Final Report

Ecological Assessment: Clarkefield Township, Clarkefield, Victoria

Prepared for

APD Projects

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Ecology and Heritage Partners Pty Ltd

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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 Intermediate 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 3.1, Section 3.3 and Appendix 3 (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 3.1
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 removal of native vegetation has been removed by the proponent within 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 5.1
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

1 INTRODUCTION

1.1 Background

Ecology and Heritage Partners Pty Ltd was commissioned by APD Projects to conduct an Ecological Assessment at Clarkefield Township, Clarkefield, Victoria.

We understand that APD Projects is proposing to submit a development plan application for the proposed Clarkefield Town Centre, which will see the area developed for residential, retail and community facility purposes, including reserves and a community garden.

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 within the township of Clarkefield, Victoria, located approximately 50 kilometres north-west of Melbourne's CBD (Figure 1). The site covers approximately 34 hectares and is bound by Melbourne-Lancefield Road to the east, and the Clarkefield Trainline to the west/southwest. Undeveloped agricultural land separates the study area from Sutherlands Road to the north.

The study area is generally flat, with no ridges or crests. Bolinda Creek lies approximately two kilometres north/northwest of the study area, with a single dam present in the southern portion of the study area. Some sections of the study area are low-lying and are likely to form marshy grassland after high rainfall.

According to the Department of Environment, Land, Water and Planning (DELWP) NatureKit Map (DELWP 2022a), the study area is located within the Victorian Volcanic Plain bioregion, Port Phillip and Westernport Catchment Management Authority (CMA) and Macedon Ranges Shire Council.

2 METHODS

2.1 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 DELWP NatureKit Map (DELWP 2022a) and Native Vegetation Information Management (NVIM) Tool (DELWP 2022b) 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 (DELWP 2022c) for descriptions of EVCs within the relevant bioregion;
- The Victorian Biodiversity Atlas (VBA) for previously documented flora and fauna records within the project locality (DELWP 2022d);
- The Illustrated Flora Information System of Victoria (IFLISV) (Gullan 2017) and Atlas of Living Australia (ALA) (ALA 2022) for assistance with the distribution and identification of flora species;
- Birdlife Australia (2022) for detailed descriptions and distributions of birds (both native and exotic);
- The Commonwealth Department of Agriculture, Water and the Environment (DAWE) Protected Matters Search Tool (PMST) for matters of National Environmental Significance (NES) protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (DAWE 2022);
- Relevant listings under the Victorian *Flora and Fauna Guarantee Act 1988* (FFG Act), including the latest Threatened (DELWP 2022e) and Protected (DELWP 2019) Lists;
- The online VicPlan Map (DELWP 2022f) to ascertain current zoning and environmental overlays in the study area;
- Other relevant environmental legislation and policies as required; and,
- Aerial photography of the study area.

2.2 Field Assessment

A field assessment was undertaken on 29 and 30 January 2018 to obtain information on flora and fauna values within the study area. Another field assessment was undertaken more recently, on 16 February 2022, to gather updated data regarding the extent and quality of native vegetation present, given the number of years since the initial assessment. On both occasions 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 DELWP pre-1750 and extant EVC mapping (DELWP 2022a) and their published descriptions (DELWP 2022c).

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).

2.3 Targeted Matted Flax-lily *Dianella amoena* Surveys

EPBC Act Conservation Status: Endangered

FFG Act Conservation Status: Critically Endangered

Matted Flax-lily is a perennial, tufted, mat-forming lily which can form patches of up to five metres wide. The plant can grow vegetatively, through sending underground rhizomatous roots, which rise above the ground with a tiller of several leaves, spread over a distance from the parent plant.

Plate 1. Matted Flax-lily (Ecology and Heritage Partners Pty Ltd)

The leaves of the Matted Flax-lily are generally glaucous, blue in colour but may be red at the base and usually, but not always, having small hooks (teeth) along the margins and midrib. The leaves taper to approximately 45 centimetres long depending on site and climatic conditions and are born on tillers with the leaves arranged alternatively, with several leaves per tiller. Matted Flax-lily generally flowers between November and February but may continue flowering with summer and autumn rains. It has pale blue to violet flowers with bright yellow stamens and berries, which are generally purple in colour. The flowers and berries are born on culms extending to typically 30 centimetres in height although this may alter depending on plant location and season (Carter 2010).

Matted Flax-lily generally occurs in grassland and grassy woodland habitats, on well drained to seasonally wet fertile sandy loams to heavy cracking clay soils derived from Silurian or Tertiary sediments, or from volcanic geology (Carter 2010). Most populations are thought to be small and highly fragmented, and there is thought to be only around 2,500 plants remaining in total, with the majority of remaining sites located in less than secure locations such as on roadsides, railway lines, private land or in small reserves within the urban landscape (Carter 2010).

2.3.1 Targeted Matted Flax-lily Surveys

The VBA shows Matted Flax-lily has been previously recorded within the vicinity of the study area, with specimens recorded predominantly along the railway line to the north-west of the study area, as well as one observation along the railway line to the south, within a five-kilometre radius of the study area (DELWP 2022d; Figure 3).

Targeted flora surveys for Matted Flax-lily were undertaken on four separate occasions on 19 November, 6, 12 and 18 December 2018 and 13 February 2019, by a qualified botanist familiar with the appearance and ecology of the species. The study area was systematically traversed at approximately five metre linear intervals in accordance with the survey guidelines for Matted Flax-lily outlined in the *Biodiversity Precinct Structure*

Planning Kit (DSE 2010), which are considered 'best practice' guidelines for conducting Matted Flax-lily Surveys. Targeted surveys were directed to all potential habitat (i.e. native and non-native grasslands including degraded areas, and fence lines).

The surveys were undertaken within the recommended optimal time to conduct Matted Flax-lily surveys and during the flowering season, which generally occurs between late spring to early summer.

2.4 Targeted Golden Sun Moth *Synemon plana* Surveys

EPBC Act Conservation Status: Critically Endangered

FFG Act Conservation Status: Vulnerable

Plate 2 Golden Sun Moth (Ecology and Heritage Partners Pty Ltd)

Golden Sun Moth typically occurs in native grassland and grassy woodland habitats dominated by greater than 40% cover of wallaby-grass *Rytidosperma* spp. (DSE 2004), but may also inhabit areas dominated by Kangaroo Grass *Themeda triandra* (Endersby and Koehler 2006) and introduced grassland dominated by Chilean Needle-grass *Nassella neesiana* and other introduced species. Male flight is typically low, to about one metre above the ground, fast and can be prolonged, but they are generally not recorded flying more than 100 metres from suitable habitat (Clarke and O'Dwyer 1999). The male of this species generally flies between 11am and 3pm on calm, warm (over 20°C), sunny days.

Prior to European settlement, Golden Sun Moth was widespread and relatively continuous throughout its range, inhabiting grassy open woodlands and grassland, although it now mainly inhabits small isolated sites (DSE 2004). The species is threatened by habitat loss, disturbance, and fragmentation due to agricultural expansion and urbanisation. Many populations are isolated and fragmented, impeding the ability of the relatively immobile females to recolonise areas, thereby reducing the likelihood of genetic exchange (DSE 2004). Such populations are therefore vulnerable as there is little likelihood of recolonisation in the event of a local extinction.

Potential habitat (i.e. native and introduced grasslands) is present throughout the study area except in areas that are cropped. The species' preferred host plants (i.e. wallaby-grasses *Rytidosperma* spp., spear-grasses *Austrostipa* spp., and Kangaroo Grass *Themeda triandra*) are scattered throughout much of the study area and occur in highest densities within patches of Plains Grassland (EVC 132). In addition to this, there are large infestations throughout the study area of the Weed of National Significance (WoNS), Chilean Needle-grass *Nassella neesiana,* which is known to also provide suitable habitat for the threatened Golden Sun Moth.

Areas of suitable habitat were walked by qualified zoologists over four separate days during the known flight season (i.e. November to early January). In particular, surveys focussed on areas supporting suitable host plants including native wallaby grass and the noxious weed Chilean Needle Grass. Surveys were undertaken at a time which is considered suitable for detecting the Golden Sun Moth (i.e. when adult males are flying), and when the species was observed flying at a nearby reference site (i.e. Cooper Street, Epping).

2.4.1 *Targeted Golden Sun Moth Surveys*

Targeted surveys for Golden Sun Moth were undertaken at the study area on four separate occasions on 19 November, and 6, 12 and 18 December 2018. Survey procedures were in accordance with the *Significant impact guidelines for the critically endangered golden sun moth* (DEWHA 2009), with the following tasks undertaken:

- A habitat assessment was completed detailing information on habitat quality, biomass levels, presence of weeds and floristic diversity;
- Surveys were conducted by ecologists experienced in the detection and identification of Golden Sun Moth;
- The study area was surveyed on four separate occasions, with at least one week between surveys where possible;
- Surveys took place during the species' flight season (generally described as late October to early January). Moths were confirmed flying at known reference sites prior to undertaking each survey;
- Surveys were undertaken during weather conditions suitable for detecting the species (i.e. between 10am and 3pm on warm (over 20˚C by 10am) days with minimal cloud cover and still conditions); and
- Surveys were conducted by qualified zoologists walking 10 to 50-meter-wide parallel transects across all areas of suitable habitat.

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

Under the *Planning and Environment Act 1987,* Clause 52.17 of the Macedon Ranges 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).

2.5.1 *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 DELWP's NVIM Tool (DELWP 2022b). 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
	Less than 0.5 hectares and not including any large trees	Basic	Intermediate	Detailed

Extent		Location		
		1	2	3
Native Vegetation	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.

2.5.2 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'.

2.5.3 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.

2.5.4 *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, being 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.

2.6 Assessment Qualifications and Limitations

The 'snap shot' 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, during both field assessments, 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 +/-5 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.

This report details the native vegetation present during the most recent field assessment, on 16 February 2022, but includes the results of targeted surveys for Matted Flax-lily and Golden Sun Moth from the 2018 assessment. Targeted surveys were not undertaken again in 2022 as the species were not detected during the 2018 assessment.

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 field assessments being undertaken.

3 RESULTS

3.1 Vegetation Condition

3.1.1 Patches of Native Vegetation

Native vegetation in the study area is representative of two EVCs: Plains Grassland (EVC 132_61) and Plains Grassy Woodland (EVC 55_61). The presence of these EVCs is generally consistent with the modelled pre-1750s native vegetation mapping (DELWP 2022a) which has historically modelled the area to be Plains Grassy Woodland. Areas mapped as Plains Grassland may be derived from the Plains Grassy Woodland following historical clearing. The remainder of the study area comprises introduced and planted vegetation, present as crop, pasture, windrows, and ornamental plantings. Specific details relating to observed EVCs are provided below.

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

3.1.1.1 Lighter soils Plains Grassland

Lighter Soils Plains Grassland generally occurs on cracking basalt sols in areas that receive less than 500 millimetres of rainfall annually. Typically treeless, the vegetation is instead dominated by graminoids and herbs (DELWP 2022c).

Small patches (<0.5ha) of poor quality *Lighter Soils* Plains Grassland were found scattered through the southern part of the study area including the adjoining roadsides; four habitat zones were mapped in this area according to their condition, and a fifth patch was mapped in the north west of the study area. Typically, this EVC was characterised by a moderate cover of native grasses including Common Wallaby Grass *Rytidosperma caespitosa,* Rough Spear Grass *Austrostipa scabra,* Kangaroo Grass *Themeda triandra* and/or Weeping Grass *Microlaena stipoides,* with scattered Wattle Mat-rush *Lomandra filiformis* present in some areas. Habitat Zones PG1 to PG4 were either completely or partially mown, with foliage no greater than 10 centimetres high and only scattered inflorescences persisting. Habitat Zone PG3 was the highest quality patch, supporting scattered native herbs such as Lemon Beauty-heads *Caleocephalus citreus,* Blue Devil *Eryngium ovinum* and Australian Bindweed *Convulvulus erubescens*. Two *Catchment and Land Protection Act 1994* (CaLP Act) listed Weeds of National Significance (WONS) were also present; Chilean Needle Grass *Nassella neesiana,* and Serrated Tussock *Nassella trichotoma*. Given the type of the surrounding vegetation, it is likely these habitat zones derived from Plains Grassy Woodland, though no direct evidence (e.g. tree stumps) was observed. (Plate 1 to Plate 4).

Plate 3. Plains Grassland (PG1) within the study area (Ecology and Heritage Partners Pty Ltd 16/02/2022).

Plate 4. Plains Grassland (PG2b) within the study area (Ecology and Heritage Partners Pty Ltd 16/02/2022).

Plate 5. Plains Grassland (PG3) outside the eastern boundary of the study area (Ecology and Heritage Partners Pty Ltd 16/02/2022).

Plate 6. Plains Grassland (PG5) within and adjoining the study area (Ecology and Heritage Partners Pty Ltd 16/02/2022).

Plains Grassy Woodland

Plains Grassy Woodland typically occurs at low elevations on poorly drained, fertile soils, and is characterised by a eucalypt woodland to 15 metres tall over a species-rich grassy and herbaceous ground layer, with scattered shrubs.

Plains Grassland Woodland of poor quality was present in the south of the study area, predominantly in the road reserve (Plate 7, Plate 8). Both Habitat Zones PGW1 and PGW2 lacked a canopy layer, comprising an understorey of Black Wattle *Acacia mearnsii,* Rough Spear Grass and scattered Common Wallaby-grass, with some Common Raspwort *Gonocarpus tetragynus* present in small numbers. Weed cover was high; primarily Toowoomba Canary Grass *Phalaris aquatica*, Yorkshire Fog *Holcus lanatus*, and the WONS listed Blackberry *Rubus fruiticosus*.

Plate 7. Plains Grassy Woodland (PGW1a) within the study area (Ecology and Heritage Partners Pty Ltd 16/02/2022).

Plate 8. Plains Grassy Woodland (PGW1b) within the study area (Ecology and Heritage Partners Pty Ltd 16/02/2022).

3.1.2 Scattered Trees

Three scattered trees were present within the study area; two River Red-gums *Eucalyptus camaldulensis*, and one Blue Box *Eucalyptus baueriana* occurring as paddock trees (Appendix 1; Table A1.4; Plate 9; Plate 10). These trees would once formed part of the Plains Grassy Woodland EVC, however the understorey vegetation predominantly supported introduced pasture species, and the trees no longer formed a patch of native vegetation.

3.1.3 Introduced and Planted Vegetation

Areas not supporting native vegetation have a high cover (>80%) of exotic grass species (Plate 13), many of which have been direct seeded for pasture. Scattered native grasses are occasionally present in these areas, however, they did not have the required 25% cover to constitute a patch under the Guidelines (DELWP 2017). Removal of embedded rock has also been undertaken to facilitate the direct seeding of pasture.

Disturbed areas were dominated by environmental weeds such as Toowoomba Canary-grass *Phalaris aquatica*, Rye-grass *Lolium* spp., Meadow Fox-tail *Alopecurus pratensis*, Galenia *Galenia pubescens* var. *pubescens*, Ribwort *Plantago lanceolata*, Couch *Cynodon dactylon* var. *dactylon* and Wild Oat *Avena fatua*.

Noxious weeds are scattered throughout the study area, including Artichoke Thistle *Cynara cardunculus*, Spear Thistle *Cirsium vulgare* and Variegated Thistle *Silybum marianum*, and the WONS African Boxthorn *Lycium ferocissimum*, Serrated Tussock *Nassella trichotoma* and Chilean Needle-grass *Nassella neesiana*.

Planted vegetation in the study area consists of exotic and non-Victorian tree species, predominantly Sugar Gum *Eucalyptus cladocalyx* and Pine *Pinus* spp. in windrows around dwellings, sheds and laneways. A variety of ornamental shrubs have also been planted around sheds and dwellings (Plate 14).

Plate 11. Scattered trees within the study area (Ecology and Heritage Partners Pty Ltd 29/01/2018).

Plate 12. Scattered trees within the study area (Ecology and Heritage Partners Pty Ltd 29/01/2018).

Plate 13. Pasture grasses and paddock trees within the study area (Ecology and Heritage Partners Pty Ltd 16/02/2022).

Plate 14. Planted vegetation within the study area (Ecology and Heritage Partners Pty Ltd 16/02/2022).

3.2 Fauna Habitat

3.2.1 Native and Introduced Grasslands

Much of the study area comprises paddocks with pasture, used as a foraging resource by common generalist bird species which are tolerant of modified open areas. Common birds observed using the area for foraging included Australian Magpie *Cracticus tibicen,* Magpie-lark *Grallina cyanoleuca,* Noisy Myna *Manorina melanocephala,* Little Raven *Corvus mellori,* Willie Wagtail *Rhipidura leucophrys,* Eurasian Skylark *Alauda arvensis*, Australasian Pipit *Anthus novaeseelandiae,* Crested Pigeon *Ocyphaps lophotes,* Tree Martin *Petrochelidon nigricans* and Black-faced Cuckoo-shrike *Coracina novaehollandiae.* Eastern Grey Kangaroos *Macropus giganteus* were also seen onsite, gazing across paddocks.

Several predatory birds (Wedge-tailed Eagle *Aquila audax,* Brown Falcon *Falco berigora and* Black-shouldered Kite *Elanus axillaris*), which are common in the local area, were observed hunting within the study area.

3.2.2 *Woodland and Scattered Trees*

Three scattered trees occur within the study area and support a small number of hollows, bark fissures and crevices. These trees are likely to be used for shelter, roosting and nesting by a range of hollow-dependent fauna (e.g. parrots and microbats). Scattered trees provide habitat for more mobile fauna species, vantage points and nesting areas for diurnal and nocturnal raptors, as well as stepping stones for more mobile fauna moving through the landscape, enhancing landscape permeability for native fauna. Many of the abovementioned bird species were observed using scattered trees during the assessment.

3.2.3 *Planted Vegetation and Established Invasive Species*

Large patches of Blackberry that occur within the study area, combined with mixed native/introduced hedges, currently provide habitat for small birds, and potentially small native mammals. Small native birds using Blackberry patches included, Superb Fairy-wren *Malurus cyaneus*, New Holland Honeyeater *Phylidonyris novaehollandiae* and Eastern Yellow Robin *Eopsaltria australis.*

Planted vegetation, primarily Radiata Pine are located throughout the study area as windrows. These areas provide foraging, roosting and nesting habitat for mobile generalist fauna, including locally common birds and microbats. Species observed using this habitat includes Magpie-Lark, Superb Fairy-wren and Black-shouldered Kite.

3.2.4 *Aquatic Habitat*

The study area contains an artificial drainage line to the north of the property that is likely to provide a permanent water source for fauna. Species observed utilising the drainage line, include Australian Wood Duck *Chenonetta jubata*, Pacific Black Duck *Anas superciliosa*, Common Eastern Froglet *Crinia signifera* and Spotted Marsh Frog *Limnodynastes tasmaniensis.* Smaller dams are also present within the study area and are likely to provide permanent water sources for farmland adapted birds and amphibians.

3.2.5 *Invasive Species*

Invasive fauna observed using the site included Common Starling *Sturnus vulgaris,* House Sparrow *Passer domesticus,* European Rabbit *Oryctolagus cuniculus* and Red Fox *Vulpes Vulpes.* Based on the extent of physical disturbance present, it appears that a large population of European Rabbit currently reside within the study area.

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

The below clearing scenario is based on the development footprint as provided to Ecology and Heritage Partners Pty Ltd by APD Projects on 9 March 2022.

3.3.1 *Vegetation proposed to be removed*

The study area is within Location 2, with 0.444 hectares of native vegetation proposed to be removed (part of habitat zone PG5) and two small scattered trees (#2 and #3). As such, the permit application falls under the Intermediate 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	Intermediate
Location Category	2
Total Extent (past and proposed) (ha)	0.444
Extent of past removal (ha)	0.00
Extent of proposed removal (ha)	0.444
Large Trees (scattered and in patches) to be removed (no.)	0
Small scattered trees to be removed (no.)	2
EVC Conservation Status of vegetation to be removed	Endangered (Plains Grassland)

3.3.2 Offset Targets

The offset requirement for native vegetation removal is 0.160 General Habitat Units.

A summary of proposed vegetation losses and associated offset requirements is presented in Table 4 and the NVR report is presented in Appendix 3.

Table 4. Offset Targets.

General Offsets Required	0.160 General Habitat Units
Large Trees	0
Vicinity (catchment/council)	Port Phillip and Westernport CMA / Macedon Ranges Shire Council
Minimum Strategic Biodiversity Value*	0.672

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

3.4 Significance Assessment

3.4.1 Flora

The VBA contains records of three nationally significant and 30 State significant flora species previously recorded within 10 kilometres of the study area (DELWP 2022d) (Figure 3). The PMST nominated an additional 17 nationally significant species which have not been previously recorded but have the potential to occur in the locality (DAWE 2022) (Figure 3; Appendix 1.4).

3.4.1.1 Matted Flax-lily

Matted Flax-lily has been previously recorded (2011) along the railway line approximately four kilometres to the west of the study area, along with one observation approximately five kilometres along the railway line to the south (DELWP 2022d) (Figure 3).

Although the study area provides potential habitat for Matted Flax-lily, it predominately supports exotic grassland dominated by Chilean Needle Grass, as well as occurrences of Artichoke Thistle, Spear Thistle and Variegated Thistle, African Boxthorn and Serrated Tussock.

Despite systematic surveys over the entire study area over multiple site visits, during suitable survey conditions and at a time when Matted Flax-lily detection is high and known to be flowering, no Matted Flax-lily were detected within the study area (Figure 2) during the original assessment.

No other national or State significant flora were recorded during either site assessment, and based on the modified nature of the study area, landscape context and the proximity of previous records, significant flora species are considered unlikely to occur within the study area due to the high levels of weed cover and either limited suitable habitat or absence of suitable habitat.

3.4.2 Fauna

The VBA contains records of nine nationally significant and 21 State significant fauna species previously recorded within 10 kilometres of the study area (DELWP 2022d) (Figure 4). The PMST nominated an additional 15 nationally significant species which have not been previously recorded but have the potential to occur in the locality (DAWE 2022) (Figure 4; Appendix 2.2).

The VBA contains two documented records of Golden Sun Moth directly adjacent to the study area along Melbourne-Lancefield Road (DELWP 2022d) (Figure 4), so targeted surveys were undertaken for the species.

Despite all four surveys been undertaken during optimal weather conditions when Golden Sun Moth was known to be flying at reference sites on the day of the surveys, and during the peak flight period of the species, targeted surveys did not record the species within the study area.

Based on the modified nature of the study area, landscape context and the proximity of previous records, no other significant fauna species are considered unlikely to rely on habitat within the study area for foraging or breeding purposes due to the lack of suitable and/or important habitat features.

3.4.3 Ecological Communities

Five nationally listed ecological communities are predicted to occur within 10 kilometres of the study area (DAWE 2022);

- Grassy Eucalypt Woodland of the Victorian Volcanic Plain (Critically Endangered);
- Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia (Endangered);
- Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVVP) (Critically Endangered);
- Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains (Critically Endangered); and,
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (Critically Endangered).

Natural Temperate Grassland of the Victorian Volcanic Plain

An assessment of Plains Grassland patches PG1, PG2a-e and PG4 against the condition thresholds for the *Natural Temperate Grassland of the Victorian Volcanic Plain (*NTGVVP) ecological community is given below. Habitat zones PG3 and PG5 did not qualify due to the native tussock cover not comprising 50% of the patch as a result of the high cover of weeds.

Step 1 – Determining if the Natural Temperate Grassland ecological community is present:

- Does the patch occur within or near the Victorian Volcanic Plain? YES
- Is the patch dominated by native vegetation? YES
- Are trees absent or sparse? YES
- Is the ground vegetation dominated by native grasses and/or herbs? YES

Step 2 – Determining if the patch is of sufficient quality for national listing:

- Is the patch bigger than or equal to 0.05 hectares in areas of remnant vegetation less than one hectare? NO

While Habitat Zones PG1, PG2a-e and PG4 are of sufficient quality to constitute NTGVVP, they are not of sufficient size for listing under the EPBC Act (all are under 0.05ha).

Vegetation within the study area did not meet the condition thresholds that define any other national or State-significant communities due to the absence of key indicator species, the low diversity of native flora; high cover of exotic vegetation and/or incompatible geology.

4 LEGISLATIVE AND POLICY IMPLICATIONS

4.1 *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). The proposed action is highly unlikely to have a significant impact on any matter of NES. As such, a referral to the Commonwealth Environment Minister is not required regarding matters listed under the EPBC Act.

4.2 *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 removal of species or communities on private land, or for the removal of habitat for a listed terrestrial fauna species.

While one species protected under the FFG Act was recorded within PG3 (Lemon Beauty Heads), this patch is not proposed to be impacted. As such, a permit under the FFG Act is not required.

4.3 *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.

As part of Clause 52.17, all native vegetation is considered lost as part of a subdivision development where the lots are 0.4 hectares or less in area, which must be offset at the time of subdivision.

4.3.1 Local Planning Scheme

The study area is located within the Macedon Ranges Shire Council. The following zoning and overlays apply (DELWP 2022f):

- Township Zone (TZ) – Schedule to the Township Zone (TZ)
- Rural Living Zone – Schedule 1 (RLZ1)
- Development Plan Overlay (DPO) – Schedule 10

4.3.2 *The Guidelines*

The State 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).

4.3.3 *Implications*

The study area is within Location 2, with 0.444 hectares of native vegetation proposed to be removed. As such, the permit application falls under the Intermediate assessment pathway.

The offset requirement for native vegetation removal is 0.160 General Habitat Units.

A planning permit from the Macedon Ranges Shire Council is required to remove, destroy or lop any native vegetation under Clause 52.17 of the Planning Scheme. In this instance, the application is not required to be referred to DELWP.

4.4 *Catchment and Land Protection Act 1994* (Victoria)

Weeds listed as noxious under the CaLP Act were recorded during the assessment (Artichoke Thistle, African Boxthorn, Blackberry, Serrated Tussock, Chilean Needle Grass, Spear Thistle, and Variegated Thistle). Similarly, there is evidence that the study area is currently occupied by several pest fauna species listed under the CaLP Act (European Rabbit, Red Fox). A Weed Management Plan and a pest fauna eradication plan may be required.

4.5 *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 DELWP.

5 MITIGATION MEASURES

5.1 Avoid and Minimise Statement

The preparation of the development plan for the study area (for which this report has been prepared), is the broader strategic planning process being undertaken for the site prior to an application for subdivision being submitted.

Opportunities to avoid and minimise impacts to native vegetation within the study area have been sought and adopted during the development plan preparation, including the inclusion of a six-metre-wide conservation buffer along the eastern boundary of the study area (Figure 2) to conserve the native vegetation along this boundary, including PG3, and PG4. While a secondary emergency access point was initially proposed to impact a large portion of PG3, APD Projects have moved this access point further north to avoid all impacts to this Habitat Zone, which supports one FFG-protected species; Lemon Beauty-heads.

Habitat Zones PG1, PG2a-e, PGW1a-c and PGW2a-i will also be retained in their entirety; the development footprint does not extend south into the area containing these patches.

As detailed designs have been developed, it has become logistically unfeasible to retain the two small scattered trees (Tree #1 and Tree #2 on Figure 2) due to the configuration of the proposed parcels and internal roads. Similarly, while various designs were undertaken to explore opportunities to retain PG5, its full retention has not been possible. However, this fragmented patch was the lowest quality patch of Plains Grassland within the study area (Appendix 1.3) (being heavily infested by Blackberry), so it is considered the most appropriate patch to impact in a design where not all impacts could be avoided.

To ensure no direct or indirect impacts occur to retained native vegetation during the development, mitigation measures will be incorporated into a Construction Environment Management Plan and Weed Management Plan for the site (Section 5.2, below).

No further minimisation is possible without undermining the feasibility of the proposed development, and given all but one of the Plains Grassland patches (including those of the highest quality) have been avoided, it is considered that the minimisation measures implemented are commensurate with the fragmented and modified nature of the site.

5.2 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 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.
- Removal of any habitat trees or shrubs (particularly hollow-bearing trees or trees/shrubs with nests) should be undertaken between February and September to avoid the breeding season for most fauna species. If any habitat trees or shrubs are proposed to be removed, this should be undertaken under the supervision of an appropriately qualified zoologist to salvage and translocate any displaced fauna. A Fauna Management Plan may be required to guide the salvage and translocation process;
- Where possible, construction stockpiles, machinery, roads, and other infrastructure should be placed away from areas supporting native vegetation and Large Trees; and,
- Ensure that best practice sedimentation and pollution control measures are undertaken at all times, in accordance with Environment Protection Authority guidelines (EPA 2020a; EPA 2020b; Victorian Stormwater Committee 1999) to prevent offsite impacts to waterways; and,
- As indigenous flora provides valuable habitat for indigenous fauna, it is recommended that any landscape plantings (particularly within the buffer to be retained) 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. Species typical of at least part of the relevant EVCs range (Plains Grassland [EVC 132_61] and Plains Grassy Woodland [EVC 55_61] of the Victorian Volcanic Plain bioregion) are listed within the EVC benchmark for each EVC respectively (Appendix 4) and should be used as a guide for planting tube stock within the revegetation areas. The planting methods should be conducted to industry standard, using the following guidelines:
    - Planting will occur at the end of the summer season (March – November) to minimise the risk of the planting out failing to become established due to absence of natural rainfall.
    - Holes will be dug for tube stock that are twice the depth and width of the tube with steep sides and loose soil in the bottom of the hole.

- The plant should be held by the stem upright, whilst the hole is backfilled.
- The back filled soil should be firmly pressed down using the hand or heel without damaging the root ball.
- The plant should rest within a slight concave depression to allow the retention and absorption of water.
- The initial watering should be approximately 4 litres per plant and be allowed to percolate through the backfilled soil to consolidate any loose soil and remove air pockets.
- Supplementary watering will be required until sufficient natural rainfall occurs and/or the plants become established (i.e. plants showing new growth).

In addition to these measures, the following documents should be prepared and implemented prior to any construction activities:

- Construction Environmental Management Plan (CEMP). The CEMP should include specific species/vegetation conservation strategies, daily monitoring, sedimentation management, site specific rehabilitation plans, weed and pathogen management measures, etc.;
- Weed Management Plan. This plan should follow the guidelines set out in the CaLP Act, and clearly outline any obligations of the project team in relation to minimising the spread of weeds as a result of this project. This may include a pre-clearance weed survey undertaken prior to any construction activities to record and map the locations of all noxious and environmental weeds; and
- Fauna Management Plan. This may be required if habitat for common fauna species is likely to be impacted and salvage and translocation must be undertaken to minimise the risk of injury or death to those species. Trees (both planted and native) on the site are of sufficient age to contain hollows appropriate for use by hollow dependent fauna. Dams within the property are unlikely to house native aquatic species, but consideration for their presence should still be established.

5.3 Offset Impacts and Strategy

According to DELWPs Native Vegetation Offset Register (DELWP 2022g), there are 17 offset sites within the Port Phillip and Westernport CMA or Macedon Ranges Shire Council region that can be used to satisfy the General Habitat Unit offset requirements.

An offset register search statement identifying the relevant offsite sites is provided in Appendix 4.

6 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 5.

Table 5. 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). The proposed action is highly unlikely to have a significant impact on any matter of NES. As such, a referral to the Commonwealth Environment Minister is not required regarding matters listed under the EPBC Act.	No further action required.
Flora and Fauna Guarantee Act 1988	While one species protected under the FFG Act was recorded within PG3 (Lemon Beauty Heads), this patch is not proposed to be impacted. As such, a permit under the FFG Act is not required.	No further action required.
Planning and Environment Act 1987	The study area is within Location 2, with 0.444 hectares of native vegetation proposed to be removed. As such, the permit application falls under the Intermediate assessment pathway. The offset requirement for native vegetation removal is 0.160 General Habitat Units. A planning permit from the Macedon Ranges Shire Council is required to remove, destroy or lop any native vegetation under Clause 52.17 of the Planning Scheme. In this instance, the application is not required to be referred to DELWP.	Prepare and submit a Planning Permit application.
Catchment and Land Protection Act 1994	Weeds listed as noxious under the CaLP Act were recorded during the assessment (Artichoke Thistle, African Boxthorn, Blackberry, Serrated Tussock, Chilean Needle Grass, Spear Thistle, and Variegated Thistle). Similarly, there is evidence that the study area is currently occupied by several pest fauna species listed under the CaLP Act (European Rabbit, Red Fox). A Weed Management Plan and a pest fauna eradication plan may be required.	Planning Permit conditions are likely to include a requirement for a Weed and Pest Management Plan.
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.

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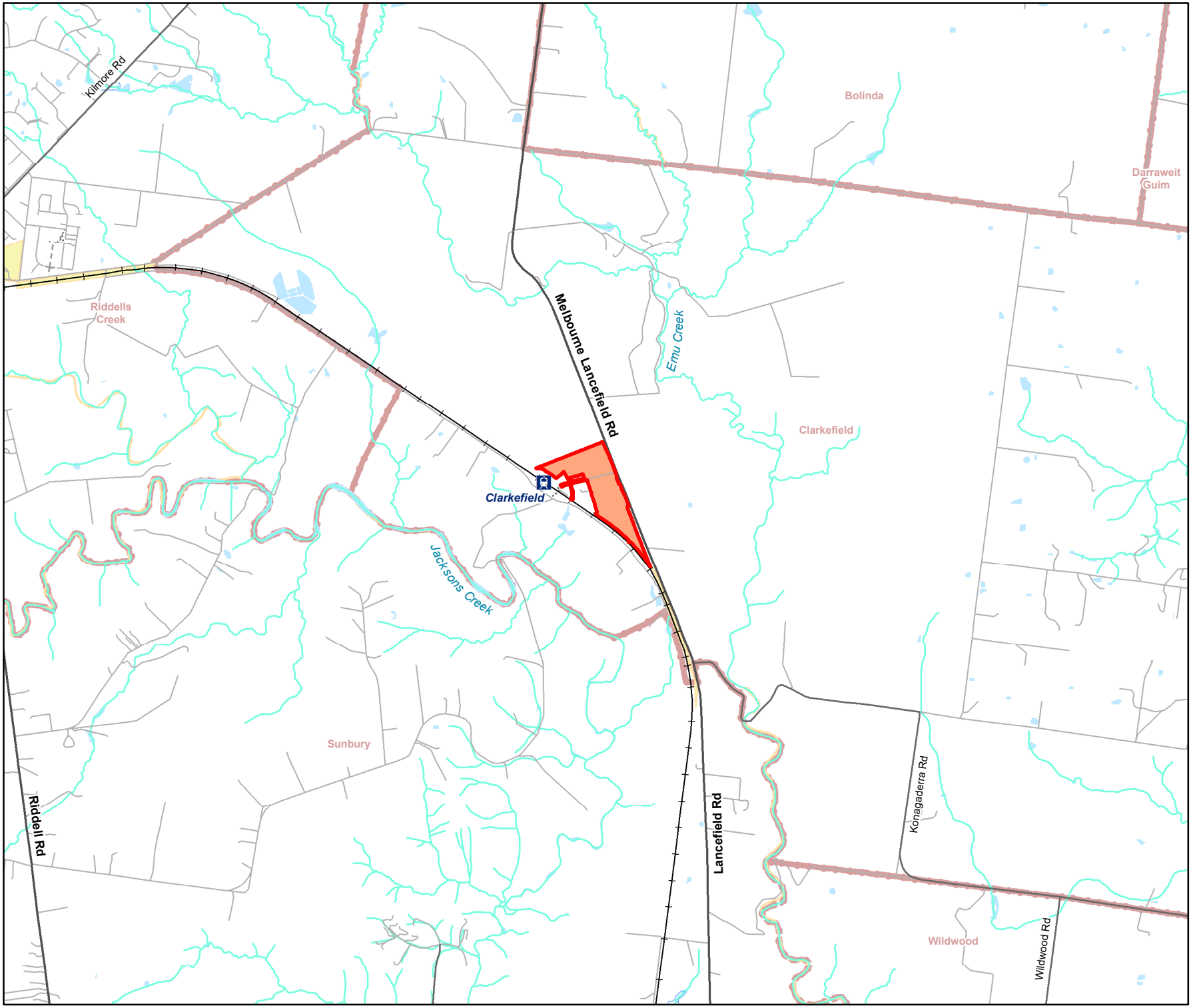

Legend

- Study Area
- Railway
- Major Road
- Collector Road
- Minor Road
- Proposed Road
- Walking Track
- Minor Watercourse
- Permanent Waterbody
- Land Subject to Inundation
- Crown Land
- Localities

Figure 1

Location of the study area

Ecological Assessment: Clarkefield Township, Clarkefield

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Metres

ecology & heritage partners

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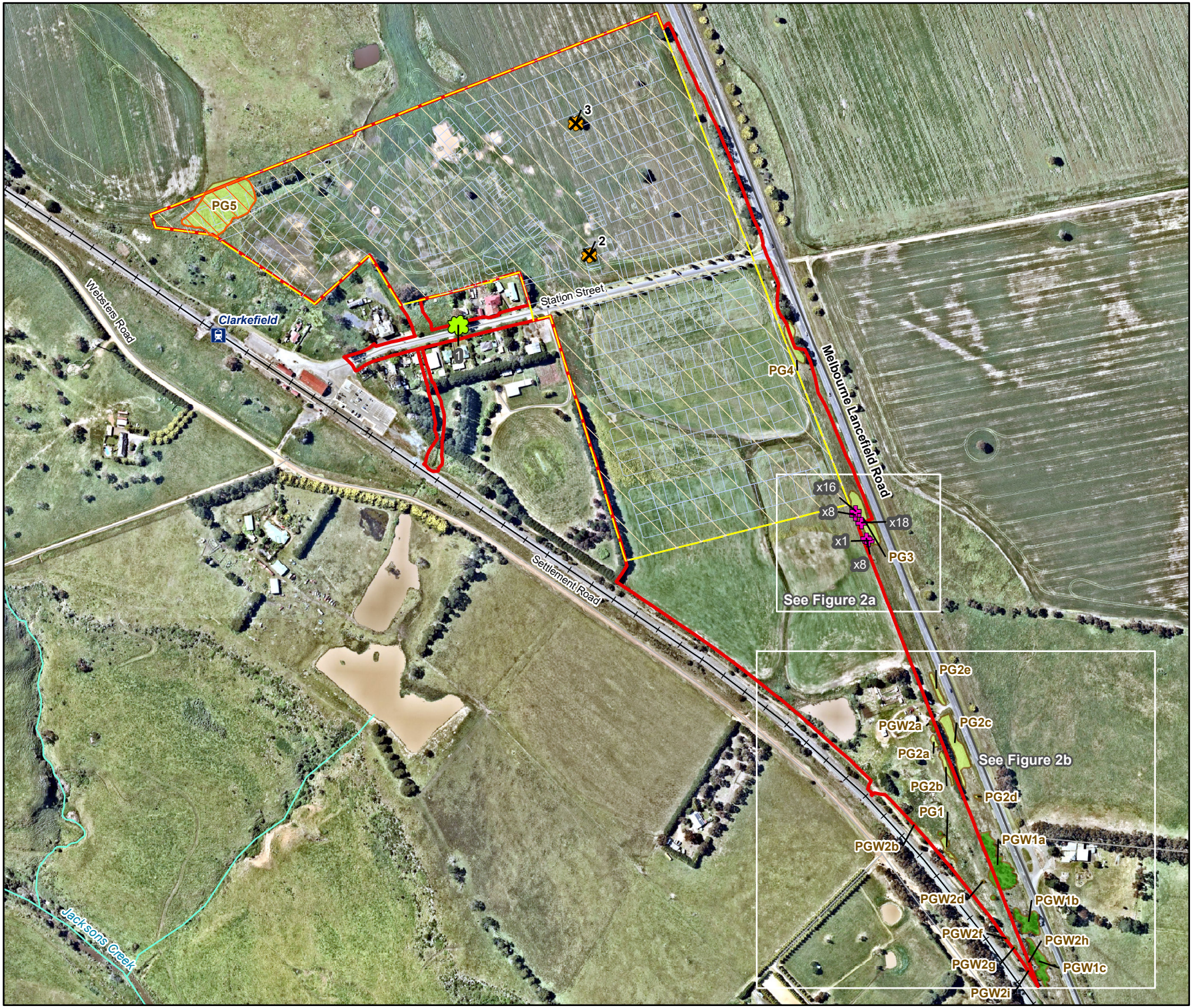

Legend

- Study Area
- Development boundary
- Permit area boundary
- Development outline
- Scattered Large Tree
- Scattered Small Tree
- Lemon Beauty Heads
- Impacted trees

Ecological Vegetation Class

- Plains Grassland (EVC 132)
- Plains Grassy Woodland (EVC 55)
- Vegetation impacted

Figure 2 Overview

Ecological features

Ecological assessment: Clarkefield Township, Clarkefield

DRAFT

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Metres

ecology & heritage partners

Aerial source: Nearmap 2021

Legend

- Study Area
- Development boundary
- Permit area boundary
- Development outline
- Lemon Beauty Heads

Ecological Vegetation Class

- Plains Grassland (EVC 132)

Figure 2a

Ecological featur
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Aerial source: Nearmap 2021

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Study Area

Ecological Vegetation Class

Plains Grassland (EVC 132)

Plains Grassy Woodland (EVC 55)

Figure 2b

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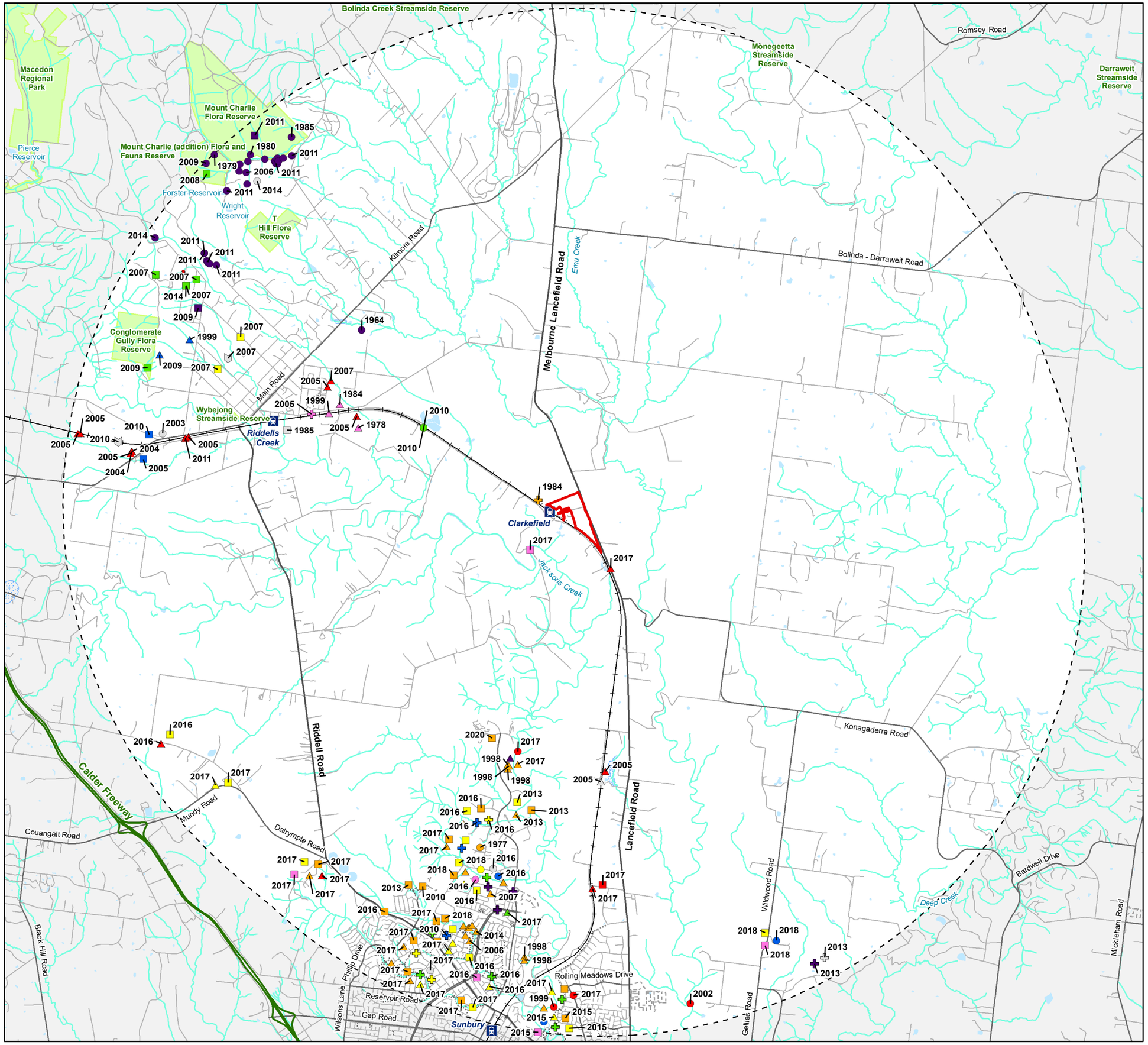
Aerial source: Nearmap 2021



Legend

- Study Area

Significant flora

- Austral Crane's-bill
- Austral Tobacco
- Basalt Peppercress
- Bent-leaf Wattle
- Branching Groundsel
- Buxton Gum
- Curly Sedge
- Dwarf Silver-wattle
- Entire Marshwort
- Flax-lily
- Fragrant Saltbush
- Giant Honey-myrtle
- Hairy-leaf Triggerplant
- Large-flower Crane's-bill
- Large-fruit Yellow-gum
- Large-leaf Cinnamon-wattle
- Late-flower Flax-lily
- Matted Flax-lily
- Melbourne Yellow-gum
- Mugga
- Pale-flower Crane's-bill
- Plains Yam-daisy
- Purple Diuris
- Rough-barked Apple
- Rye Beetle-grass
- Slender Fireweed
- Small Milkwort
- Southern Blue-gum
- Spotted Gum
- Sticky Wattle
- Swamp Flax-lily
- Tough Scurf-pea
- Yarra Gum

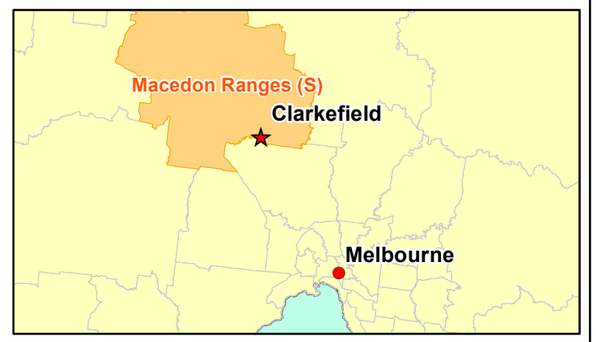


Figure 3

Previously documented significant flora within 10km of the study area

Ecological Assessment: Clarkefield Township, Clarkefield

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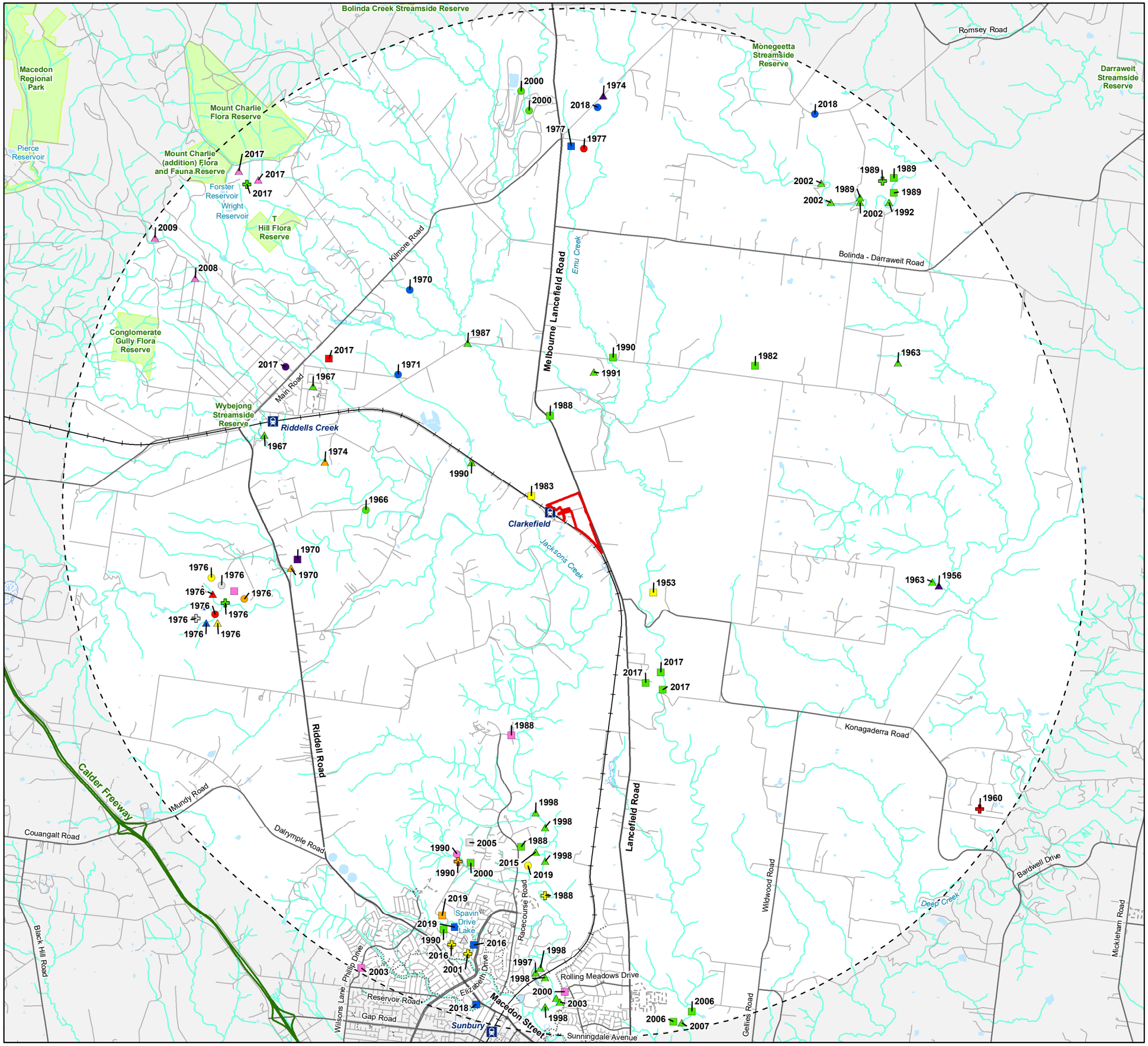
Kilometres

ecology & heritage partners



Legend

- Study Area

Significant fauna

- Australasian Bittern
- Australasian Shoveler
- Barking Owl
- Black Falcon
- Brown Toadlet
- Brush-tailed Phascogale
- Common Dunnart
- Diamond Dove
- Diamond Firetail
- Eastern Great Egret
- Freckled Duck
- Golden Sun Moth
- Growling Grass Frog
- Hardhead
- Little Eagle
- Macquarie Perch
- Malleefowl
- Masked Owl
- Murray Cod
- Musk Duck
- Platypus
- Plumed Egret
- Powerful Owl
- Red-chested Button-quail
- Regent Honeyeater
- Southern Toadlet
- Speckled Warbler
- Swift Parrot
- White-throated Needletail

Figure 4

Previously documented significant fauna within 10km of the study area

Ecological Assessment: Clarkefield Township, Clarkefield

N

0 2 4

Kilometres

ecology & heritage partners

APPENDIX 1 FLORA

Appendix 1.1 Flora Results

Legend:

P Protected under the *Flora and Fauna Guarantee Act* 1999
***** Listed as a noxious weed under the CaLP Act;
w Weed of National Significance;
Planted Victorian and non-Victorian species.

Table A1.1. Flora within the study area.

Scientific Name	Common Name	Conservation Status/Notes
INDIGENOUS SPECIES		
Acacia mearnsii	Black Wattle	-
Austrostipa scabra	Rough Spear-grass	-
Calocephalus citreus	Lemon Beauty-heads	P
Cassinia aculeata	Common Cassinia	-
Chloris truncata	Windmill Grass	-
Enchylaena tomentosa var. *tomentosa*	Ruby Saltbush	-
Eryngium ovinum	Blue Devil	-
Eucalyptus baueriana	Blue Box	-
Eucalyptus camaldulensis	River Red-gum	-
Geranium solanderi	Austral Cranesbill	-
Gonocarpus tetragynus	Common Raspwort	-
*Juncus sp. (*subgenus Genuini)	Rush	-
Lomandra filiformis	Wattle Mat-rush	-
Melicytus dentatus s.s.	Tree Violet	-
Poa labillardierei	Common Tussock-grass	-
Rytidosperma caespitosum	Common Wallaby-grass	-
Themeda triandra	Kangaroo Grass	-
Tricoryne elatior	Yellow Rush Lily	-
NON-INDIGENOUS OR INTRODUCED SPECIES		
Alopecurus pratensis	Meadow Fox-tail	-
Anthoxanthum odoratum	Sweet Vernal-grass	-
Arctotheca calendula	Cape weed	-
Avena fatua	Wild Oat	-

Scientific Name	Common Name	Conservation Status/Notes
Bromus catharticus	Prairie Grass	-
Cirsium vulgare	Spear Thistle	*
Cynara cardunculus subsp. *flavescens*	Artichoke Thistle	*
Cynodon dactylon	Couch	-
Eucalyptus cladocalyx	Sugar Gum	#
Eucalyptus longifolia	Woollybutt	#
Galenia pubescens var. pubescens	Galenia	
Holcus lanatus	Yorkshire Fog	-
Hordeum (monospecific)	Barley	-
Lolium spp	Rye-grass	-
Lycium ferocissimum	African Box-thorn	W*
Nassella neesiana	Chilean Needle-grass	W*
Nassella trichotoma	Serrated Tussock	W*
Phalaris aquatica	Toowoomba Canary-grass	-
Pinus radiata	Radiata Pine	-
Plantago lanceolata	Ribwort	-
Rosa rubiginosa	Sweet Briar	-
Rubus fruticosus spp. agg.	Blackberry	W*
Rumex crispus	Curled Dock	-
Silybum marianum	Variegated Thistle	-

Appendix 1.2 Habitat Hectare Assessment

Table A1.2. Habitat Hectare Assessment Table.

Vegetation Zone		PG1	PG2a-e	PG3	PG4	PG5	PGW1a-c	PGW2a-i
Bioregion		Victorian Volcanic Plain	Victorian Volcanic Plain	Victorian Volcanic Plain	Victorian Volcanic Plain	Victorian Volcanic Plain	Victorian Volcanic Plain	Victorian Volcanic Plain
EVC / Tree		*Low-rainfall* Plains Grassland	*Low-rainfall* Plains Grassland	*Low-rainfall* Plains Grassland	*Low-rainfall* Plains Grassland	*Low-rainfall* Plains Grassland	Plains Grassy Woodland	Plains Grassy Woodland
EVC Number		132_63	132_63	132_63	132_63	132_63	55_61	55_61
EVC Conservation Status		Endangered	Endangered	Endangered	Endangered	Endangered	Endangered	Endangered
Patch Condition	Large Old Trees /10	N/A	N/A	N/A	N/A	N/A	0	0
	Canopy Cover /5	N/A	N/A	N/A	N/A	N/A	0	0
	Under storey /25	5	5	5	5	5	5	5
	Lack of Weeds /15	4	9	0	4	4	0	0
	Recruitment /10	3	6	10	3	0	5	0
	Organic Matter /5	3	3	2	5	3	2	2
	Logs /5	N/A	N/A	N/A	N/A	N/A	4	0
	Treeless EVC Multiplier	1.36	1.36	1.36	1.36	1.36	1.00	1.00
	Subtotal =	20.40	31.28	23.12	23.12	16.32	16.00	7.00
Landscape Value /25		3	3	3	3	3	3	3
Habitat Points /100		23	34	26	26	19	19	10
Habitat Score		0.23	0.34	0.26	0.26	0.19	0.19	0.10

Appendix 1.3 Scattered Trees

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

Label (Figure 2)	Scientific Name	Species	DBH (cm)	Remove/Retain
1	*Eucalyptus camaldulensis*	River Red-gum	85	**Retain**
2	*Eucalyptus baueriana*	Blue Box	52	**Remove**
3	*Eucalyptus camaldulensis*	River Red-gum	53	**Remove**

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. The values in this table correspond to Columns 5 and 6 in Table A1.4.3.

EPBC (*Environment Protection and Biodiversity Conservation Act 1999*):		FFG (*Flora and Fauna Guarantee Act 1988*):	
EX	Extinct	EX	Extinct
CR	Critically endangered	CR	Critically endangered
EN	Endangered	EN	Endangered
VU	Vulnerable	VU	Vulnerable
#	Listed on the Protected Matters Search Tool		

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 7 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
Caladenia versicolor #	Candy Spider-orchid	-	-	VU	-	5
Dianella amoena	**Matted Flax-lily**	**2017**	**20**	**EN**	**cr**	**2**
Diuris basaltica #	Small Golden Moths Orchid	-	-	EN	-	4
Diuris fragrantissima #	Sunshine Diuris	-	-	EN	-	4
Dodonaea procumbens #	Trailing Hop-bush	-	-	VU	-	5
Eucalyptus aggregate #	Black Gum	-	-	VU	-	5
Eucalyptus crenulata	Buxton Gum	2018	3	EN	en	4
Glycine latrobeana #	Clover Glycine	-	-	VU	-	5
Lachnagrostis adamsonii #	Adamson's Blown-grass	-	-	EN	-	5
Lepidium hyssopifolium s.s.	Basalt Peppercress	1977	1	EN	en	5
Leucochrysum albicans subsp. *tricolor #*	Hoary Sunray	-	-	EN	-	5
Pimelea spinescens subsp. *spinescens #*	Spiny Rice-flower	-	-	CR	-	5
Pterostylis chlorogramma #	Green-striped Greenhood	-	-	VU	-	4
Rutidosis leptorhynchoides #	Button Wrinklewort	-	-	EN	-	5
Senecio macrocarpus #	Large-fruit Fireweed	-	-	VU	-	5
Senecio psilocarpus #	Swamp Fireweed	-	-	VU	-	5
Xerochrysum palustre #	Swamp Everlasting	-	-	VU	-	5

Scientific name	Common name	Total # of documented records	Last documented record	EPBC	FFG	Likely occurrence in study area
STATE SIGNIFICANCE						
Acacia flexifolia	Bent-leaf Wattle	2016	1	-	en	4
Acacia howittii	Sticky Wattle	2017	3	-	vu	4
Acacia leprosa var. *uninervia*	Large-leaf Cinnamon-wattle	2011	2	-	en	5
Acacia nanodealbata	Dwarf Silver-wattle	2017	29	-	vu	5
Angophora floribunda	Rough-barked Apple	2017	1	-	en	4
Carex tasmanica	Curly Sedge	2016	1	-	en	4
Comesperma polygaloides	Small Milkwort	1984	1	-	cr	5
Corymbia maculata	Spotted Gum	2017	6	-	vu	5
Cullen tenax	Tough Scurf-pea	2017	4	-	en	5
Dianella callicarpa	Swamp Flax-lily	2005	1	-	en	5
Dianella longifolia var. *grandis*	Flax-lily	2017	1	-	cr	4
Dianella tarda	Late-flower Flax-lily	2005	1	-	cr	5
Diuris punctata i. punctata	Purple Diuris	2001	30	-	en	5
Eucalyptus globulus subsp. *globulus*	Southern Blue-gum	2017	3	-	en	5
Eucalyptus leucoxylon subsp. *connata*	Melbourne Yellow-gum	2018	26	-	en	5
Eucalyptus leucoxylon subsp. *megalocarpa*	Large-fruit Yellow-gum	2018	5	-	cr	5
Eucalyptus sideroxylon subsp. *sideroxylon*	Mugga	2017	8	-	en	5
Eucalyptus yarraensis	Yarra Gum	2010	3	-	cr	5
Geranium solanderi var. *solanderi* s.s.	Austral Crane's-bill	2017	4	-	en	5
Geranium sp. 1	Large-flower Crane's-bill	2010	2	-	cr	5

Scientific name	Common name	Total # of documented records	Last documented record	EPBC	FFG	Likely occurrence in study area
Geranium sp. 3	Pale-flower Crane's-bill	2017	1	-	en	5
Melaleuca armillaris subsp. *armillaris*	Giant Honey-myrtle	2018	16	-	en	5
Microseris scapigera s.s.	Plains Yam-daisy	2009	2	-	cr	5
Nicotiana suaveolens	Austral Tobacco	2017	5	-	en	5
Nymphoides montana	Entire Marshwort	1985	4	-	en	5
Rhagodia parabolica	Fragrant Saltbush	2020	19	-	vu	5
Senecio cunninghamii var. *cunninghamii*	Branching Groundsel	2010	2	-	en	5
Senecio microbasis	Slender Fireweed	2010	1	-	vu	5
Stylidium armeria subsp. *pilosifolium*	Hairy-leaf Triggerplant	2014	6		cr	5
Tripogonella loliiformis	Rye Beetle-grass	2013	1	-	en	4

Data source: Victorian Biodiversity Atlas (DELWP 2022); Protected Matters Search Tool (DAWE 2022).

Taxonomic order: Alphabetical by scientific name.

APPENDIX 2 FAUNA

Appendix 2.1 Fauna results

Legend:

* introduced species

Table A2.1. Fauna observed within the study area during the field assessment.

Scientific Name	Common Name
MAMMALS	
Macropus giganteus	Eastern Grey Kangaroo
Vulpes vulpes	Red Fox*
Oryctolagus cuniculus	European Rabbit*
BIRDS	
Acridotheres tristis	Indian Myna*
Cracticus tibicen	Australian Magpie
Grallina cyanoleuca	Magpie-lark
Corvus mellori	Little Raven
Passer domesticus	House Sparrow*
Rhipidura leucophrys	Willie Wagtail
Manorina melanocephala	Noisy Myna
Coracina novaehollandiae	Black-faced Cuckoo-shrike
Phylidonyris novaehollandiae	New Holland Honeyeater

Sturnus vulgaris	Common Starling*
Malurus cyaneus	Superb Fairy-wren
Aquila audax	Wedge-tailed Eagle
Falco berigora	Brown Falcon
Elanus axillaris	Black-shouldered Kite
Ocyphaps lophotes	Crested Pigeon
Eopsaltria australis	Eastern Yellow Robin
Alauda arvensis	Eurasian Skylark*
Anthus novaeseelandiae	Australian Pipit
Petrochelidon nigricans	Tree Martin
Chenonetta jubata	Australian Wood Duck
Anas superciliosa	Pacific Black Duck
FROGS	
Crinia signifera	Common Eastern Froglet
Limnodynastes tasmaniensis	Spotted Marsh Frog

Appendix 2.2 Significant Fauna Species

Tables A2.2.1 and A2.2.2 below provide the background context for the significant fauna values (within 10 kilometres of the study area) provided in Table A2.2.3.

Table A2.2.1 Conservation status of each species for each Act/Plan. The values in this table correspond to Columns 5 to 7 in Table A2.1.3.

EPBC (*Environment Protection and Biodiversity Conservation Act 1999*):		FFG (*Flora and Fauna Guarantee Act 1988*):	
EX	Extinct	EX	Extinct
CR	Critically endangered	CR	Critically endangered
EN	Endangered	EN	Endangered
VU	Vulnerable	VU	Vulnerable
CD	Conservation dependent	CD	Conservation dependent
#	Listed on the Protected Matters Search Tool		

Table A2.2.2 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 7 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 (DELWP 2018); 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 (DELWP 2022d); 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						
Australasian Bittern	*Botaurus poiciloptilus*	1975	1	EN	cr	4
Australian Grayling #	*Prototroctes maraena*	-	-	VU	-	5
Australian Painted Snipe #	*Rostratula australis*	-	-	EN	-	4
Curlew Sandpiper #	*Calidris ferruginea*	-	-	CR	-	4
Dwarf Galaxias #	*Galaxiella pusilla*	-	-	VU	-	4
Eastern Curlew #	*Numenius madagascariensis*	-	-	CR	-	4
Golden Sun Moth	***Synemon plana***	**1983**	**11**	**CR**	**vu**	**2 (adjacent to the study area)**
Grassland Earless Dragon #	*Tympanocryptis pinguicolla*	-	-	EN	-	4
Greater Glider #	*Petauroides volans*	-	-	VU	-	4
Grey Falcon #	*Falco hypoleucos*	-	-	VU	-	4
Grey-headed Flying-fox #	*Pteropus poliocephalus*	-	-	VU	-	4
Growling Grass Frog	*Litoria raniformis*	2017	13	VU	vu	4
Long-nosed Potoroo (SE Mainland) #	*Potorous tridactylus tridactylus*	-	-	VU	-	4
Macquarie Perch	*Macquaria australasica*	1970	1	EN	en	5
Malleefowl	*Leipoa ocellata*	2015	1	VU	vu	4
Murray Cod	*Maccullochella peelii*	1974	2	VU	en	5
Painted Honeyeater #	*Grantiella picta*	-	-	VU	-	4
Plains-wanderer #	*Pedionomus torquatus*	-	-	CR	-	4

Scientific name	Common name	Total # of documented records	Last documented record	EPBC	FFG	Likely occurrence in study area
Regent Honeyeater	*Anthochaera phrygia*	1975	2	CR	cr	4
Spot-tailed Quoll (southeastern mainland population) #	*Dasyurus maculatus maculatus* (SE mainland population)	-	-	EN	-	4
Striped Legless Lizard #	*Delma impar*	-	-	VU	-	4
Swift Parrot	*Lathamus discolor*	2016	6	CR	cr	4
White-throated Needletail	*Hirundapus caudacutus*	2017	3	VU	vu	4
Yarra Pygmy Perch #	*Nannoperca obscura*	-	-	VU	-	5
STATE SIGNIFICANCE						
Australasian Shoveler	*Spatula rhynchotis*	1977	2	-	vu	4
Barking Owl	*Ninox connivens*	1975	1	-	cr	4
Black Falcon	*Falco subniger*	2019	2	-	cr	4
Brown Toadlet	*Pseudophryne bibronii*	2000	4	-	en	4
Brush-tailed Phascogale	*Phascogale tapoatafa*	2018	8	-	vu	4
Common Dunnart	*Sminthopsis murina murina*	1990	1	-	vu	4
Diamond Dove	*Geopelia cuneata*	2017	3	-	vu	4
Diamond Firetail	*Stagonopleura guttata*	2005	1	-	vu	4
Eastern Great Egret	*Ardea alba modesta*	2017	1	-	vu	3
Freckled Duck	*Stictonetta naevosa*	2019	1	-	en	4
Hardhead	*Aythya australis*	2019	20	-	vu	4
Little Eagle	*Hieraaetus morphnoides*	2003	11	-	vu	3
Masked Owl	*Tyto novaehollandiae*	1975	1		cr	4

Scientific name	Common name	Total # of documented records	Last documented record	EPBC	FFG	Likely occurrence in study area
Musk Duck	*Biziura lobata*	1976	3	-	vu	4
Platypus	*Ornithorhynchus anatinus*	2015	35	-	vu	4
Plumed Egret	*Ardea intermedia plumifera*	1975	1	-	cr	3
Powerful Owl	*Ninox strenua*	2017	6	-	vu	4
Red-chested Button-quail	*Turnix pyrrhothorax*	1974	2	-	en	4
Southern Toadlet	*Pseudophryne semimarmorata*	1960	1	-	en	4
Speckled Warbler	*Pyrrholaemus sagittatus*	1990	1	-	en	4
Tussock Skink	*Pseudemoia pagenstecheri*	2015	8	-	en	4

Data source: Victorian Biodiversity Atlas (DELWP 2022d); Protected Matters Search Tool (DAWE 2022).

Taxonomic order: Alphabetical by common name.

Native vegetation removal report

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 report **is not an assessment by DELWP** 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.

Date of issue: **17/03/2022**
Time of issue: **2:08 am**

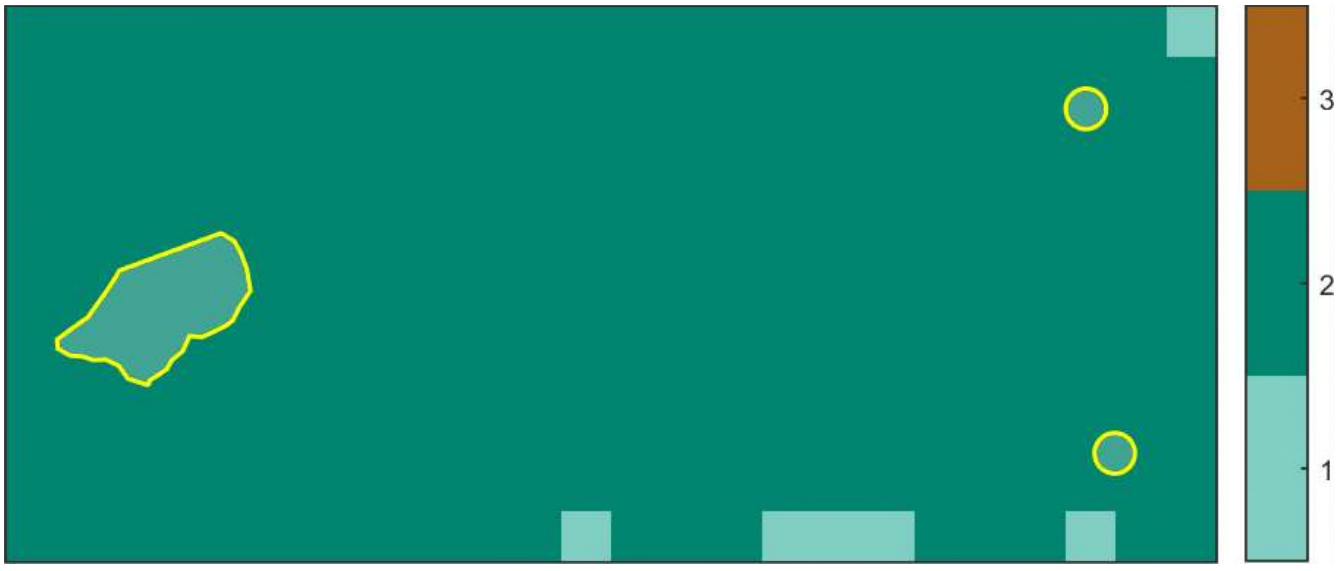
Report ID: EHP_2022_022

Project ID	EHP15863_Clarkefield_VG94_16032022

Assessment pathway

Assessment pathway	**Intermediate Assessment Pathway**
Extent including past and proposed	0.444 ha
Extent of past removal	0.000 ha
Extent of proposed removal	0.444 ha
No. Large trees proposed to be removed	0
Location category of proposed removal	Location 2 The native vegetation is in an area mapped as an endangered Ecological Vegetation Class (as per the statewide EVC map). Removal of less than 0.5 hectares of native vegetation in this location will not have a significant impact on any habitat for a rare or threatened species.

1. Location map



Offset requirements if a permit is granted

Any approval granted will include a condition to obtain an offset that meets the following requirements:

General offset amount[1]	0.160 general habitat units
Vicinity	Port Phillip and Westernport Catchment Management Authority (CMA) or Macedon Ranges Shire Council
Minimum strategic biodiversity value score[2]	0.672
Large trees	0 large trees

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 mapped at the site.

Appendix 3 includes maps showing native vegetation to be removed and extracts of relevant species habitat importance maps

1 The general offset amount required is the sum of all general habitat units in Appendix 1.

2 Minimum strategic biodiversity score is 80 per cent of the weighted average score across habitat zones where a general offset is required

Next steps

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

If you wish to remove the mapped native vegetation you are required to apply for a permit from your local council. Council will refer your application to DELWP for assessment, as required. **This report is not a referral assessment by DELWP.**

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

Refer to the *Guidelines for the removal, destruction or lopping of native* vegetation (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 (met unless you wish to include a site assessment)
- Maps showing the native vegetation and property
- 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 that applies
- A defendable space statement as applicable
- A statement about the Native Vegetation Precinct Plan as applicable
- An offset statement that explains that an offset has been identified and how it will be secured.

Authorised by the Victorian Government, 8 Nicholson Street, East Melbourne.

For more information contact the DELWP Customer Service Centre 136 186

www.delwp.vic.gov.au

Appendix 1: Description of native vegetation to be removed

All zones require a general offset, the general habitat units each zone is calculated by the following equation in accordance with the Guidelines:

General habitat units = extent x condition 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

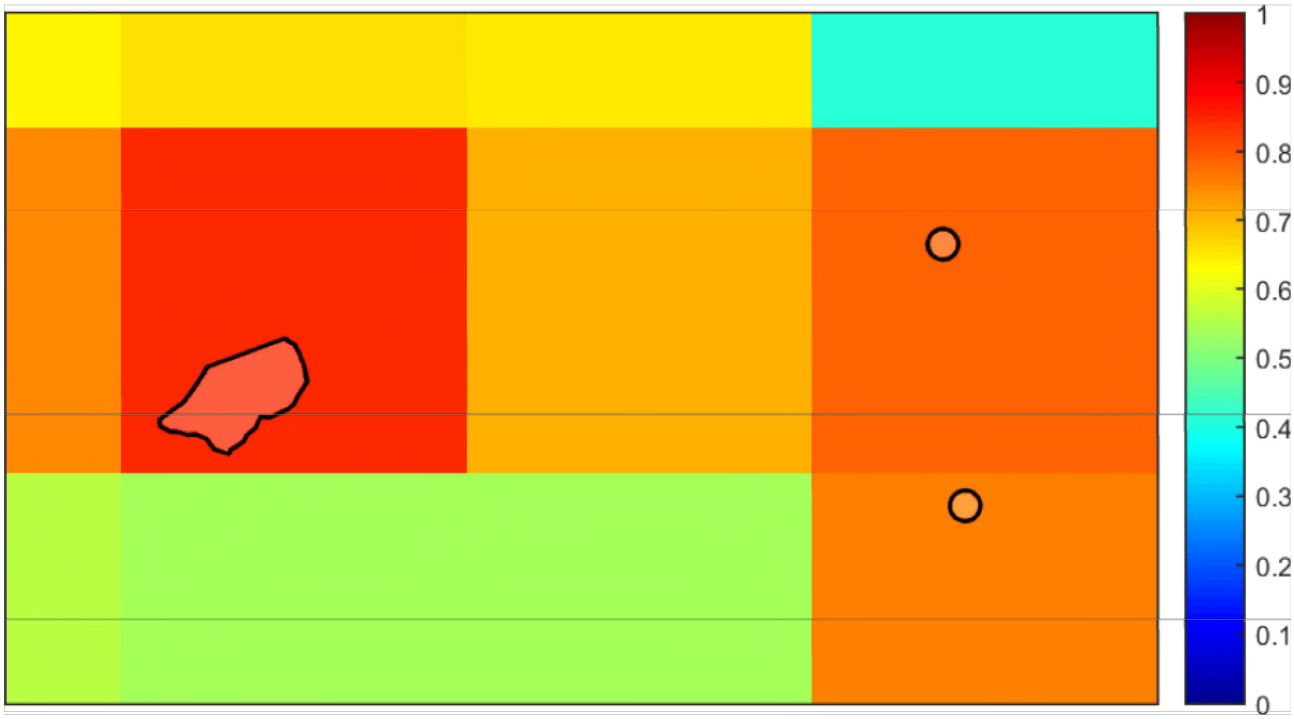
Information provided by or on behalf of the applicant in a GIS file							Information calculated by EnSym					
Zone	**Type**	**BioEVC**	**BioEVC conservation status**	**Large tree(s)**	**Partial removal**	**Condition score**	**Polygon Extent**	**Extent without overlap**	**SBV score**	**HI score**	**Habitat units**	**Offset type**
1-T	Scattered Tree	vvp_0132_61	Endangered	0	no	0.200	0.031	0.031	0.760		0.008	General
2-T	Scattered Tree	vvp_0132_61	Endangered	0	no	0.200	0.031	0.031	0.790		0.008	General
3-A	Patch	vvp_0132_61	Endangered	0	no	0.270	0.382	0.382	0.850		0.143	General

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

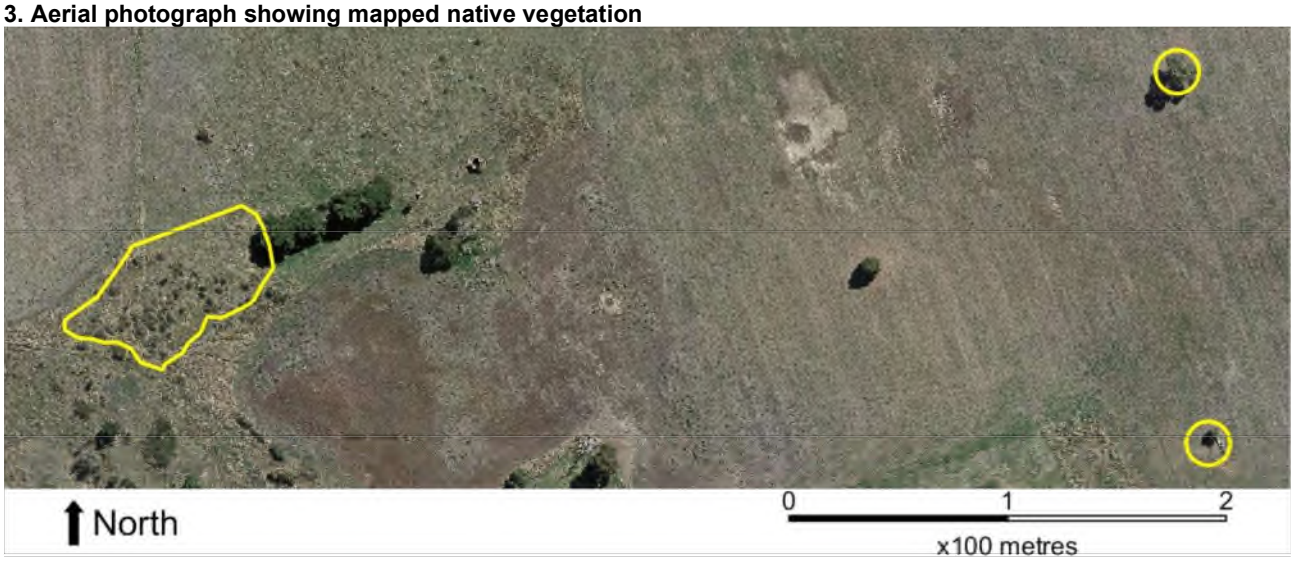
This is not applicable in the Intermediate Assessment Pathway.

Appendix 3 – Images of mapped native vegetation

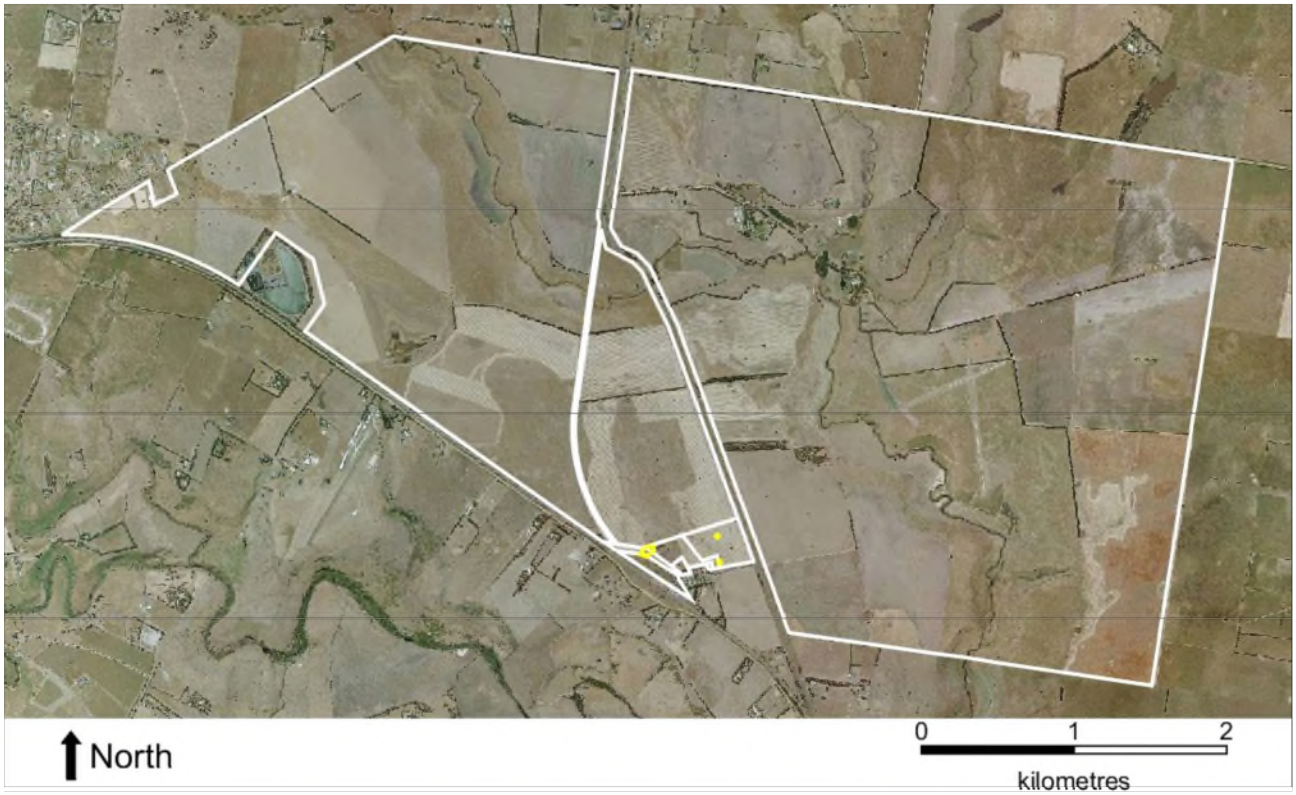
2. Strategic biodiversity values map



3. Aerial photograph showing mapped native vegetation



4. Map of the property in context



Yellow boundaries denote areas of proposed native vegetation removal.

APPENDIX 4 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: 16/03/2022 09:33 **Report ID: 13177**

What was searched for?

General offset

General habitat units	Strategic biodiversity value	Large trees	Vicinity (Catchment Management Authority or Municipal district)	
0.16	0.672	0	CMA	Port Phillip and Westernport
			or LGA	Macedon Ranges Shire

Details of available native vegetation credits on 16 March 2022 09:33

These sites meet your requirements for general offsets.

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)
BBA-0277	7.258	462	Port Phillip and Westernport	Mornington Peninsula Shire	No	Yes	No	Abezco, Ethos, VegLink
BBA-0670	18.338	151	Port Phillip and Westernport	Cardinia Shire	No	Yes	No	Abezco, VegLink
BBA-0677	17.768	1478	Port Phillip and Westernport	Whittlesea City	No	Yes	No	Abezco, VegLink
BBA-0678	47.287	2629	Port Phillip and Westernport	Nillumbik Shire	No	Yes	No	VegLink
BBA-0678_2	0.388	59	Port Phillip and Westernport	Nillumbik Shire	No	Yes	No	VegLink
BBA-2832	0.688	0	Port Phillip and Westernport	Nillumbik Shire	Yes	Yes	Yes	Nillumbik SC
BBA-2870	2.310	387	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
BBA-2871	13.418	1294	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
BBA-3030	7.456	0	Port Phillip and Westernport	Moorabool Shire	Yes	Yes	No	VegLink
TFN-C1636	1.472	130	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	Yes	Yarra Ranges SC
TFN-C1650	0.182	12	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	Yes	Yarra Ranges SC
TFN-C1664	2.908	84	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	No	Yarra Ranges SC
TFN-C1750	0.342	7	Port Phillip and Westernport	Cardinia Shire	Yes	Yes	No	Bio Offsets

TFN-C1763_3	11.093	0	Port Phillip and Westernport	Mornington Peninsula Shire	Yes	Yes	No	Ecocentric
TFN-C1854	0.439	0	North Central	Macedon Ranges Shire	No	Yes	No	VegLink
VC_CFL-3682_01	1.695	0	Port Phillip And Westernport	Nillumbik Shire	Yes	Yes	No	Abezco
VC_CFL-3708_01	0.211	534	Port Phillip And Westernport	Yarra Ranges Shire	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)
BBA-2789	1.200	8	Port Phillip and Westernport	Baw Baw Shire	Yes	Yes	No	Contact NVOR

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-3710_01	7.606	322	Port Phillip And Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3744_01	0.617	28	Port Phillip And Westernport	Macedon Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3746_01	3.242	315	Port Phillip And Westernport	Macedon Ranges 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 DELWP Customer Service Centre 136 186 or the Native Vegetation Credit Register at nativevegetation.offsetregister@delwp.vic.gov.au