	Yellow Box	72	8.64	Scattered Large Tree	-	Retained
617	*Eucalyptus melliodora*	Yellow Box	29	3.48	Scattered Small Tree	-	Retained
618	*Eucalyptus melliodora*	Yellow Box	55	6.6	Scattered Small Tree	-	Retained
619	*Eucalyptus melliodora*	Yellow Box	11	2	Scattered Small Tree	-	Retained
620	*Eucalyptus melliodora*	Yellow Box	43	5.16	Scattered Small Tree	-	Retained
621	*Eucalyptus melliodora*	Yellow Box	71	8.52	Large Tree in patch	-	Retained
622	*Eucalyptus melliodora*	Yellow Box	99	11.88	Large Tree in patch	Y	Retained
623	*Eucalyptus melliodora*	Yellow Box	43	5.16	Scattered Small Tree	-	Retained
624	*Eucalyptus melliodora*	Yellow Box	78	9.36	Large Tree in patch	-	Retained
625	*Eucalyptus melliodora*	Yellow Box	110	13.2	Large Tree in patch	-	Retained
626	*Eucalyptus melliodora*	Yellow Box	75	9	Large Tree in patch	-	Retained
627	*Eucalyptus melliodora*	Yellow Box	79	9.48	Large Tree in patch	-	Retained
628	*Eucalyptus melliodora*	Yellow Box	129	15	Large Tree in patch	-	Direct impact
629	*Eucalyptus microcarpa*	Grey Box	149	15	Large Tree in patch	-	Retained
630	*Eucalyptus microcarpa*	Grey Box	86	10.32	Large Tree in patch	-	Retained
631	*Eucalyptus microcarpa*	Grey Box	78	9.36	Scattered Large Tree	-	Retained
632	*Eucalyptus microcarpa*	Grey Box	82	9.84	Large Tree in patch	-	Retained
633	*Eucalyptus microcarpa*	Grey Box	62	7.44	Scattered Small Tree	-	Retained
634	*Eucalyptus microcarpa*	Grey Box	77	9.24	Large Tree in patch	-	Retained
635	*Eucalyptus microcarpa*	Grey Box	83	9.96	Large Tree in patch	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
636	*Eucalyptus camaldulensis*	River Red-gum	22	2.64	Scattered Small Tree	-	Retained
637	*Eucalyptus microcarpa*	Grey Box	150	15	Scattered Large Tree	-	Retained
638	*Eucalyptus leucoxylon*	Yellow Gum	144	15	Scattered Large Tree	Y	Retained
639	*Eucalyptus melliodora*	Yellow Box	148	15	Large Tree in patch	-	Retained
640	*Eucalyptus leucoxylon*	Yellow Gum	85	10.2	Large Tree in patch	-	Retained
641	*Eucalyptus leucoxylon*	Yellow Gum	142	15	Large Tree in patch	-	Retained
642	*Eucalyptus leucoxylon*	Yellow Gum	86	10.32	Large Tree in patch	Y	Retained
643	*Eucalyptus microcarpa*	Grey Box	74	8.88	Large Tree in patch	-	TPZ impact
644	*Eucalyptus melliodora*	Yellow Box	83	9.96	Large Tree in patch	-	Retained
645	*Eucalyptus* spp.	Dead Stag	86	10.32	Large Tree in patch	-	Retained
646	*Eucalyptus leucoxylon*	Yellow Gum	153	15	Large Tree in patch	-	Retained
647	*Eucalyptus microcarpa*	Grey Box	108	12.96	Large Tree in patch	-	Retained
648	*Eucalyptus microcarpa*	Grey Box	94	11.28	Large Tree in patch	-	Retained
649	*Eucalyptus microcarpa*	Grey Box	101	12.12	Large Tree in patch	-	Retained
650	*Eucalyptus microcarpa*	Grey Box	115	13.8	Large Tree in patch	-	Retained
651	*Eucalyptus microcarpa*	Grey Box	96	11.52	Large Tree in patch	-	Retained
652	*Eucalyptus microcarpa*	Grey Box	90	10.8	Large Tree in patch	-	Retained
653	*Eucalyptus microcarpa*	Grey Box	96	11.52	Large Tree in patch	-	Retained
654	*Eucalyptus microcarpa*	Grey Box	79	9.48	Large Tree in patch	-	Retained
655	*Eucalyptus microcarpa*	Grey Box	103	12.36	Large Tree in patch	-	Retained
656	*Eucalyptus microcarpa*	Grey Box	40	4.8	Scattered Small Tree	-	Retained
657	*Eucalyptus microcarpa*	Grey Box	91	10.92	Large Tree in patch	-	Direct impact

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
658	*Eucalyptus microcarpa*	Grey Box	86	10.32	Large Tree in patch	-	Retained
659	*Eucalyptus microcarpa*	Grey Box	75	9	Large Tree in patch	-	Retained
660	*Eucalyptus microcarpa*	Grey Box	87	10.44	Large Tree in patch	-	Retained
661	*Eucalyptus camaldulensis*	River Red-gum	86	10.32	Large Tree in patch	-	Retained
662	*Eucalyptus camaldulensis*	River Red-gum	223	15	Large Tree in patch	Y	Retained
663	*Eucalyptus camaldulensis*	River Red-gum	82	9.84	Large Tree in patch	-	Retained
664	*Eucalyptus leucoxylon*	Yellow Gum	132	15	Large Tree in patch	-	Retained
665	*Eucalyptus camaldulensis*	River Red-gum	132	15	Large Tree in patch	Y	Retained
666	*Eucalyptus camaldulensis*	River Red-gum	95	11.4	Large Tree in patch	-	Retained
667	*Eucalyptus camaldulensis*	River Red-gum	105	12.6	Large Tree in patch	-	Retained
668	*Eucalyptus camaldulensis*	River Red-gum	91	10.92	Large Tree in patch	-	Retained
669	*Eucalyptus camaldulensis*	River Red-gum	91	10.92	Large Tree in patch	-	Retained
670	*Eucalyptus camaldulensis*	River Red-gum	119	14.28	Large Tree in patch	-	Retained
671	*Eucalyptus melliodora*	Yellow Box	132	15	Large Tree in patch	-	Retained
672	*Eucalyptus melliodora*	Yellow Box	81	9.72	Large Tree in patch	-	Retained
673	*Eucalyptus microcarpa*	Grey Box	116	13.92	Large Tree in patch	-	Retained
674	*Eucalyptus microcarpa*	Grey Box	79	9.48	Large Tree in patch	-	Retained
675	*Eucalyptus leucoxylon*	Yellow Gum	145	15	Large Tree in patch	-	Retained
676	*Eucalyptus leucoxylon*	Yellow Gum	125	15	Large Tree in patch	-	Retained
677	*Eucalyptus leucoxylon*	Yellow Gum	126	15	Large Tree in patch	-	Retained
678	*Eucalyptus leucoxylon*	Yellow Gum	104	12.48	Large Tree in patch	-	Retained
679	*Eucalyptus leucoxylon*	Yellow Gum	114	13.68	Large Tree in patch	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
680	*Eucalyptus leucoxylon*	Yellow Gum	72	8.64	Large Tree in patch	-	Direct impact
681	*Eucalyptus leucoxylon*	Yellow Gum	71	8.52	Large Tree in patch	-	Direct impact
682	*Eucalyptus leucoxylon*	Yellow Gum	87	10.44	Large Tree in patch	-	Retained
683	*Eucalyptus leucoxylon*	Yellow Gum	92	11.04	Large Tree in patch	-	Retained
684	*Eucalyptus melliodora*	Yellow Box	90	10.8	Large Tree in patch	-	Retained
685	*Eucalyptus leucoxylon*	Yellow Gum	87	10.44	Large Tree in patch	-	Retained
686	*Eucalyptus leucoxylon*	Yellow Gum	79	9.48	Large Tree in patch	-	Retained
687	*Eucalyptus leucoxylon*	Yellow Gum	92	11.04	Large Tree in patch	-	Retained
688	*Eucalyptus leucoxylon*	Yellow Gum	78	9.36	Large Tree in patch	-	Retained
689	*Eucalyptus leucoxylon*	Yellow Gum	71	8.52	Large Tree in patch	-	Retained
690	*Eucalyptus leucoxylon*	Yellow Gum	95	11.4	Large Tree in patch	-	Retained
691	*Eucalyptus leucoxylon*	Yellow Gum	85	10.2	Large Tree in patch	-	Retained
692	*Eucalyptus leucoxylon*	Yellow Gum	104	12.48	Large Tree in patch	-	Retained
693	*Eucalyptus microcarpa*	Grey Box	97	11.64	Large Tree in patch	-	Retained
694	*Eucalyptus leucoxylon*	Yellow Gum	89	10.68	Large Tree in patch	-	Retained
695	*Eucalyptus microcarpa*	Grey Box	98	11.76	Large Tree in patch	-	Retained
696	*Eucalyptus leucoxylon*	Yellow Gum	162	15	Large Tree in patch	-	Retained
697	*Eucalyptus leucoxylon*	Yellow Gum	112	13.44	Large Tree in patch	-	Retained
698	*Eucalyptus leucoxylon*	Yellow Gum	79	9.48	Large Tree in patch	-	Retained
699	*Eucalyptus microcarpa*	Grey Box	70	8.4	Large Tree in patch	-	Retained
700	*Eucalyptus leucoxylon*	Yellow Gum	90	10.8	Large Tree in patch	-	Retained
701	*Eucalyptus microcarpa*	Grey Box	79	9.48	Large Tree in patch	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
702	*Eucalyptus leucoxylon*	Yellow Gum	112	13.44	Large Tree in patch	-	Retained
703	*Eucalyptus leucoxylon*	Yellow Gum	75	9	Large Tree in patch	-	Retained
704	*Eucalyptus melliodora*	Yellow Box	71	8.52	Large Tree in patch	-	Retained
705	*Eucalyptus microcarpa*	Grey Box	75	9	Large Tree in patch	-	Retained
706	*Eucalyptus leucoxylon*	Yellow Gum	70	8.4	Large Tree in patch	-	Retained
707	*Eucalyptus melliodora*	Yellow Box	82	9.84	Large Tree in patch	-	Retained
708	*Eucalyptus microcarpa*	Grey Box	92	11.04	Large Tree in patch	-	Retained
709	*Eucalyptus melliodora*	Yellow Box	83	9.96	Large Tree in patch	-	Retained
710	*Eucalyptus microcarpa*	Grey Box	*120*	14.4	Large Tree in patch	Y	Retained
711	*Eucalyptus leucoxylon*	Yellow Gum	120	14.4	Large Tree in patch	-	Retained
712	*Eucalyptus leucoxylon*	Yellow Gum	83	9.96	Large Tree in patch	-	Retained
713	*Eucalyptus camaldulensis*	River Red-gum	107	12.84	Large Tree in patch	Y	Retained
714	*Eucalyptus camaldulensis*	River Red-gum	*110*	13.2	Large Tree in patch	Y	Retained
715	*Eucalyptus leucoxylon*	Yellow Gum	72	8.64	Large Tree in patch	-	Retained
716	*Eucalyptus leucoxylon*	Yellow Gum	110	13.2	Large Tree in patch	Y	Retained
717	*Eucalyptus melliodora*	Yellow Box	137	15	Large Tree in patch	Y	Retained
718	*Eucalyptus leucoxylon*	Yellow Gum	110	13.2	Large Tree in patch	-	Retained
719	*Eucalyptus microcarpa*	Grey Box	82	9.84	Large Tree in patch	-	Retained
720	*Eucalyptus leucoxylon*	Yellow Gum	119	14.28	Scattered Large Tree	-	Retained
721	*Eucalyptus leucoxylon*	Yellow Gum	83	9.96	Scattered Large Tree	-	Retained
722	*Eucalyptus microcarpa*	Grey Box	87	10.44	Large Tree in patch	-	Retained
723	*Eucalyptus melliodora*	Yellow Box	83	9.96	Large Tree in patch	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
724	*Eucalyptus leucoxylon*	Yellow Gum	82	9.84	Large Tree in patch	-	Retained
725	*Eucalyptus leucoxylon*	Yellow Gum	88	10.56	Large Tree in patch	-	Retained
726	*Eucalyptus leucoxylon*	Yellow Gum	147	15	Large Tree in patch	-	Retained
727	*Eucalyptus leucoxylon*	Yellow Gum	171	15	Large Tree in patch	-	Retained
728	*Eucalyptus leucoxylon*	Yellow Gum	79	9.48	Large Tree in patch	-	Retained
729	*Eucalyptus leucoxylon*	Yellow Gum	104	12.48	Large Tree in patch	-	Retained
730	*Eucalyptus microcarpa*	Grey Box	73	8.76	Large Tree in patch	-	Retained
731	*Eucalyptus leucoxylon*	Yellow Gum	81	9.72	Large Tree in patch	-	Retained
732	*Eucalyptus melliodora*	Yellow Box	73	8.76	Large Tree in patch	-	Retained
733	*Eucalyptus microcarpa*	Grey Box	94	11.28	Large Tree in patch	-	Retained
734	*Eucalyptus leucoxylon*	Yellow Gum	100	12	Large Tree in patch	-	Retained
735	*Eucalyptus microcarpa*	Grey Box	74	8.88	Large Tree in patch	-	Retained
736	*Eucalyptus melliodora*	Yellow Box	*80*	9.6	Large Tree in patch	Y	Retained
737	*Eucalyptus microcarpa*	Grey Box	86	10.32	Large Tree in patch	-	Retained
738	*Eucalyptus* spp.	Stag	91	10.92	Large Tree in patch	-	Retained
739	*Eucalyptus microcarpa*	Grey Box	121	14.52	Large Tree in patch	Y	Retained
740	*Eucalyptus microcarpa*	Grey Box	91	10.92	Large Tree in patch	-	Retained
741	*Eucalyptus melliodora*	Yellow Box	43	5.16	Scattered Small Tree	-	Retained
742	*Eucalyptus melliodora*	Yellow Box	33	3.96	Scattered Small Tree	-	Retained
743	*Eucalyptus microcarpa*	Grey Box	110	13.2	Large Tree in patch	Y	Retained
744	*Eucalyptus melliodora*	Yellow Box	60	7.2	Scattered Small Tree	-	Retained
745	*Eucalyptus melliodora*	Yellow Box	76	9.12	Scattered Large Tree	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
746	*Eucalyptus melliodora*	Yellow Box	46	5.52	Scattered Small Tree	-	Retained
747	*Eucalyptus melliodora*	Yellow Box	28	3.36	Scattered Small Tree	-	Retained
748	*Eucalyptus melliodora*	Yellow Box	94	11.28	Large Tree in patch	-	Retained
749	*Eucalyptus melliodora*	Yellow Box	83	9.96	Large Tree in patch	-	Retained
750	*Eucalyptus melliodora*	Yellow Box	78	9.36	Large Tree in patch	-	Retained
751	*Eucalyptus melliodora*	Yellow Box	112	13.44	Large Tree in patch	-	Retained
752	*Eucalyptus microcarpa*	Grey Box	73	8.76	Large Tree in patch	-	Retained
753	*Eucalyptus microcarpa*	Grey Box	90	10.8	Large Tree in patch	-	Retained
754	*Eucalyptus microcarpa*	Grey Box	108	12.96	Large Tree in patch	-	Retained
755	*Eucalyptus microcarpa*	Grey Box	101	12.12	Large Tree in patch	-	Retained
756	*Eucalyptus microcarpa*	Grey Box	83	9.96	Large Tree in patch	-	Retained
757	*Eucalyptus microcarpa*	Grey Box	123	14.76	Large Tree in patch	-	Retained
758	*Eucalyptus microcarpa*	Grey Box	95	11.4	Large Tree in patch	-	Retained
759	*Eucalyptus microcarpa*	Grey Box	102	12.24	Large Tree in patch	Y	Retained
760	*Eucalyptus microcarpa*	Grey Box	122	14.64	Large Tree in patch	Y	Retained
761	*Eucalyptus microcarpa*	Grey Box	93	11.16	Large Tree in patch	Y	Retained
762	*Eucalyptus microcarpa*	Grey Box	92	11.04	Large Tree in patch	Y	Retained
763	*Eucalyptus microcarpa*	Grey Box	97	11.64	Large Tree in patch	Y	Retained
764	*Eucalyptus microcarpa*	Grey Box	97	11.64	Large Tree in patch	Y	Retained
765	*Eucalyptus microcarpa*	Grey Box	87	10.44	Large Tree in patch	-	Retained
766	*Eucalyptus microcarpa*	Grey Box	128	15	Large Tree in patch	-	Retained
767	*Eucalyptus microcarpa*	Grey Box	107	12.84	Large Tree in patch	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
768	*Eucalyptus microcarpa*	Grey Box	111	13.32	Large Tree in patch	-	Retained
769	*Eucalyptus microcarpa*	Grey Box	116	13.92	Large Tree in patch	-	Retained
770	*Eucalyptus leucoxylon*	Yellow Gum	122	14.64	Large Tree in patch	-	Retained
771	*Eucalyptus melliodora*	Yellow Box	77	9.24	Large Tree in patch	-	Retained
772	*Eucalyptus leucoxylon*	Yellow Gum	86	10.32	Large Tree in patch	-	Retained
773	*Eucalyptus leucoxylon*	Yellow Gum	183	15	Large Tree in patch	Y	Retained
774	*Eucalyptus leucoxylon*	Yellow Gum	165	15	Large Tree in patch	Y	Retained
775	*Eucalyptus microcarpa*	Grey Box	71	8.52	Large Tree in patch	-	Retained
776	*Eucalyptus leucoxylon*	Yellow Gum	72	8.64	Large Tree in patch	-	Retained
777	*Eucalyptus microcarpa*	Grey Box	81	9.72	Large Tree in patch	Y	Retained
778	*Eucalyptus* spp.	Stag	107	12.84	Large Tree in patch	-	Retained
779	*Eucalyptus leucoxylon*	Yellow Gum	118	14.16	Large Tree in patch	-	Retained
780	*Eucalyptus microcarpa*	Grey Box	107	12.84	Large Tree in patch	-	Retained
781	*Eucalyptus leucoxylon*	Yellow Gum	107	12.84	Large Tree in patch	-	Retained
782	*Eucalyptus* spp.	Stag	131	15	Large Tree in patch	Y	Retained
783	*Eucalyptus leucoxylon*	Yellow Gum	117	14.04	Large Tree in patch	-	Retained
784	*Eucalyptus leucoxylon*	Yellow Gum	97	11.64	Large Tree in patch	-	Retained
785	*Eucalyptus leucoxylon*	Yellow Gum	173	15	Large Tree in patch	-	Retained
786	*Eucalyptus microcarpa*	Grey Box	136	15	Large Tree in patch	-	Retained
787	*Eucalyptus leucoxylon*	Yellow Gum	93	11.16	Large Tree in patch	-	Retained
788	*Eucalyptus* spp.	Stag	106	12.72	Scattered Large Tree	-	Retained
789	*Eucalyptus* spp.	Stag	60	7.2	Scattered Small Tree	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
790	*Eucalyptus melliodora*	Yellow Box	77	9.24	Large Tree in patch	-	Retained
791	*Eucalyptus leucoxylon*	Yellow Gum	95	11.4	Large Tree in patch	-	Retained
792	*Eucalyptus leucoxylon*	Yellow Gum	70	8.4	Large Tree in patch	-	Retained
793	*Eucalyptus leucoxylon*	Yellow Gum	104	12.48	Large Tree in patch	-	Retained
794	*Eucalyptus melliodora*	Yellow Box	124	14.88	Large Tree in patch	-	Retained
795	*Eucalyptus leucoxylon*	Yellow Gum	145	15	Large Tree in patch	-	Retained
796	*Eucalyptus leucoxylon*	Yellow Gum	74	8.88	Large Tree in patch	-	Retained
797	*Eucalyptus leucoxylon*	Yellow Gum	115	13.8	Large Tree in patch	-	Retained
798	*Eucalyptus leucoxylon*	Yellow Gum	83	9.96	Large Tree in patch	-	Retained
799	*Eucalyptus leucoxylon*	Yellow Gum	79	9.48	Large Tree in patch	-	Retained
800	*Eucalyptus leucoxylon*	Yellow Gum	82	9.84	Large Tree in patch	-	Retained
801	*Eucalyptus leucoxylon*	Yellow Gum	75	9	Large Tree in patch	-	Retained
802	*Eucalyptus melliodora*	Yellow Box	134	15	Large Tree in patch	-	Retained
803	*Eucalyptus leucoxylon*	Yellow Gum	73	8.76	Large Tree in patch	-	Retained
804	*Eucalyptus leucoxylon*	Yellow Gum	70	8.4	Large Tree in patch	-	Retained
805	*Eucalyptus leucoxylon*	Yellow Gum	79	9.48	Large Tree in patch	-	Retained
806	*Eucalyptus leucoxylon*	Yellow Gum	122	14.64	Large Tree in patch	-	Retained
807	*Eucalyptus leucoxylon*	Yellow Gum	82	9.84	Large Tree in patch	-	Retained
808	*Eucalyptus leucoxylon*	Yellow Gum	78	9.36	Large Tree in patch	-	Retained
809	*Eucalyptus leucoxylon*	Yellow Gum	115	13.8	Large Tree in patch	-	Retained
810	*Eucalyptus leucoxylon*	Yellow Gum	83	9.96	Large Tree in patch	-	Retained
811	*Eucalyptus melliodora*	Yellow Box	86	10.32	Large Tree in patch	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
812	*Eucalyptus leucoxylon*	Yellow Gum	87	10.44	Large Tree in patch	-	Retained
813	*Eucalyptus microcarpa*	Grey Box	85	10.2	Large Tree in patch	-	Retained
814	*Eucalyptus microcarpa*	Grey Box	109	13.08	Large Tree in patch	-	Retained
815	*Eucalyptus leucoxylon*	Yellow Gum	99	11.88	Large Tree in patch	Y	Retained
816	*Eucalyptus melliodora*	Yellow Box	84	10.08	Large Tree in patch	-	Retained
817	*Allocasuarina luehmannii*	Buloke	51	6.12	Large Tree in patch	-	Retained
818	*Eucalyptus leucoxylon*	Yellow Gum	85	10.2	Large Tree in patch	-	Retained
819	*Eucalyptus leucoxylon*	Yellow Gum	75	9	Large Tree in patch	-	Retained
820	*Eucalyptus leucoxylon*	Yellow Gum	95	11.4	Large Tree in patch	Y	Retained
821	*Eucalyptus leucoxylon*	Yellow Gum	85	10.2	Large Tree in patch	-	Retained
822	*Eucalyptus leucoxylon*	Yellow Gum	73	8.76	Large Tree in patch	-	Retained
823	*Eucalyptus leucoxylon*	Yellow Gum	75	9	Large Tree in patch	-	Retained
824	*Eucalyptus leucoxylon*	Yellow Gum	96	11.52	Large Tree in patch	-	Retained
825	*Eucalyptus leucoxylon*	Yellow Gum	101	12.12	Large Tree in patch	-	Retained
826	*Eucalyptus leucoxylon*	Yellow Gum	96	11.52	Large Tree in patch	-	Retained
827	*Eucalyptus leucoxylon*	Yellow Gum	128	15	Large Tree in patch	-	Retained
828	*Eucalyptus leucoxylon*	Yellow Gum	122	14.64	Large Tree in patch	-	Retained
829	*Eucalyptus leucoxylon*	Yellow Gum	83	9.96	Large Tree in patch	-	Retained
830	*Eucalyptus leucoxylon*	Yellow Gum	77	9.24	Large Tree in patch	-	Retained
831	*Eucalyptus leucoxylon*	Yellow Gum	81	9.72	Large Tree in patch	-	Retained
832	*Eucalyptus leucoxylon*	Yellow Gum	85	10.2	Large Tree in patch	-	Retained
833	*Eucalyptus leucoxylon*	Yellow Gum	75	9	Large Tree in patch	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
834	*Eucalyptus microcarpa*	Grey Box	94	11.28	Large Tree in patch	-	Retained
835	*Eucalyptus leucoxylon*	Yellow Gum	96	11.52	Large Tree in patch	-	Retained
836	*Eucalyptus leucoxylon*	Yellow Gum	123	14.76	Large Tree in patch	-	Retained
837	*Eucalyptus leucoxylon*	Yellow Gum	84	10.08	Large Tree in patch	-	Retained
838	*Eucalyptus microcarpa*	Grey Box	95	11.4	Large Tree in patch	-	Retained
839	*Eucalyptus microcarpa*	Grey Box	96	11.52	Large Tree in patch	-	Retained
840	*Eucalyptus leucoxylon*	Yellow Gum	71	8.52	Large Tree in patch	-	Retained
841	*Eucalyptus leucoxylon*	Yellow Gum	101	12.12	Large Tree in patch	-	Retained
842	*Eucalyptus leucoxylon*	Yellow Gum	103	12.36	Large Tree in patch	-	Retained
843	*Eucalyptus leucoxylon*	Yellow Gum	153	15	Large Tree in patch	Y	Retained
844	*Eucalyptus leucoxylon*	Yellow Gum	76	9.12	Large Tree in patch	-	Retained
845	*Eucalyptus leucoxylon*	Yellow Gum	82	9.84	Large Tree in patch	-	Retained
846	*Eucalyptus leucoxylon*	Yellow Gum	83	9.96	Large Tree in patch	-	Retained
847	*Eucalyptus leucoxylon*	Yellow Gum	77	9.24	Large Tree in patch	-	Retained
848	*Eucalyptus microcarpa*	Grey Box	83	9.96	Large Tree in patch	-	Retained
849	*Eucalyptus leucoxylon*	Yellow Gum	87	10.44	Large Tree in patch	-	Retained
850	*Eucalyptus leucoxylon*	Yellow Gum	95	11.4	Large Tree in patch	-	Retained
851	*Eucalyptus* spp.	Stag	103	12.36	Large Tree in patch	-	Retained
852	*Eucalyptus microcarpa*	Grey Box	95	11.4	Large Tree in patch	-	Retained
853	*Eucalyptus microcarpa*	Grey Box	80	9.6	Large Tree in patch	-	Retained
854	*Eucalyptus microcarpa*	Grey Box	82	9.84	Large Tree in patch	-	Retained
855	*Eucalyptus melliodora*	Yellow Box	89	10.68	Large Tree in patch	-	Retained

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
856	*Eucalyptus microcarpa*	Grey Box	102	12.24	Large Tree in patch	-	Retained
857	*Eucalyptus microcarpa*	Grey Box	165	15	Large Tree in patch	Y	Retained
858	*Eucalyptus microcarpa*	Grey Box	87	10.44	Large Tree in patch	-	Retained
859	*Eucalyptus melliodora*	Yellow Box	99	11.88	Large Tree in patch	-	Retained
860	*Eucalyptus microcarpa*	Grey Box	78	9.36	Large Tree in patch	-	Retained
861	*Eucalyptus microcarpa*	Grey Box	96	11.52	Large Tree in patch	Y	Retained
862	*Eucalyptus microcarpa*	Grey Box	95	11.4	Large Tree in patch	-	Retained
863	*Eucalyptus microcarpa*	Grey Box	70	8.4	Large Tree in patch	-	Retained
864	*Eucalyptus leucoxylon*	Yellow Gum	80	9.6	Large Tree in patch	-	Retained
865	*Eucalyptus leucoxylon*	Yellow Gum	108	12.96	Large Tree in patch	Y	Retained
866	*Eucalyptus leucoxylon*	Yellow Gum	140	15	Large Tree in patch	Y	Retained
867	*Eucalyptus leucoxylon*	Yellow Gum	110	13.2	Large Tree in patch	-	Retained
868	*Eucalyptus leucoxylon*	Yellow Gum	85	10.2	Large Tree in patch	-	Retained
869	*Eucalyptus microcarpa*	Grey Box	93	11.16	Large Tree in patch	-	Retained
870	*Eucalyptus microcarpa*	Grey Box	71	8.52	Large Tree in patch	-	Retained
871	*Eucalyptus microcarpa*	Grey Box	72	8.64	Scattered Large Tree	-	Retained
872	*Eucalyptus microcarpa*	Grey Box	78	9.36	Large Tree in patch	-	Retained
873	*Eucalyptus microcarpa*	Grey Box	90	10.8	Large Tree in patch	-	Retained
874	*Eucalyptus microcarpa*	Grey Box	74	8.88	Large Tree in patch	-	Retained
875	*Eucalyptus microcarpa*	Grey Box	27	3.24	Scattered Small Tree	-	Retained
876	*Eucalyptus melliodora*	Yellow Box	*95*	15	Scattered Large Tree	-	Direct impact
877	*Eucalyptus melliodora*	Yellow Box	*50*	10	Scattered Small Tree	-	Direct impact

Tree ID	Species Name	Common Name	DBH	TPZ	Scattered / Patch	Hollow-bearing	Status
878	*Eucalyptus melliodora*	Yellow Box	*52*	10	Scattered Small Tree	-	Direct impact
879	*Eucalyptus melliodora*	Yellow Box	55	6.6	Scattered Small Tree	-	Retained
880	Eucalyptus microcarpa	Grey Box	80	9.6	Scattered Large Tree	-	Direct impact
881	Eucalyptus microcarpa	Grey Box	65	7.8	Scattered Small Tree	-	Direct impact
882	Eucalyptus microcarpa	Grey Box	73	8.76	Scattered Large Tree	-	Direct impact
883	Eucalyptus microcarpa	Grey Box	110	13.2	Scattered Large Tree	-	Direct impact

Note: *Italisised* DBH = DBH estimated as tree could not be measured safely, or due to access limitations (eg. under crop)

Appendix 1.4 Significant Flora Species

Significant flora within 10 kilometres of the study area is provided in the Table A1.4.3 at the end of this section, with Tables A1.4.1 and A1.4.2 below providing the background context for the values in Table 1.4.3.

Table A1.4.1 Conservation status of each species for each Act/policy. The values in this table correspond to Columns 5 to 7 in Table A1.4.3.

EPBC Act (*Environment Protection and Biodiversity Conservation Act 1999*):		FFG Act (*Flora and Fauna Guarantee Act 1988*):	
EX	Extinct	L	Listed as threatened
CR	Critically endangered	N	Nominated for listing as threatened
EN	Endangered	D	Delisted as threatened
VU	Vulnerable	I	Rejected for listing as threatened; taxon invalid
#	Listed on the Protected Matters Search Tool	X	Rejected for listing as threatened; taxon ineligible

Table A1.4.2 Likelihood of occurrence rankings: Habitat characteristics assessment of significant flora species previously recorded within 10 kilometres of the study area, or that may potentially occur within the study area to determine their likelihood of occurrence. The values in this table correspond to Column 8 in Table A1.4.3.

1	Known Occurrence	• Recorded within the study area recently (i.e. within ten years).
2	High Likelihood	• Previous records of the species in the local vicinity; and/or, • The study area contains areas of high-quality habitat.
3	Moderate Likelihood	• Limited previous records of the species in the local vicinity; and/or • The study area contains poor or limited habitat.
4	Low Likelihood	• Poor or limited habitat for the species, however other evidence (such as lack of records or environmental factors) indicates there is a very low likelihood of presence.
5	Unlikely	• No suitable habitat and/or outside the species range.

Table A1.4.3 Significant flora recorded within 10 kilometres of the study area.

Scientific name	Common name	Total # of documented records	Last documented record	EPBC	FFG	Likely occurrence in study area
NATIONAL SIGNIFICANCE						
Amphibromus fluitans	River Swamp Wallaby-grass	-	-	VU	-	5
Dodonaea procumbens	Trailing Hop-bush	-	-	VU	-	5
Glycine latrobeana	Clover Glycine	-	-	VU	vu	5
Lepidium monoplocoides	Winged Pepper-cress	-	-	EN	en	5
Myriophyllum porcatum	Ridged Water-milfoil	-	-	VU	cr	5
Pimelea spinescens subsp. *spinescens*	Spiny Rice-flower	5	2018	CR	cr	3
Prasophyllum validum	Sturdy Leek-orchid	-	-	VU	-	5
Sclerolaena napiformis	Turnip Copperburr	-	-	EN	cr	5
Senecio behrianus	Stiff Groundsel	-	-	EN	cr	5
Senecio macrocarpus	Large-fruit Fireweed	-	-	VU	cr	5
Swainsona murrayana	Slender Darling-pea	-	-	VU	en	5
STATE SIGNIFICANCE						
Acacia williamsonii	Whirrakee Wattle	3	1981	-	vu	5
Allocasuarina luehmannii	Buloke	4	2018	-	cr	1
Austrostipa breviglumis	Cane Spear-grass	8	1991	-	en	5
Austrostipa exilis	Heath Spear-grass	1	1981	-	vu	5
Cassinia diminuta	Dwarf Cassinia	1	1981	-	en	5
Crowea exalata subsp. *revoluta*	Whipstick Crowea	1	1981	-	cr	5
Cyanothamnus anemonifolius subsp. aurifodinus	Goldfield Boronia	1	1991	-	en	5

Scientific name	Common name	Total # of documented records	Last documented record	EPBC	FFG	Likely occurrence in study area
Daviesia genistifolia s.s.	Broom Bitter-pea	1	2002	-	en	5
Dianella tarda	Late-flower Flax-lily	5	2011	-	cr	3
Eremophila gibbifolia	Coccid Emu-bush	3	1981	-	vu	5
Eucalyptus froggattii	Kamarooka Mallee	1	2002	-	cr	5
Eucalyptus polybractea	Blue Mallee	1	1981	-	en	5
Olearia pannosa subsp. *cardiophylla*	Velvet Daisy-bush	8	2015	-	en	4
Phebalium festivum	Dainty Phebalium	3	1981	-	en	5
Xanthorrhoea glauca subsp. *angustifolia*	Grey Grass-tree	5	2013	-	cr	5

Data Sources: Victorian Biodiversity Atlas (DEECA 2023a); Protected Matters Search Tool (DCCEEW 2024).

APPENDIX 2 FAUNA

Appendix 2.1 Bird Survey Results

Legend:

VU Listed as Vulnerable under the EPBC Act;

Table A1.1. Birds identified within the study area during surveys

Species Name	Common Name	Notes
INDIGENOUS SPECIES		
Anas gracilis	Grey Teal	-
Anas superciliosa	Pacific Black Duck	-
Anthochaera carunculata	Red Wattlebird	-
Ardea pacifica	White-necked Heron	-
Cacatua galerita	Sulphur-crested Cockatoo	-
Cacatua sanguinea	Little Corella	-
Cacatua tenuirostris	Long-billed Corella	-
Cacomantis flabelliformis	Fan-tailed Cuckoo	-
Cacomantis pallidus	Pallid Cuckoo	-
Chenonetta jubata	Australian Wood Duck	-
Chrysococcyx basalis	Horsefield's Bronze-cuckoo	-
Circus assimilis	Spotted Harrier	-
Cisticola exilis	Golden-headed Cisticola	-
Climacteris picumnus	Brown Treecreeper	VU
Colluricincla harmonica	Grey Shrikethrush	-
Coracina novaehollandiae	Black-faced Cuckooshrike	-
Corcorax melanorhamphos	White-winged Chough	-
Corvus coronoides	Australian Raven	-
Corvus mellori	Little Raven	-
Coturnix pectoralis	Stubble Quail	-
Coturnix ypsilophora	Brown Quail	-
Cracticus nigrogularis	Pied Butcherbird	-
Cracticus torquatus	Grey Butcherbird	-
Dacelo novaeguineae	Laughing Kookaburra	-
Egretta novaehollandiae	White-faced Heron	-
Eolophus roseicapilla	Galah	-
Falco berigora	Brown Falcon	-

Species Name	Common Name	Notes
Falco cenchroides	Nankeen Kestrel	-
Glossopsitta concinna	Musk Lorikeet	-
Grallina cyanoleuca	Magpie-lark	-
Gymnorhina tibicen	Australian Magpie	-
Hirundo neoxena	Welcome Swallow	-
Lalage tricolor	White-winged Triller	-
Lichenostomus penicillatus	White-plumed Honeyeater	-
Malurus cyaneus	Superb Fairywren	-
Manorina melanocephala	Noisy Miner	-
Megalurus cruralis	Brown Songlark	-
Megalurus mathewsi	Rufous Songlark	-
Microcarbo melanoleucos	Little Pied Cormorant	-
Ocyphaps lophotes	Crested Pigeon	-
Pardalotus striatus	Striated Pardalote	-
Parvipsitta porphyrocephala	Purple-crowned Lorikeet	-
Passer domesticus	House Sparrow	-
Petrochelidon nigricans	Tree Martin	-
Phaps chalcoptera	Common Bronzewing	-
Philemon corniculatus	Noisy Friarbird	-
Platalea flavipes	Yellow-billed Spoonbill	-
Platycercus eximius	Eastern Rosella	-
Psephotus haematonotus	Red-rumped Parrot	-
Rhipidura leucophrys	Willie Wagtail	-
Tachybaptus novaehollandiae	Australasian Grebe	-
Threskiornis spinicollis	Straw-necked Ibis	-
Todiramphus sanctus	Sacred Kingfisher	-
Vanellus miles	Masked Lapwing	-
NON-INDIGENOUS OR INTRODUCED SPECIES		
Acridotheres tristis	Indian Myna	-
Alauda arvensis	Eurasian Skylark	-
Passer domesticus	House Sparrow	-
Sturnus vulgaris	Common Starling	-

Appendix 2.2 Infrared Camera Survey Results

Legend:

vu Listed as vulnerable under the FFG Act;

Table A1.2.1. Results of the Infrared Camera Survey.

Species Name	Common Name	Number of Observations	Status
INDIGENOUS SPECIES			
Anas superciliosa	Pacific Black Duck	4	-
Anthochaera carunculata	Red Wattlebird	1	-
Chenonetta jubata	Australian Wood Duck	1	-
Corcorax melanorhamphos	White-winged Chough	2	-
Corvus mellori	Little Raven	6	-
Gymnorhina tibicen	Australian Magpie	15	-
Macropus giganteus	Eastern Grey Kangaroo	5	-
Manorina melanocephala	Noisy miner	24	-
Petaurus norfolcensis	Squirrel Glider	4	vu
Phascogale tapoatafa	Brush-tailed Phascogale	3	vu
Platycercus eximius	Eastern Rosella	1	-
Pseudocheirus peregrinus	Common Ringtail Possum	2	-
Trichosurus vulpecula	Common Brushtail Possum	123	-
NON-INDIGENOUS OR INTRODUCED SPECIES			
Rattus rattus	Black Rat	25	-
Lepus europaeus	European Hare	2	-
Vulpes vulpes	Red Fox	6	-

Appendix 2.3 Significant Fauna Species

Significant fauna within 10 kilometres of the study area is provided in the Table A2.1.3 at the end of this section, with Tables A2.1.1 and A2.1.2 below providing the background context for the values in Table 2.1.3.

Table A2.1.1 Conservation status of each species for each Act/policy. The values in this table correspond to Columns 5 to 8 in Table A2.1.3.

EPBC Act (*Environment Protection and Biodiversity Conservation Act 1999*):				FFG Act (*Flora and Fauna Guarantee Act 1988*):			
EX	Extinct	VU	Vulnerable	ex	Extinct	vu	Vulnerable
CR	Critically endangered	CD	Conservation Dependent	cr	Critically endangered	cd	Conservation Dependent
EN	Endangered	#	Listed on the Protected Matter Search Tool	en	Endangered		

Table A2.1.2 Likelihood of occurrence rankings: Habitat characteristics assessment of significant fauna species previously recorded within 10 kilometres of the study area, or that may potentially occur within the study area to determine their likelihood of occurrence. The values in this table correspond to Column 9 in Table A2.1.3.

1	High Likelihood	• Known resident in the study area based on site observations, database records, or expert advice; and/or, • Recent records (i.e. within five years) of the species in the local area (DEECA 2023a); and/or, • The study area contains the species' preferred habitat.
2	Moderate Likelihood	• The species is likely to visit the study area regularly (i.e. at least seasonally); and/or, • Previous records of the species in the local area (DEECA 2023a); and/or, • The study area contains some characteristics of the species' preferred habitat.
3	Low Likelihood	• The species is likely to visit the study area occasionally or opportunistically whilst en route to more suitable sites; and/or, • There are only limited or historical records of the species in the local area (i.e. more than 20 years old); and/or, • The study area contains few or no characteristics of the species' preferred habitat.
4	Unlikely	• No previous records of the species in the local area; and/or, • The species may fly over the study area when moving between areas of more suitable habitat; and/or, • Out of the species' range; and/or, • No suitable habitat present.

Table A2.1.3 Significant fauna recorded within 10 kilometres of the study area.

Scientific name	Common name	Total # of documented records	Last documented record	EPBC	FFG	Likely occurrence in study area
NATIONAL SIGNIFICANCE						
Anthochaera phrygia	Regent Honeyeater	3	1983	CR	cr	4
Aphelocephala leucopsis	Southern Whiteface	6	1997	VU	-	4
Aprasia parapulchella	Pink-tailed Worm-lizard	-	-	VU	En	4
Botaurus poiciloptilus	Australasian Bittern	1	1991	EN	cr	4
Calidris ferruginea	Curlew Sandpiper	-	-	CR	cr	4
Callocephalon fimbriatum	Gang-gang Cockatoo	-	-	CR	-	4
Climacteris picumnus	Brown Treecreeper	155	2019	VU	-	1
Crinia sloanei	Sloane's Froglet	-	-	EN	en	4
Dasyurus maculatus maculatus	Spot-tailed Quoll	-	-	EN	en	4
Delma impar	Striped Legless Lizard	-	-	VU	en	4
Galaxias rostratus	Flat-headed Galaxias	5	2016	CR	vu	4
Grantiella picta	Painted Honeyeater	3	2017	VU	vu	4
Hirundapus caudacutus	White-throated Needletail	3	2017	VU	vu	4
Lathamus discolor	Swift Parrot	20	2017	CR	cr	2
Litoria raniformis	Growling Grass Frog	1	1788	VU	vu	4
Maccullochella macquariensis	Trout Cod	-	-	EN	en	4
Maccullochella peelii	Murray Cod	-	-	VU	en	4

Scientific name	Common name	Total # of documented records	Last documented record	EPBC	FFG	Likely occurrence in study area
Macquaria australasica	Macquarie Perch	-	-	EN	en	4
Melanodryas cucullata	Hooded Robin	15	2018	EN	vu	2
Melanodryas cucullata cucullata	South-eastern Hooded Robin	-	-	EN	-	4
Neophema chrysostoma	Blue-winged Parrot	1	1979	VU	-	4
Numenius madagascariensis	Eastern Curlew	-	-	CR	cr	4
Pedionomus torquatus	Plains-wanderer	-	-	CR	cr	4
Pteropus poliocephalus	Grey-headed Flying-fox	-	-	VU	vu	4
Rostratula australis	Australian Painted Snipe	-	-	EN	cr	4
Stagonopleura guttata	Diamond Firetail	10	2018	VU	vu	2
Synemon plana	Golden Sun Moth	-	-	CR	vu	4
STATE SIGNIFICANCE						
Antigone rubicunda	Brolga	4	2018	-	en	4
Burhinus grallarius	Bush Stone-curlew	2	1992	-	cr	3
Calamanthus pyrrhopygius	Chestnut-rumped Heathwren	2	1997	-	vu	4
Falco hypoleucos	Grey Falcon	5	1992	-	vu	4
Falco subniger	Black Falcon	7	2019	-	cr	3
Gelochelidon macrotarsa	Australian Gull-billed Tern	1	1906	-	en	4
Grantiella picta	Painted Honeyeater	1	2019	-	vu	4
Haliaeetus leucogaster	White-bellied Sea-Eagle	2	1977	-	en	4
Hieraaetus morphnoides	Little Eagle	5	2006	-	vu	4
Hirundapus caudacutus	White-throated Needletail	5	1991	-	vu	4

Scientific name	Common name	Total # of documented records	Last documented record	EPBC	FFG	Likely occurrence in study area
Hydroprogne caspia	Caspian Tern	2	1980	-	vu	4
Ixobrychus dubius	Australian Little Bittern	2	1977	-	en	4
Oreoica gutturalis	Crested Bellbird	20	2018	-	en	2
Oxyura australis	Blue-billed Duck	1	1977	-	vu	4
Petaurus norfolcensis	Squirrel Glider	22	1996	-	vu	1
Phascogale tapoatafa	Brush-tailed Phascogale	1	1981	-	vu	1
Pogona barbata	Bearded Dragon	1	2006	-	vu	4
Polytelis swainsonii	Superb Parrot	1	1980	-	vu	4
Pomatostomus temporalis	Grey-crowned Babbler	2	2000	-	vu	4
Pseudophryne bibronii	Brown Toadlet	1	1996	-	en	4
Pyrrholaemus sagittatus	Speckled Warbler	12	2019	-	en	2
Spatula rhynchotis	Australasian Shoveler	3	1990	-	vu	4
Tringa nebularia	Common Greenshank	1	1931	-	en	4
Varanus varius	Lace Monitor	4	2013	-	en	4

Data Sources: Victorian Biodiversity Atlas (DEECA 2023a); Protected Matters Search Tool (DCCEEW 2024).

APPENDIX 3 SOLAR ARRAY ANGLE IMPLICATIONS FOR NATIVE VEGETATION

This solar farm will be installed with bifacial photo-voltaic (PV) modules mounted on a single axis tracker system. Single-axis trackers are used to increase the performance (output) of the system. This is achieved by allowing the PV modules to rotate on a single axis following the sun's path throughout the day (Figure 1). The PV modules are bifacial, which means that they can also capture light on the rear face of the module.

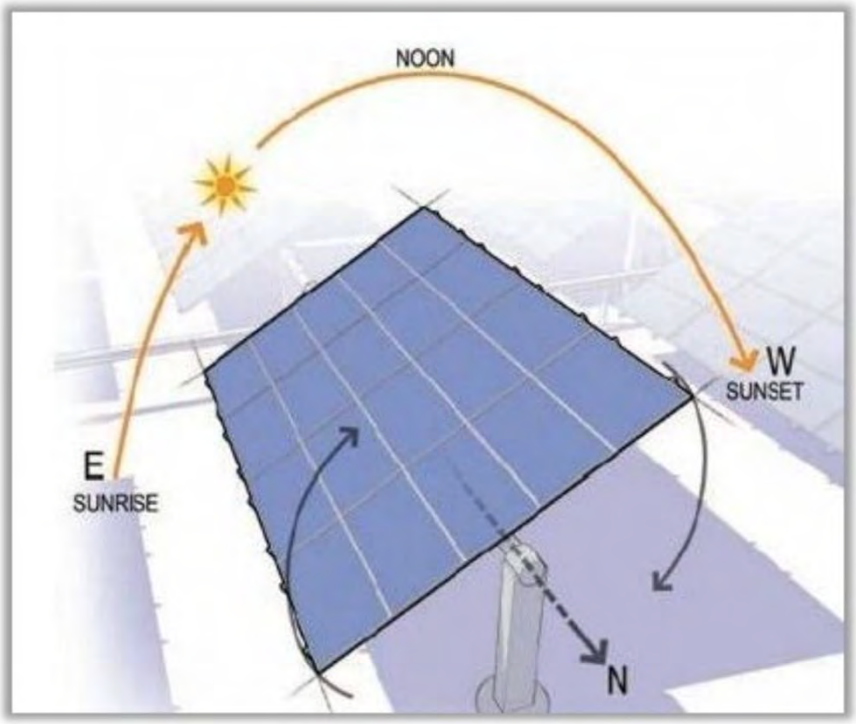


Figure 1. Example of a single axis tracker PV system.

To improve the system's performance further, the tracker rows are spaced apart by a substantial distance, being 5.4 metres in this project. This spacing prevents inter-row shading and notably increases the amount of reflected and diffused light available below the PV modules (Figure 2).

The amount of light (diffused and reflected) below the PV modules and tracker system is significant, which is why bifacial PV modules are used. This level of reflected and diffused light allows vegetation below the PV modules to continue to grow even when the tracker is in a position that would shade the ground below from direct irradiance (Figure 3).

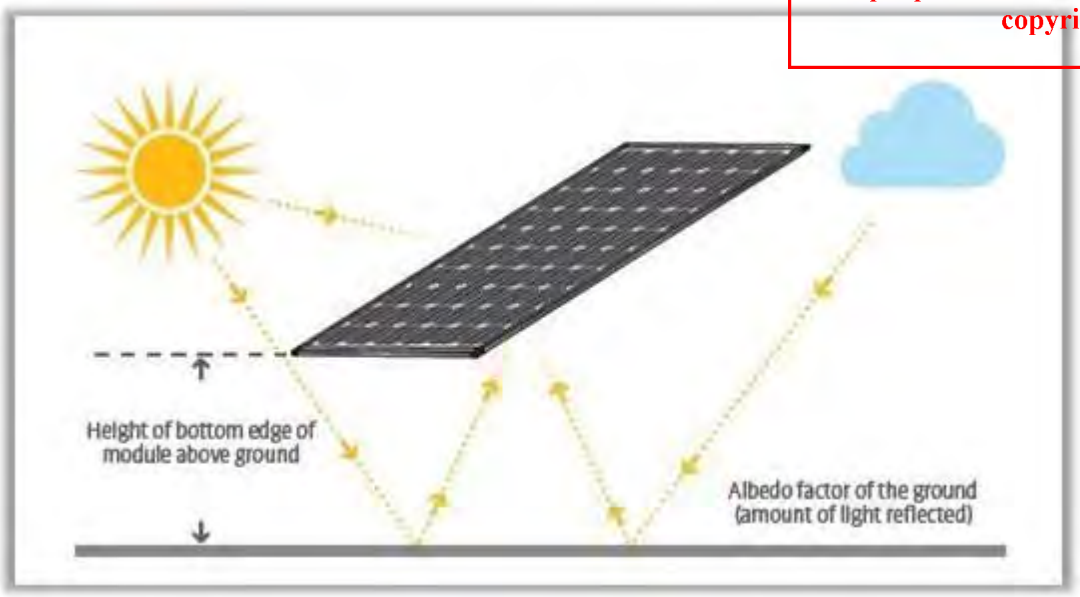


Figure 2. Example of diffused and reflected irradiance below a PV module.

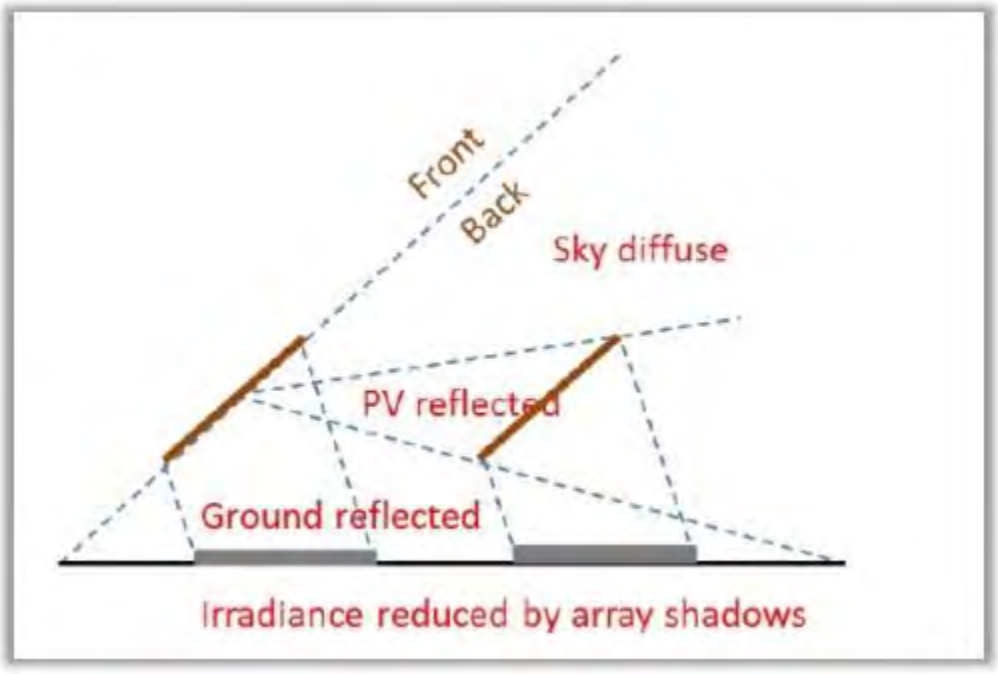


Figure 3. Example of the irradiance components behind and below a ground-mounted PV system.

The reduction (in terms of hours per day) of direct irradiance on the ground and increase in the amount of indirect and diffused light has been shown to positively impact vegetation growth (Figure 4; Figure 5). This can be seen in the rise of the 'agrivoltaic' industry worldwide, where agricultural and solar PV projects are being co-developed and co-located to take advantage of these positive side-effects.

Figure 4. Illustrated example of vegetation growth below a single axis tracker PV system.

Figure 5. Real-life example of vegetation growth below a single axis tracker PV system.

The spacing between the tracker rows (pitch) is 5.4 metres, and the length of the PV modules is approximately 2.1 metres. This results in a minimum clear space between two arrays of approximately 3.3 metres (Figure 6) when the trackers are in the horizontal plane (0°); this is the trackers' position during the middle of the day when the sun is at its maximum elevation angle. At this time the ground between the tracker rows will receive direct irradiance, with zero shading.

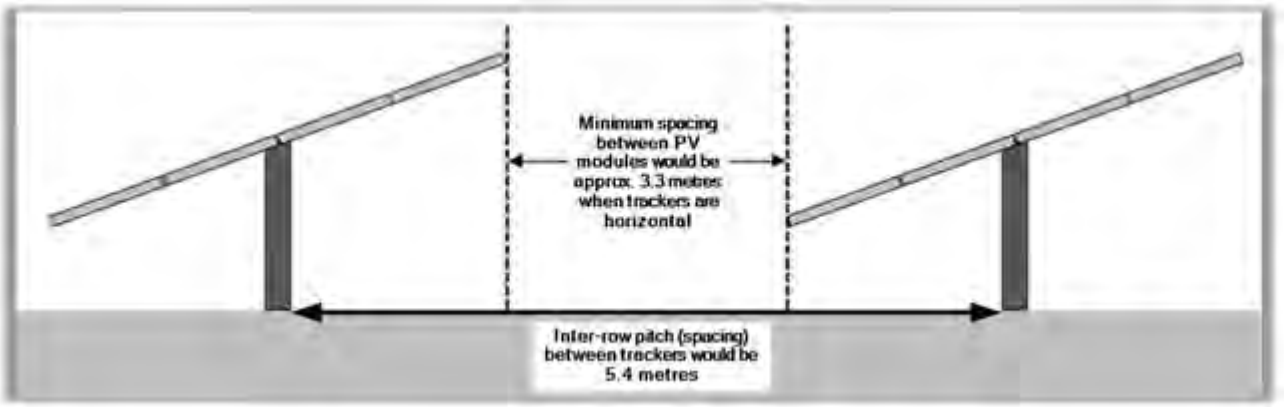


Figure 6. Illustration to explain the difference between the inter-row spacing (pitch) and the minimum spacing between PV modules.

There will be some inter-row shading in the early morning (Figure 7) and late afternoon (the ground between the tracker rows will have shading from direct irradiance). However, as noted above, there will still be diffused and reflected irradiance.

From approximately 8am until 1pm (exact times depend on the time of the year), the shaded area will continually move and decrease in size as the trackers move from an East facing angle of 60° to a horizontal position of 0° (Figure 8; Figure 9). From approximately 1pm until 6 pm, the trackers will move from the horizontal position of 0° to a West facing angle of 60°; during this time, the shaded area between tracker rows will move and increase in size.

This rotation of the tracker axis and associated travel of the PV modules allows for direct irradiance to reach all areas of the ground below the PV system during the day.

Figure 7. Example of a single axis tracker PV system at 60° angle with maximum inter-row shading.

Figure 8. Example of a single axis tracker PV system at 40° angle with reduced inter-row shading.

Figure 9. Example of a single axis tracker PV system at 0° with zero inter-row shading.

APPENDIX 4 NATIVE VEGETATION REMOVAL (NVR) REPORT

Native Vegetation Removal Report

NVRR ID: 310_20240725_MD0

This report provides information to support an application to remove, destroy or lop native vegetation in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation* (the Guidelines). This report is **not an assessment by DEECA** of the proposed native vegetation removal. Native vegetation information and offset requirements have been determined using spatial data provided by the applicant or their consultant.

Report details

Date created: 25/07/2024

Local Government Area: CAMPASPE SHIRE

Shapefile name:
EHP15619_Cooba_SolarFarm_VG20_Patches_25072024.shp
EHP15619_Cooba_SolarFarm_VG20_Trees_25072024.shp

Site assessor name:
Jared McGuiness
Matthew Boyd

Registered Aboriginal Party: Taungurung

Coordinates: 144.79287, -36.64627

Address:
124 CORNELLA CHURCH ROAD COLBINABBIN 3559
PLAIN ROAD COLBINABBIN 3559

Regulator Notes

Removal polygons are located:
This report includes partial removal

Summary of native vegetation to be removed

Assessment pathway	**Detailed Assessment Pathway**		
Location category	Location 2 The native vegetation extent map indicates that this area is typically characterised as supporting native vegetation. Additionally, it is modelled as encompassing an endangered Ecological Vegetation Class, sensitive wetland or sensitive coastal area. The removal of less than 0.5 hectares of native vegetation in this area will not require a Species Offset.		
Total extent including past and proposed removal (ha) *Includes endangered EVCs (ha): 6.505*	**6.505**	*Extent of past removal (ha)*	*0*
		Extent of proposed removal - Patches (ha)	*2.251*
		Extent of proposed removal - Scattered Trees (ha)	*4.254*
No. Large Trees proposed to be removed	**71**	*No. Large Patch Trees*	*12*
		No. Large Scattered Trees	*59*
No. Small Scattered Trees	11		

Offset requirements if approval is granted

Any approval granted will include a condition to obtain an offset, before the removal of native vegetation, that meets the following requirements:

General Offset amount [1]	**1.4770 General Habitat Units**
Vicinity	Goulburn Broken CMA or CAMPASPE SHIRE LGA
Minimum strategic biodiversity value score [2]	0.1834
Large Trees*	71
***The total number of Large Trees that the offset must protect**	**71** Large Trees to be protected in either the General, Species or combination across all habitat units protected

NB: values within tables in this document may not add to the totals shown above due to rounding
Appendix 1 includes information about the native vegetation to be removed
Appendix 2 includes information about the rare or threatened species with mapped habitat at the site
Appendix 3 includes the following figures

- Location map
- Strategic Biodiversity Value map
- Condition map
- Endangered EVCs map
- Aerial photograph showing mapped native vegetation
- Property in context
- Habitat Importance maps

1. The General Offset amount required is the sum of all General Habitat Units in Appendix 1.
2. Minimum strategic biodiversity value score is 80 per cent of the weighted average score across habitat zones where a General Offset is required.
3. The Species Offset amount(s) required is the sum of all Species Habitat Units in Appendix 1.

Next steps

Any proposal to remove native vegetation must meet the application requirements of the Detailed Assessment Pathway and it will be assessed under the Detailed Assessment Pathway.

If you wish to remove the mapped native vegetation you are required to apply for approval from the responsible authority. The responsible authority will refer your application to DEECA for assessment, as required. **This report is not a referral assessment by DEECA.**

This *Native vegetation removal report* must be submitted with your application for approval to remove, destroy or lop native vegetation.

Refer to the Guidelines for a full list of application requirements This report provides information that meets the following application requirements:

- The assessment pathway and reason for the assessment pathway.
- A description of the native vegetation to be removed (partly met).
- Maps showing the native vegetation and property (partly met).
- Information about the impacts on rare or threatened species.
- The offset requirements determined in accordance with Section 5 of the Guidelines that apply if approval is granted to remove native vegetation.

Additional application requirements must be met including:

- Topographical and land information
- Recent dated photographs.
- Details of past native vegetation removal.
- An avoid and minimise statement.
- A copy of any Property Vegetation Plan as applicable.
- A defendable space statement as applicable.
- A statement about the Native Vegetation Precinct Plan (NVPP) as applicable.
- A site assessment report including a habitat hectare assessment of any patches of native vegetation and details of trees.
- An offset statement that explains that an offset has been identified and how it will be secured.

Appendix 1: Description of native vegetation to be removed

The Species-General Offset Test was applied to your proposal. This test determines if the proposed removal of native vegetation has a proportional impact on any rare or threatened species habitats above the Species Offset threshold. The threshold is set at 0.005 per cent of the mapped habitat value for a species. When the proportional impact meets or exceeds the Species Offset threshold, a Species Offset is required. This test is completed for all species with mapped habitat at the site. Multiple Species Offsets will be required if the Species Offset threshold is exceeded for multiple species.

Where a zone requires Species Offset(s), the Species Habitat Units for each species in that zone are calculated by the following equation in accordance with the Guidelines: ***Species Habitat Units = extent without overlap x condition score x species landscape factor x 2, where the species landscape factor = 0.5 + (habitat importance score/2)***

The Species Offset amount(s) required is the sum of all Species Habitat Units per zone.

Where a zone does not require a Species Offset, the General Habitat Units in that zone are calculated by the following equation in accordance with the Guidelines: ***General Habitat Units = extent without overlap x condition score x general landscape factor x 1.5, where the general landscape factor = 0.5 + (strategic biodiversity value score/2)***

The General Offset amount required is the sum of all General Habitat Units per zone.

Native vegetation to be removed

Information provided by or on behalf of the applicant							Information calculated by NVR Map						
Zone	**Type**	**DBH (cm)**	**EVC code**	**Bioregional conservation status**	**Partial Removal**	**Condition score**	**Large Tree(s)**	**Polygon extent (ha)**	**Extent without overlap (ha)**	**SBV score**	**HI Score**	**Habitat Units**	**Offset Type**
1-a	Patch	-	VRiv0068	Endangered	no	0.460	-	0.255	0.255	0.260	-	0.111	General
1-b	Patch	-	VRiv0803	Endangered	yes	0.160	-	0.010	0.010	0.100	-	0.001	General
1-c	Patch	-	VRiv0803	Endangered	yes	0.250	-	0.003	0.003	0.100	-	0.000	General
1-d	Patch	-	VRiv0803	Endangered	yes	0.170	-	0.003	0.003	0.480	-	0.000	General

Information provided by or on behalf of the applicant							Information calculated by NVR Map						
Zone	Type	DBH (cm)	EVC code	Bioregional conservation status	Partial Removal	Condition score	Large Tree(s)	Polygon extent (ha)	Extent without overlap (ha)	SBV score	HI Score	Habitat Units	Offset Type
1-e	Patch	-	VRiv0803	Endangered	no	0.250	-	0.000	0.000	0.100	-	0.000	General
1-f	Patch	-	VRiv0803	Endangered	yes	0.280	-	0.042	0.042	0.100	-	0.005	General
1-g	Patch	-	VRiv0803	Endangered	no	0.210	-	0.039	0.039	0.100	-	0.007	General
1-h	Patch	-	VRiv0803	Endangered	yes	0.290	-	0.023	0.023	0.100	-	0.003	General
1-i	Patch	-	VRiv0803	Endangered	yes	0.150	-	0.000	0.000	0.100	-	0.000	General
1-j	Patch	-	VRiv0803	Endangered	no	0.640	-	0.066	0.066	0.134	-	0.036	General
1-k	Patch	-	VRiv0803	Endangered	no	0.300	-	0.000	0.000	0.170	-	0.000	General
10-f	Patch	-	VRiv0803	Endangered	no	0.280	-	0.090	0.090	0.370	-	0.026	General
11-f	Patch	-	VRiv0803	Endangered	no	0.280	-	0.041	0.041	0.100	-	0.009	General
12-f	Patch	-	VRiv0803	Endangered	no	0.280	-	0.016	0.016	0.100	-	0.004	General
13-f	Patch	-	VRiv0803	Endangered	no	0.280	-	0.034	0.034	0.370	-	0.010	General
2-a	Patch	-	VRiv0068	Endangered	no	0.460	2	0.280	0.280	0.250	-	0.121	General
2-c	Patch	-	VRiv0803	Endangered	yes	0.250	-	0.045	0.045	0.250	-	0.005	General
2-e	Patch	-	VRiv0803	Endangered	no	0.250	1	0.029	0.029	0.100	-	0.006	General
2-f	Patch	-	VRiv0803	Endangered	yes	0.280	-	0.005	0.005	0.100	-	0.001	General
2-i	Patch	-	VRiv0803	Endangered	yes	0.150	-	0.001	0.001	0.100	-	0.000	General

Information provided by or on behalf of the applicant							Information calculated by NVR Map						
Zone	Type	DBH (cm)	EVC code	Bioregional conservation status	Partial Removal	Condition score	Large Tree(s)	Polygon extent (ha)	Extent without overlap (ha)	SBV score	HI Score	Habitat Units	Offset Type
3-a	Patch	-	VRiv0068	Endangered	no	0.460	5	0.254	0.254	0.450	-	0.127	General
3-f	Patch	-	VRiv0803	Endangered	no	0.280	2	0.138	0.138	0.341	-	0.039	General
4-a	Patch	-	VRiv0068	Endangered	no	0.460	-	0.176	0.176	0.430	-	0.087	General
4-f	Patch	-	VRiv0803	Endangered	no	0.280	-	0.050	0.050	0.250	-	0.013	General
5-f	Patch	-	VRiv0803	Endangered	no	0.280	1	0.019	0.019	0.250	-	0.005	General
6-f	Patch	-	VRiv0803	Endangered	yes	0.280	-	0.036	0.036	0.319	-	0.005	General
7-f	Patch	-	VRiv0803	Endangered	yes	0.280	-	0.035	0.035	0.101	-	0.004	General
8-f	Patch	-	VRiv0803	Endangered	yes	0.280	1	0.314	0.314	0.221	-	0.040	General
9-f	Patch	-	VRiv0803	Endangered	yes	0.280	-	0.249	0.249	0.353	-	0.035	General
1-t	Scattered Tree	65	VRiv0803	Endangered	no	0.200	1	0.070	0.060	0.100	-	0.010	General
10-t	Scattered Tree	85	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.290	-	0.014	General
11-t	Scattered Tree	73	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.100	-	0.012	General
12-t	Scattered Tree	61	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.100	-	0.012	General

Information provided by or on behalf of the applicant							Information calculated by NVR Map						
Zone	Type	DBH (cm)	EVC code	Bioregional conservation status	Partial Removal	Condition score	Large Tree(s)	Polygon extent (ha)	Extent without overlap (ha)	SBV score	HI Score	Habitat Units	Offset Type
13-t	Scattered Tree	75	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.100	-	0.012	General
14-t	Scattered Tree	90	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.405	-	0.015	General
15-t	Scattered Tree	80	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.100	-	0.012	General
16-t	Scattered Tree	80	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.100	-	0.012	General
17-t	Scattered Tree	100	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.280	-	0.014	General
18-t	Scattered Tree	110	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.280	-	0.014	General
19-t	Scattered Tree	68	VRiv0803	Endangered	no	0.200	-	0.031	0.031	0.300	-	0.006	General
2-t	Scattered Tree	67	VRiv0803	Endangered	no	0.200	1	0.070	0.060	0.100	-	0.010	General
20-t	Scattered Tree	40	VRiv0803	Endangered	no	0.200	-	0.031	0.031	0.300	-	0.006	General
21-t	Scattered Tree	105	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.290	-	0.014	General

Information provided by or on behalf of the applicant							Information calculated by NVR Map						
Zone	Type	DBH (cm)	EVC code	Bioregional conservation status	Partial Removal	Condition score	Large Tree(s)	Polygon extent (ha)	Extent without overlap (ha)	SBV score	HI Score	Habitat Units	Offset Type
22-t	Scattered Tree	93	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.290	-	0.014	General
23-t	Scattered Tree	107	VRiv0803	Endangered	no	0.200	1	0.070	0.055	0.290	-	0.011	General
24-t	Scattered Tree	124	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.276	-	0.013	General
25-t	Scattered Tree	90	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.100	-	0.012	General
26-t	Scattered Tree	118	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.100	-	0.012	General
27-t	Scattered Tree	112	VRiv0803	Endangered	no	0.200	1	0.070	0.055	0.283	-	0.011	General
28-t	Scattered Tree	136	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.290	-	0.014	General
29-t	Scattered Tree	110	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.430	-	0.015	General
3-t	Scattered Tree	105	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.250	-	0.013	General
30-t	Scattered Tree	143	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.450	-	0.015	General

Information provided by or on behalf of the applicant							Information calculated by NVR Map						
Zone	Type	DBH (cm)	EVC code	Bioregional conservation status	Partial Removal	Condition score	Large Tree(s)	Polygon extent (ha)	Extent without overlap (ha)	SBV score	HI Score	Habitat Units	Offset Type
31-t	Scattered Tree	133	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.290	-	0.014	General
32-t	Scattered Tree	94	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.290	-	0.014	General
33-t	Scattered Tree	107	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.290	-	0.014	General
34-t	Scattered Tree	77	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.300	-	0.014	General
35-t	Scattered Tree	229	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.100	-	0.012	General
36-t	Scattered Tree	100	VRiv0803	Endangered	no	0.200	1	0.070	0.063	0.100	-	0.010	General
37-t	Scattered Tree	100	VRiv0803	Endangered	no	0.200	1	0.070	0.063	0.100	-	0.010	General
38-t	Scattered Tree	150	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.100	-	0.012	General
39-t	Scattered Tree	122	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.100	-	0.012	General
4-t	Scattered Tree	96	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.250	-	0.013	General

Information provided by or on behalf of the applicant							Information calculated by NVR Map						
Zone	Type	DBH (cm)	EVC code	Bioregional conservation status	Partial Removal	Condition score	Large Tree(s)	Polygon extent (ha)	Extent without overlap (ha)	SBV score	HI Score	Habitat Units	Offset Type
40-t	Scattered Tree	87	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.100	-	0.012	General
41-t	Scattered Tree	134	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.100	-	0.012	General
42-t	Scattered Tree	64	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.100	-	0.012	General
43-t	Scattered Tree	55	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.100	-	0.012	General
44-t	Scattered Tree	108	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.100	-	0.012	General
45-t	Scattered Tree	85	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.100	-	0.012	General
46-t	Scattered Tree	67	VRiv0803	Endangered	no	0.200	-	0.031	0.031	0.100	-	0.005	General
47-t	Scattered Tree	84	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.100	-	0.012	General
48-t	Scattered Tree	73	VRiv0803	Endangered	no	0.200	1	0.070	0.068	0.100	-	0.011	General
49-t	Scattered Tree	170	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.100	-	0.012	General

Information provided by or on behalf of the applicant							Information calculated by NVR Map						
Zone	Type	DBH (cm)	EVC code	Bioregional conservation status	Partial Removal	Condition score	Large Tree(s)	Polygon extent (ha)	Extent without overlap (ha)	SBV score	HI Score	Habitat Units	Offset Type
5-t	Scattered Tree	130	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.281	-	0.014	General
50-t	Scattered Tree	79	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.100	-	0.012	General
51-t	Scattered Tree	58	VRiv0803	Endangered	no	0.200	-	0.031	0.002	0.100	-	0.000	General
52-t	Scattered Tree	77	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.100	-	0.012	General
53-t	Scattered Tree	98	VRiv0803	Endangered	no	0.200	1	0.070	0.049	0.100	-	0.008	General
54-t	Scattered Tree	92	VRiv0803	Endangered	no	0.200	1	0.070	0.049	0.100	-	0.008	General
55-t	Scattered Tree	82	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.100	-	0.012	General
56-t	Scattered Tree	68	VRiv0803	Endangered	no	0.200	-	0.031	0.002	0.100	-	0.000	General
57-t	Scattered Tree	80	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.100	-	0.012	General
58-t	Scattered Tree	66	VRiv0803	Endangered	no	0.200	-	0.031	0.031	0.100	-	0.005	General

Information provided by or on behalf of the applicant							Information calculated by NVR Map						
Zone	Type	DBH (cm)	EVC code	Bioregional conservation status	Partial Removal	Condition score	Large Tree(s)	Polygon extent (ha)	Extent without overlap (ha)	SBV score	HI Score	Habitat Units	Offset Type
59-t	Scattered Tree	112	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.150	-	0.012	General
6-t	Scattered Tree	90	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.280	-	0.014	General
60-t	Scattered Tree	111	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.280	-	0.014	General
61-t	Scattered Tree	113	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.280	-	0.014	General
62-t	Scattered Tree	30	VRiv0803	Endangered	no	0.200	-	0.031	0.017	0.364	-	0.003	General
63-t	Scattered Tree	29	VRiv0803	Endangered	no	0.200	-	0.031	0.017	0.335	-	0.003	General
64-t	Scattered Tree	95	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.100	-	0.012	General
65-t	Scattered Tree	27	VRiv0803	Endangered	no	0.200	-	0.031	0.020	0.100	-	0.003	General
66-t	Scattered Tree	50	VRiv0803	Endangered	no	0.200	-	0.031	0.029	0.100	-	0.005	General
67-t	Scattered Tree	80	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.300	-	0.014	General

Information provided by or on behalf of the applicant							Information calculated by NVR Map						
Zone	**Type**	**DBH (cm)**	**EVC code**	**Bioregional conservation status**	**Partial Removal**	**Condition score**	**Large Tree(s)**	**Polygon extent (ha)**	**Extent without overlap (ha)**	**SBV score**	**HI Score**	**Habitat Units**	**Offset Type**
68-t	Scattered Tree	65	VRiv0803	Endangered	no	0.200	-	0.031	0.031	0.300	-	0.006	General
69-t	Scattered Tree	73	VRiv0803	Endangered	no	0.200	1	0.070	0.057	0.300	-	0.011	General
7-t	Scattered Tree	100	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.290	-	0.014	General
70-t	Scattered Tree	110	VRiv0803	Endangered	no	0.200	1	0.070	0.057	0.300	-	0.011	General
8-t	Scattered Tree	100	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.290	-	0.014	General
9-t	Scattered Tree	90	VRiv0803	Endangered	no	0.200	1	0.070	0.070	0.290	-	0.014	General

Appendix 2: Information about impacts to rare or threatened species' habitats on site

This table identifies all rare or threatened species with mapped habitat at the site and the proportional impact associated with the proposed native vegetation removal.

Species common name	Species scientific name	Taxon ID	Conservation status	Group	Habitat impacted	Proportional impact (%)
Murray-Darling Rainbowfish	Melanotaenia fluviatilis	4774	Vulnerable	Dispersed	Habitat importance map	0.0006
Freshwater Catfish	Tandanus tandanus	528545	Endangered	Dispersed	Habitat importance map	0.0003
Southern Pygmy Perch (Murray-Darling lineage)	Nannoperca australis (Murray-Darling lineage)	903231	Vulnerable	Dispersed	Habitat importance map	0.0003
Murray Cod	Maccullochella peelii	4871	Vulnerable	Dispersed	Habitat importance map	0.0002
Australian Painted Snipe	Rostratula australis	10170	Critically endangered	Dispersed	Habitat importance map	0.0001
Bent-leaf Wattle	Acacia flexifolia	500035	Rare	Dispersed	Habitat importance map	0.0001
Yarran Wattle	Acacia omalophylla	500069	Endangered	Dispersed	Habitat importance map	0.0001
Umbrella Grass	Digitaria divaricatissima var. divaricatissima	501045	Vulnerable	Dispersed	Habitat importance map	0.0001
Long Eryngium	Eryngium paludosum	501238	Vulnerable	Dispersed	Habitat importance map	0.0001
Kamarooka Mallee	Eucalyptus froggattii	501279	Rare	Dispersed	Habitat importance map	0.0001

Species common name	Species scientific name	Taxon ID	Conservation status	Group	Habitat impacted	Proportional impact (%)
Veiled Fringe-sedge	Fimbristylis velata	501369	Rare	Dispersed	Habitat importance map	0.0001
Small Scurf-pea	Cullen parvum	502773	Endangered	Dispersed	Habitat importance map	0.0001
Yellow-tongue Daisy	Brachyscome chrysoglossa	503654	Vulnerable	Dispersed	Habitat importance map	0.0001
Broom Bitter-pea	Daviesia genistifolia s.s.	503813	Rare	Dispersed	Habitat importance map	0.0001
Jericho Wire-grass	Aristida jerichoensis var. subspinulifera	504631	Endangered	Dispersed	Habitat importance map	0.0001
Pale Swamp Everlasting	Coronidium gunnianum	504655	Vulnerable	Dispersed	Habitat importance map	0.0001
Pepper Grass	Panicum laevinode	504808	Vulnerable	Dispersed	Habitat importance map	0.0001
Southern Swainson-pea	Swainsona behriana	504944	Rare	Dispersed	Habitat importance map	0.0001
Riverina Bitter-cress	Cardamine moirensis	505032	Rare	Dispersed	Habitat importance map	0.0001
Lewin's Rail	Lewinia pectoralis pectoralis	10045	Vulnerable	Dispersed	Habitat importance map	0.0000
Bush Stone-curlew	Burhinus grallarius	10174	Endangered	Dispersed	Habitat importance map	0.0000

Species common name	Species scientific name	Taxon ID	Conservation status	Group	Habitat impacted	Proportional impact (%)
Brolga	Grus rubicunda	10177	Vulnerable	Dispersed	Habitat importance map	0.0000
Little Egret	Egretta garzetta nigripes	10185	Endangered	Dispersed	Habitat importance map	0.0000
Intermediate Egret	Ardea intermedia	10186	Endangered	Dispersed	Habitat importance map	0.0000
Eastern Great Egret	Ardea modesta	10187	Vulnerable	Dispersed	Habitat importance map	0.0000
Australian Little Bittern	Ixobrychus dubius	10195	Endangered	Dispersed	Habitat importance map	0.0000
Australasian Bittern	Botaurus poiciloptilus	10197	Endangered	Dispersed	Habitat importance map	0.0000
Australasian Shoveler	Anas rhynchotis	10212	Vulnerable	Dispersed	Habitat importance map	0.0000
Freckled Duck	Stictonetta naevosa	10214	Endangered	Dispersed	Habitat importance map	0.0000
Hardhead	Aythya australis	10215	Vulnerable	Dispersed	Habitat importance map	0.0000
Blue-billed Duck	Oxyura australis	10216	Endangered	Dispersed	Habitat importance map	0.0000
Musk Duck	Biziura lobata	10217	Vulnerable	Dispersed	Habitat importance map	0.0000

Species common name	Species scientific name	Taxon ID	Conservation status	Group	Habitat impacted	Proportional impact (%)
Black Falcon	Falco subniger	10238	Vulnerable	Dispersed	Habitat importance map	0.0000
Superb Parrot	Polytelis swainsonii	10277	Endangered	Dispersed	Habitat importance map	0.0000
Grey-crowned Babbler	Pomatostomus temporalis temporalis	10443	Endangered	Dispersed	Habitat importance map	0.0000
Painted Honeyeater	Grantiella picta	10598	Vulnerable	Dispersed	Habitat importance map	0.0000
Bearded Dragon	Pogona barbata	12177	Vulnerable	Dispersed	Habitat importance map	0.0000
Growling Grass Frog	Litoria raniformis	13207	Endangered	Dispersed	Habitat importance map	0.0000
Ausfeld's Wattle	Acacia ausfeldii	500013	Vulnerable	Dispersed	Habitat importance map	0.0000
Western Silver Wattle	Acacia decora	500027	Vulnerable	Dispersed	Habitat importance map	0.0000
Whirrakee Wattle	Acacia williamsonii	500103	Rare	Dispersed	Habitat importance map	0.0000
Buloke Mistletoe	Amyema linophylla subsp. orientalis	500217	Vulnerable	Dispersed	Habitat importance map	0.0000
Blue Burr-daisy	Calotis cuneifolia	500594	Rare	Dispersed	Habitat importance map	0.0000

Species common name	Species scientific name	Taxon ID	Conservation status	Group	Habitat impacted	Proportional impact (%)
Yellow Burr-daisy	Calotis lappulacea	500598	Rare	Dispersed	Habitat importance map	0.0000
Buloke	Allocasuarina luehmannii	500678	Endangered	Dispersed	Habitat importance map	0.0000
Silky Umbrella-grass	Digitaria ammophila	501041	Vulnerable	Dispersed	Habitat importance map	0.0000
Golden Cowslips	Diuris behrii	501061	Vulnerable	Dispersed	Habitat importance map	0.0000
Purple Diuris	Diuris punctata	501084	Vulnerable	Dispersed	Habitat importance map	0.0000
Clover Glycine	Glycine latrobeana	501456	Vulnerable	Dispersed	Habitat importance map	0.0000
Western Golden-tip	Goodia medicaginea	501518	Rare	Dispersed	Habitat importance map	0.0000
Cottony Cassinia	Cassinia ozothamnoides	501560	Vulnerable	Dispersed	Habitat importance map	0.0000
Slender Club-sedge	Isolepis congrua	501773	Vulnerable	Dispersed	Habitat importance map	0.0000
Lanky Buttons	Leptorhynchos elongatus	501941	Endangered	Dispersed	Habitat importance map	0.0000
Smooth Minuria	Minuria integerrima	502201	Rare	Dispersed	Habitat importance map	0.0000

Species common name	Species scientific name	Taxon ID	Conservation status	Group	Habitat impacted	Proportional impact (%)
Waterbush	Myoporum montanum	502240	Rare	Dispersed	Habitat importance map	0.0000
Ridged Water-milfoil	Myriophyllum porcatum	502257	Vulnerable	Dispersed	Habitat importance map	0.0000
Velvet Daisy-bush	Olearia pannosa subsp. cardiophylla	502317	Vulnerable	Dispersed	Habitat importance map	0.0000
Hairy Tails	Ptilotus erubescens	502825	Vulnerable	Dispersed	Habitat importance map	0.0000
Dwarf Bitter-cress	Rorippa eustylis	502944	Rare	Dispersed	Habitat importance map	0.0000
Northern Sandalwood	Santalum lanceolatum	503005	Endangered	Dispersed	Habitat importance map	0.0000
Stiff Groundsel	Senecio behrianus	503101	Endangered	Dispersed	Habitat importance map	0.0000
Branching Groundsel	Senecio cunninghamii var. cunninghamii	503104	Rare	Dispersed	Habitat importance map	0.0000
Cane Spear-grass	Austrostipa breviglumis	503268	Rare	Dispersed	Habitat importance map	0.0000
Rye Beetle-grass	Tripogon loliiformis	503455	Rare	Dispersed	Habitat importance map	0.0000
Grassland Velleia	Velleia arguta	503487	Rare	Dispersed	Habitat importance map	0.0000

Species common name	Species scientific name	Taxon ID	Conservation status	Group	Habitat impacted	Proportional impact (%)
Dwarf Brooklime	Gratiola pumilo	503753	Rare	Dispersed	Habitat importance map	0.0000
Bristly Greenhood	Pterostylis setifera	503935	Rare	Dispersed	Habitat importance map	0.0000
Spiny Rice-flower	Pimelea spinescens subsp. spinescens	504823	Endangered	Dispersed	Habitat importance map	0.0000
Silky Swainson-pea	Swainsona sericea	504946	Vulnerable	Dispersed	Habitat importance map	0.0000
Fuzzy New Holland Daisy	Vittadinia cuneata var. morrisii	505060	Rare	Dispersed	Habitat importance map	0.0000
Euroa Guinea-flower	Hibbertia humifusa subsp. erigens	505083	Vulnerable	Dispersed	Habitat importance map	0.0000
Late-flower Flax-lily	Dianella tarda	505085	Vulnerable	Dispersed	Habitat importance map	0.0000
Delicate Crane's-bill	Geranium sp. 6	505347	Vulnerable	Dispersed	Habitat importance map	0.0000
Floodplain Fireweed	Senecio campylocarpus	507136	Rare	Dispersed	Habitat importance map	0.0000
Grey Grass-tree	Xanthorrhoea glauca subsp. angustifolia	507229	Endangered	Dispersed	Habitat importance map	0.0000

Habitat Group

- Highly localised habitat means there is 2,000 hectares or less mapped habitat for the species.
- Dispersed habitat means there is more than 2,000 hectares of mapped habitat for the species.

Habitat Impacted

The Species General Offset test, as described in Section 5.3.1 of the Guidelines, is used to determine if proposed native vegetation removal will result in a proportionally significant impact on the habitat value of rare or threatened species. The test is applied where the native vegetation proposed for removal:

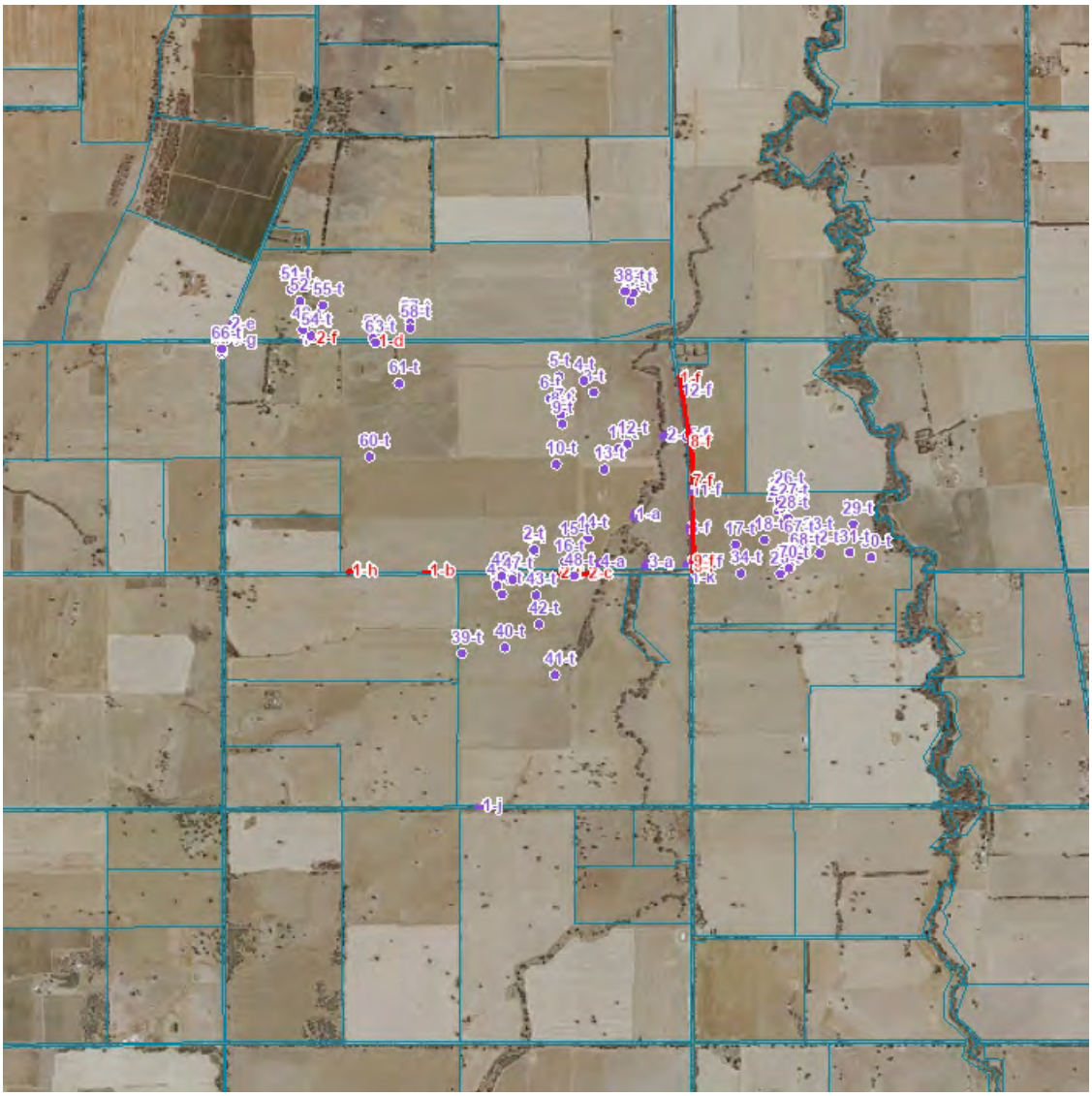
- Intersects the Habitat Importance Map for a rare or threatened species; or
- Intersects the 'top ranking' modelled habitat for a rare or threatened species with dispersed habitat, as identified in its Top Ranking Habitat Importance Map.

Top Ranking Maps consist of the 2,000 hectares of habitat with the highest Habitat Importance Scores for each dispersed species.

The 'Habitat impacted' column identifies whether the Habitat Importance Map or its Top Ranking Map was used to determine the proportional impact for a species with dispersed habitat.

Appendix 3: Images of mapped native vegetation

1. Property in context

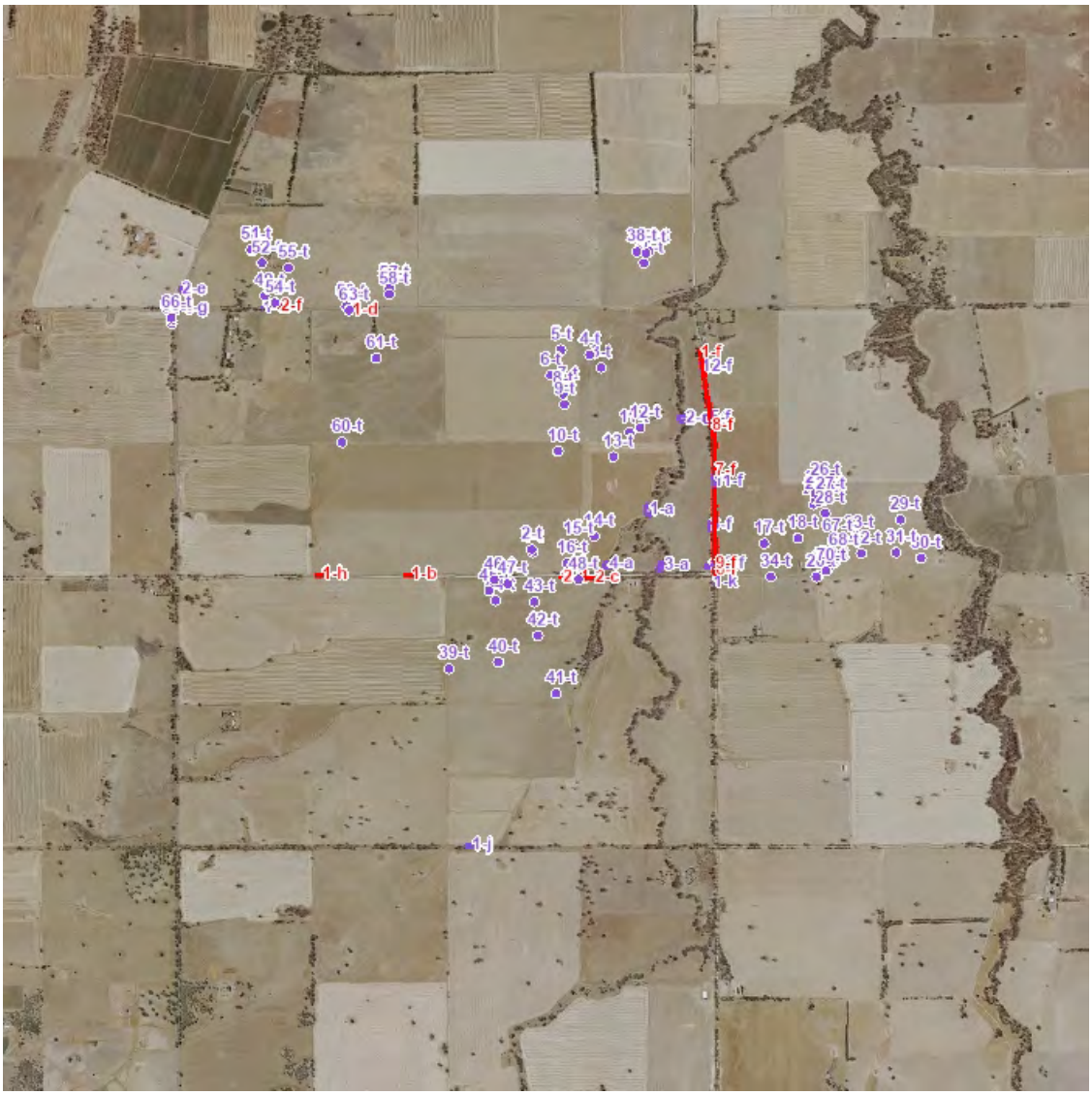


Proposed Removal
Past Removal
Partial Removal
Property Boundaries

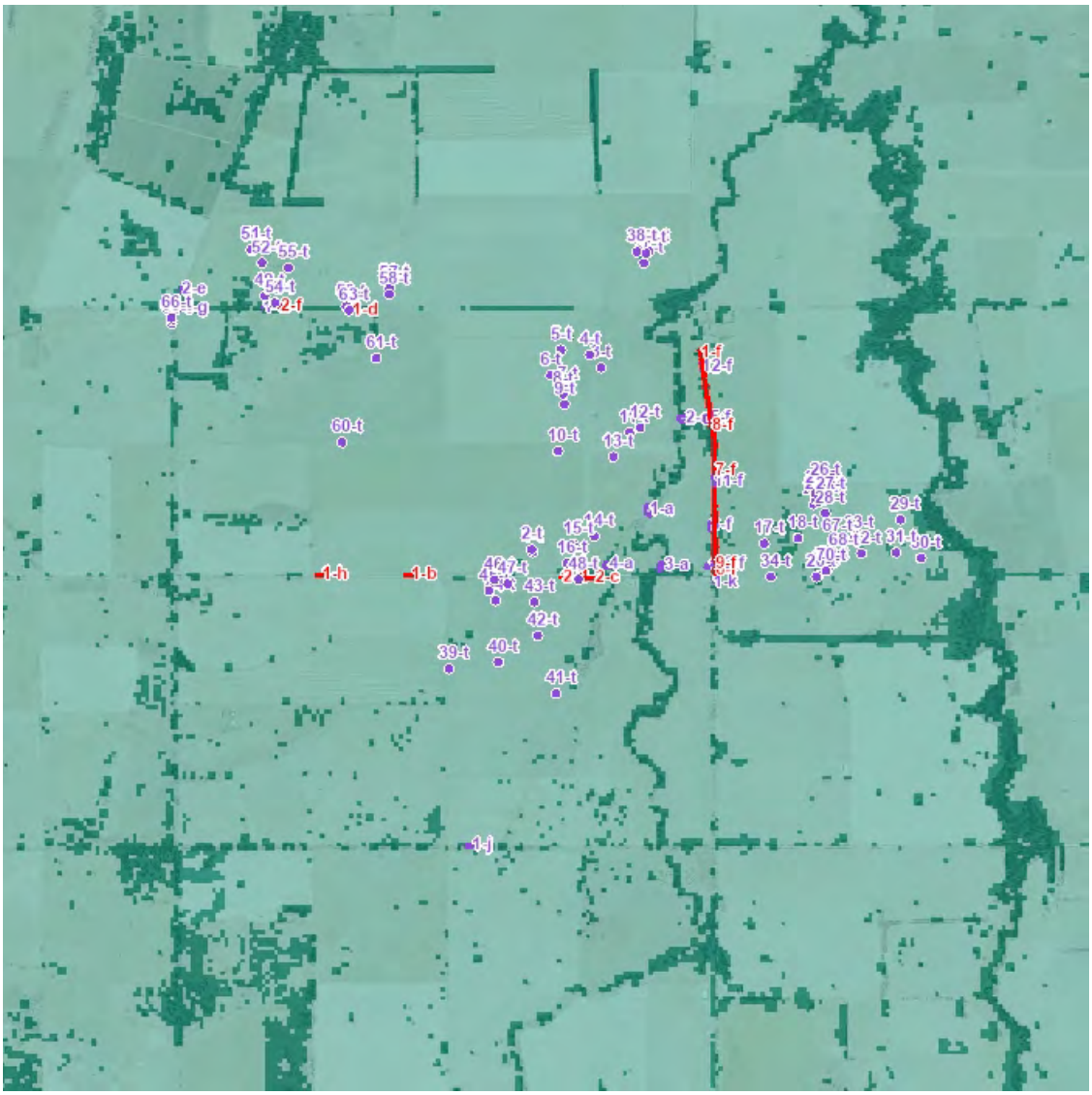
N

1000 m

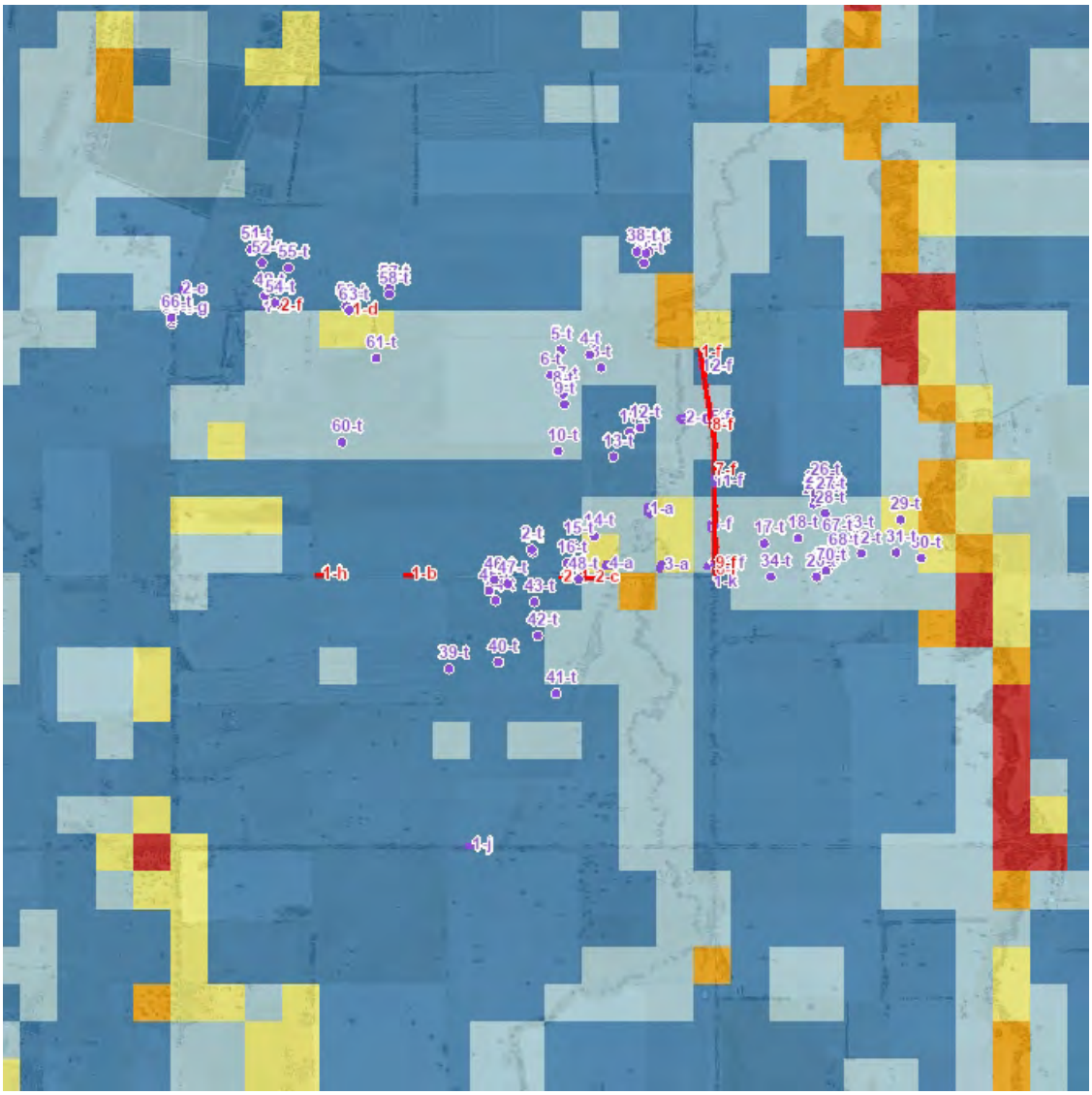
2. Aerial photograph showing mapped native vegetation



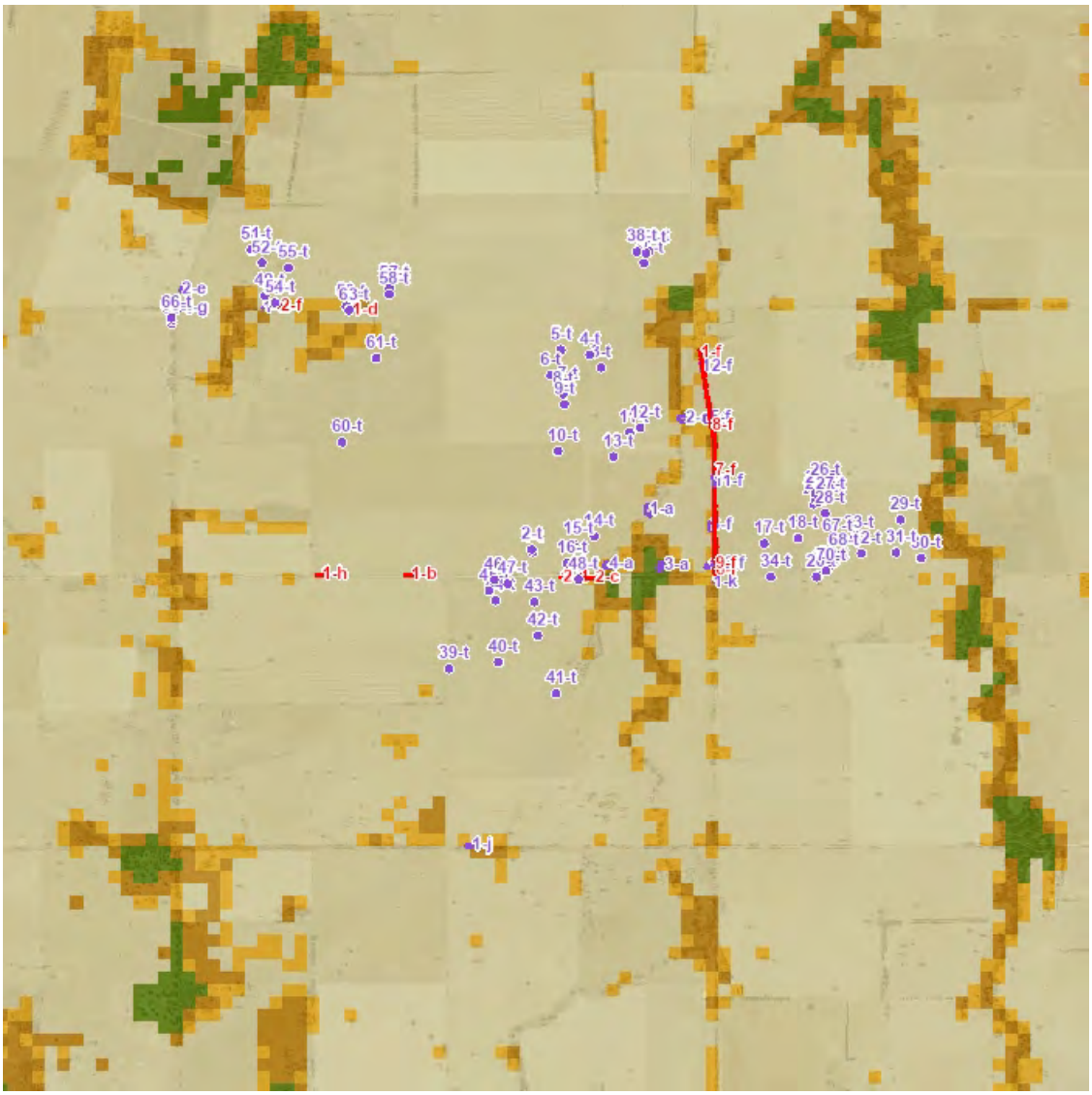
3. Location Risk Map



4. Strategic Biodiversity Value Score Map



5. Modelled Condition Score Map



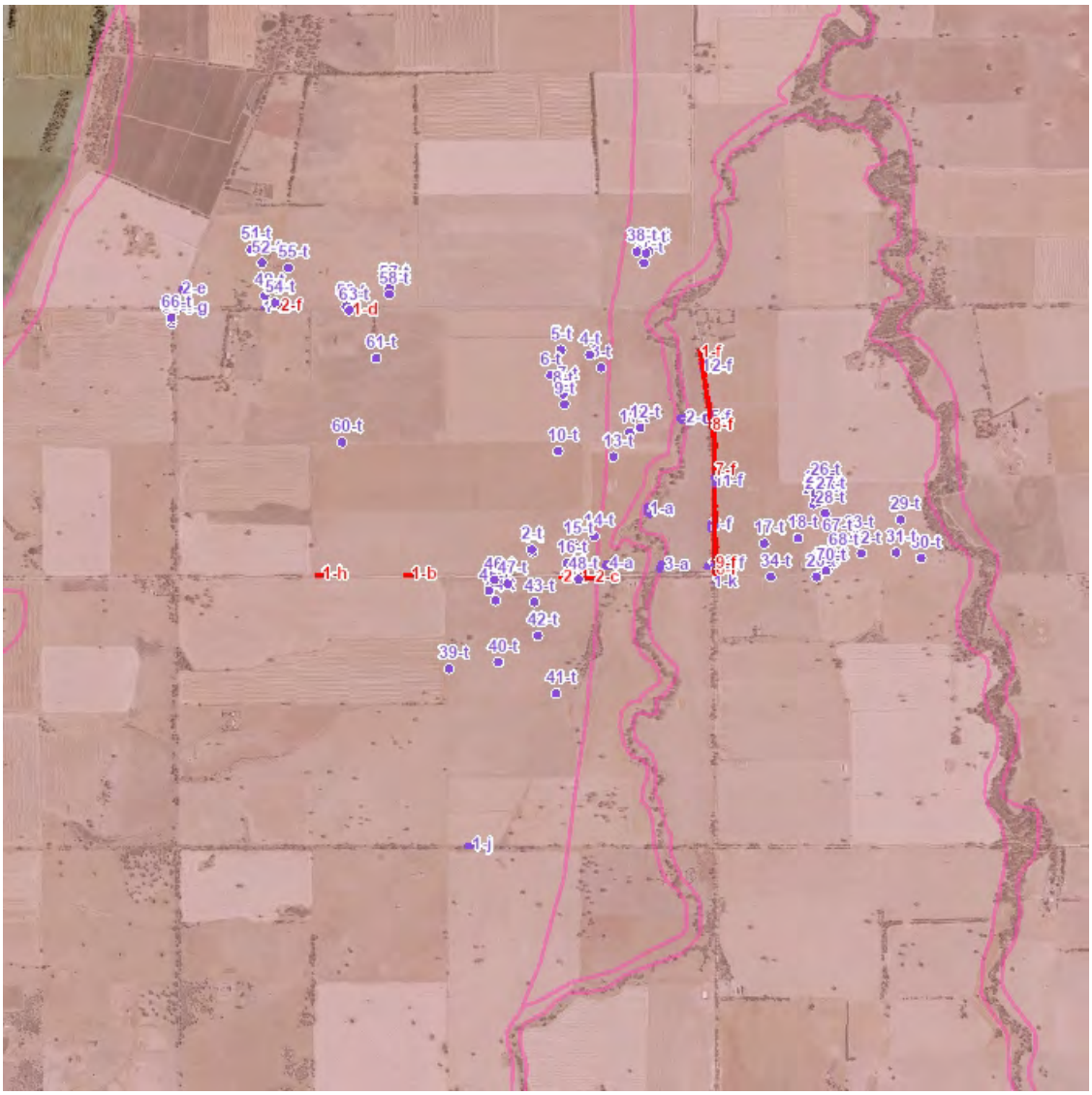
Proposed Removal
Past Removal
Partial Removal

0.81 - 1.00
0.61 - 0.80
0.41 - 0.60
0.21 - 0.40
0.00 - 0.20

N

1000 m

6. Modelled Endangered EVCs



Proposed Removal

Past Removal

Partial Removal

Endangered 1750 Ecological Vegetation Classes

N

1000 m

7. Habitat Importance maps

Not Applicable

APPENDIX 5 AVAILABLE NATIVE VEGETATION CREDITS

Report of available native vegetation credits

This report lists native vegetation credits available to purchase through the Native Vegetation Credit Register.

This report is **not evidence** that an offset has been secured. An offset is only secured when the units have been purchased and allocated to a permit or other approval and an allocated credit extract is provided by the Native Vegetation Credit Register.

Date and time: 25/07/2024 12:59 **Report ID: 25476**

What was searched for?

General offset

General habitat units	Strategic biodiversity value	Large trees	Vicinity (Catchment Management Authority or Municipal district)	
1.477	0.1834	71	CMA	Goulburn Broken

Details of available native vegetation credits on 25 July 2024 12:59

These sites meet your requirements for general offsets.

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)
VC_CFL-2355_03	8.795	87	Goulburn Broken	Greater Shepparton City	Yes	Yes	No	VegLink
VC_CFL-3075_01	9.143	75	Goulburn Broken	Greater Shepparton City	Yes	Yes	No	VegLink

These sites meet your requirements using alternative arrangements for general offsets.

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)

There are no sites listed in the Native Vegetation Credit Register that meet your offset requirements when applying the alternative arrangements as listed in section 11.2 of the Guidelines for the removal, destruction or lopping of native vegetation.

These potential sites are not yet available, land owners may finalise them once a buyer is confirmed.

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)
VC_CFL-3747_01	11.546	332	Goulburn Broken	Mansfield Shire	Yes	Yes	No	VegLink

LT - Large Trees *CMA - Catchment Management Authority* *LGA - Municipal District or Local Government Authority*

Next steps

If applying for approval to remove native vegetation
Attach this report to an application to remove native vegetation as evidence that your offset requirement is currently available.

If you have approval to remove native vegetation
Below are the contact details for all brokers. Contact the broker(s) listed for the credit site(s) that meet your offset requirements. These are shown in the above tables. If more than one broker or site is listed, you should get more than one quote before deciding which offset to secure.

Broker contact details

Broker Abbreviation	Broker Name	Phone	Email	Website
Abezco	Abzeco Pty. Ltd.	(03) 9431 5444	offsets@abzeco.com.au	www.abzeco.com.au
Baw Baw SC	Baw Baw Shire Council	(03) 5624 2411	bawbaw@bawbawshire.vic.gov.au	www.bawbawshire.vic.gov.au
Bio Offsets	Biodiversity Offsets Victoria	0452 161 013	info@offsetsvictoria.com.au	www.offsetsvictoria.com.au
Contact NVOR	Native Vegetation Offset Register	136 186	nativevegetation.offsetregister@delwp.vic.gov.au	www.environment.vic.gov.au/native-vegetation
Ecocentric	Ecocentric Environmental Consulting	0410 564 139	ecocentric@me.com	Not avaliable
Ethos	Ethos NRM Pty Ltd	(03) 5153 0037	offsets@ethosnrm.com.au	www.ethosnrm.com.au
Nillumbik SC	Nillumbik Shire Council	(03) 9433 3316	offsets@nillumbik.vic.gov.au	www.nillumbik.vic.gov.au
TFN	Trust for Nature	8631 5888	offsets@tfn.org.au	www.trustfornature.org.au
VegLink	Vegetation Link Pty Ltd	(03) 8578 4250 or 1300 834 546	offsets@vegetationlink.com.au	www.vegetationlink.com.au
Yarra Ranges SC	Yarra Ranges Shire Council	1300 368 333	biodiversityoffsets@yarraranges.vic.gov.au	www.yarraranges.vic.gov.au

For more information contact the DEECA Customer Service Centre 136 186 or the Native Vegetation Credit Register at nativevegetation.offsetregister@delwp.vic.gov.au