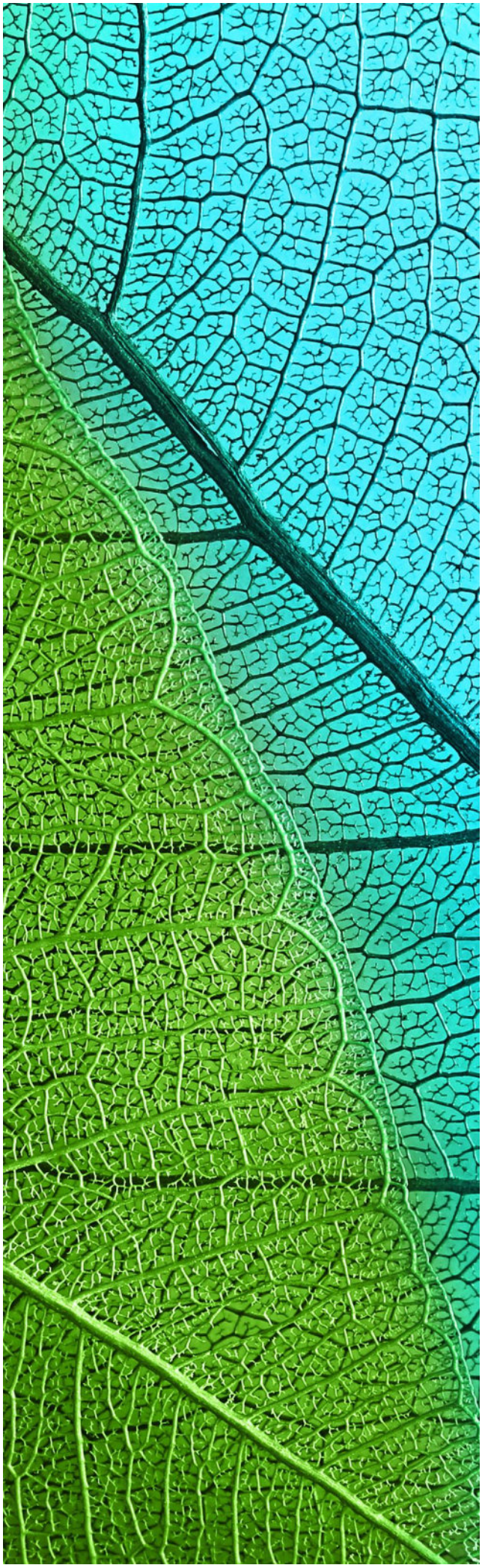

250A Taylors Road, Delahey

Flora and Fauna Assessment

Prepared for
Broadcast Australia

September 2019
Report No. 6142 (24.9)

Nature Advisory

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1. Executive summary

Nature Advisory Pty Ltd (formerly Brett Lane & Associates) undertook a flora and fauna assessment of a 95 hectare area of land (the 'study area') in Delahey. 46.1 hectares of the study area, being the property at 250A Taylors Road, constitutes the subject land and is the focus of this assessment.

Broadcast Australia is seeking a Planning Scheme Amendment for the subject land, including rezoning to Mixed Use Zone, application of the Development Plan overlay to the full extent of the subject land, application of an NVPP to the subject land, and removal of the Environmental Audit Overlay and Environmental Significance Overlays.

The following field assessments were conducted by experienced ecologists within the study area:

- Native vegetation mapping - 3rd and 4th May, 2017;
- Wetland extent and quality verification - 29th November 2018;
- Targeted survey for Spiny Rice-flower – 30th June, 8th, 9th and 17th July 2008, and 3rd and 4th May, 2017;
- Growling Grass Frog (GGF) targeted survey - December 5th, 2005;
- Striped Legless Lizard (SLL) targeted survey – August to November 2009; and
- Golden Sun Moth (GSM) targeted survey - 23rd and 24th November 2006, and 1st, 4th, 8th and 18th December 2006.

During all assessments, the subject land was surveyed on foot. Sites in the subject land found to support native vegetation, flora species and ecological communities listed as threatened under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) were mapped. The subject land was also assessed against published descriptions of relevant listed ecological communities modelled to potentially occur in the subject land.

Flora and native vegetation

Vegetation within the subject land consisted of intact native grassland dominated by wallaby and spear grasses. Some drainage lines and small wet depressions across the subject land supported grassy wetland vegetation. A rocky rise in the west of the subject land was dominated by native Kangaroo Grass. Some sections were dominated by introduced grass species. High levels of invasive Serrated Tussock grass were persistent across the majority of the subject land.

Evidence on site, including floristic composition and soil characteristics, suggested that Plains Grassy Wetland (EVC 125), and *Heavier Soils* Plains Grassland (EVC 132_61) were present within the subject land.

Twenty remnant patches (referred to herein as habitat zones) comprising the abovementioned Ecological Vegetation Classes (EVCs) were identified in the subject land.

Based on an assessment of native vegetation in the subject land against published descriptions and condition thresholds for these communities, the following listed ecological community was recorded in the subject land:

- 20.807 hectares of Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVVP) – listed as critically endangered under the EPBC Act (occurring in all mapped *Heavier-soils* Plains Grassland habitat zones).

One population consisting of a total of 19 Spiny Rice-flower individuals was recorded during the targeted surveys. Individuals of Spiny Rice-flower were found to occur within areas dominated by Kangaroo Grass and where the cover of Serrated Tussock was relatively low.

Threatened fauna species

The subject land was identified as supporting the following fauna habitat types:

- Remnant Kangaroo Grass grassland;
- Spear grass and exotic grassland;
- Wetland and aquatic habitats; and
- Planted native trees (Grey Box).

Targeted surveys indicated that two listed fauna species occurred within the broader study area; Striped Legless Lizard and Golden Sun Moth. Golden Sun Moth was recorded in the subject land during targeted surveys. Whilst Striped Legless Lizard was found to be present in the northern part of the study area, no Striped Legless Lizards were recorded within the subject land during targeted surveys. However; because suitable habitat exists in the subject land, its occurrence cannot be completely ruled out. As such, impacts on potential habitat for Striped Legless Lizard have been considered as a precautionary approach to the assessment.

Implications of the proposed rezoning

Victoria's *Guidelines for the removal, destruction or lopping of native vegetation* (the 'Guidelines') are an incorporated document at Clause 81.01 of the Brimbank Planning Scheme. This means it must be considered by planning authorities when preparing a Planning Scheme Amendment and must be applied when developing a Native Vegetation Precinct Plan (NVPP).

The NVPP associated with the proposed Planning Scheme Amendment would include removal of 21.248 hectares of native vegetation in form of *Heavier-soils* Plains Grassland (EVC 132_61) and Plains Grassy Wetland (EVC 125).

The offsets required under the Guidelines for the removal of native vegetation associated with the proposed NVPP have been determined by DELWP through a Native Vegetation Removal (NVR) report (see Appendix 8).

The offset requirements are:

- 18.662 species units of habitat for Growling Grass Frog;
- 17.493 species units of habitat for Small Golden Moths;
- 17.493 species units of habitat for Fragrant Saltbush,
- 17.493 species units of habitat for Large-headed Fireweed;
- 17.493 species units of habitat for Heath Spear-grass;
- 17.493 species units of habitat for Melbourne Yellow-gum;

- 17.029 species units of habitat for Basalt Podolepis; and
- 16.722 species units of habitat for Spiny Rice-flower.

Native vegetation removal associated with the proposed NVPP is likely to result in a significant impact on EPBC Act listed values presented below:

- Natural Temperate Grassland of the Victorian Volcanic Plain (20.807 hectares);
- 19 Spiny Rice-flower plants;
- Golden Sun Moth habitat (9.797 hectares); and
- Potential Striped Legless Lizard habitat (20.325 hectares).

A Referral under the EPBC Act for the subject site was submitted to the federal Department of Environment and Energy (DEE) in April 2019.

Federal offsets under the EPBC Act are likely to be required in addition to state offsets. The offset requirements are calculated using the Department of Environment and Energy's offset calculator and will be confirmed by the department, but a general estimate is that usually 3 to 4 hectares offset area are required for each hectare of EPBC listed community or species habitat being removed.

The table below summarises the compliance of the information in this report with the application requirements of the *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP 2017a).

Application requirement		Response
1.	Information about the native vegetation to be removed	Section 5.2 and Section 6.2.1
2.	Topographic and land information relating to the native vegetation to be removed	Section 5.1
3.	Recent, dated photographs of the native vegetation to be removed	Appendix 6
4.	Details of any other native vegetation approved to be removed, or that was removed without the required approvals, on the same property or on contiguous land in the same ownership as the applicant, in the five-year period before the application for a permit is lodged	N/A
5.	An avoid and minimise statement	Section 7.2.1
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	N/A

	Application requirement	Response
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 is not required when the creation of defendable space is in conjunction with an application under the Bushfire Management Overlay.	N/A
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).	N/A The NVPP is yet to be approved
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.	Section 7.2.4
Additional requirements for applications in the *Detailed* assessment pathway		
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.	Section 5.2

	Application requirement	Response
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. For each rare or threatened species that the native vegetation to be removed is habitat for, according to the Habitat importance maps: ▪ the species' conservation status ▪ the proportional impact of the removal of native vegetation on the total habitat for that species ▪ whether their habitats are highly localised habitats, dispersed habitats, or important areas of habitat within a dispersed species habitat.	Appendix 8

2. Introduction

Broadcast Australia engaged Nature Advisory Pty Ltd (formerly Brett Lane & Associates) to conduct a flora and fauna assessment of a 95 hectare area of land in Delahey (the 'study area'). The southern portion of the study area, totalling 46.1 hectares, constitutes the subject land for this report (see Figure 1). The subject land is bound by Sydenham Road to the east, Taylors Road to the south, Kings Road to the west and Broadcast Australia infrastructure to the north. The subject area is not part of the Melbourne Strategic Assessment (MSA) area and as such the Biodiversity Conservation Strategy (BCS) for Melbourne's Urban Growth Zone does not apply.

Broadcast Australia is seeking a Planning Scheme Amendment for the subject land, including rezoning of the subject land to Mixed Use Zone, application of the Development Plan overlay to the full extent of subject land, application of a Native Vegetation Precinct Plan (NVPP) to the subject land and removal of the Environmental Audit Overlay and Environmental Significance Overlays.

The purpose of the associated NVPP is to:

- Determine native vegetation that can be removed, destroyed or lopped;
- Ensure that the removal, destruction or lopping of native vegetation that can be removed is consistent with the Guidelines (DELWP 2017a) and is consistent with the 'no net loss' principle;
- Specify the offset requirements for the removal, destruction or lopping of native vegetation;
- Apply a strategic approach to biodiversity management and provide a clear framework as to the removal of native vegetation within the NVPP area as well as required offsets; and
- Clarify future planning processes through specifying native vegetation that can be removed.

The purpose of this Flora and Fauna report is to accompany a rezoning proposal, and document proposed native vegetation and fauna habitat removal within the investigation area, to be incorporated into the associated NVPP.

This report summarises the flora, fauna habitat and native vegetation values recorded at the subject land through recent and historic surveys undertaken across the broader study area.

Specifically, the scope of the current investigation included:

- An updated review of existing information on the flora, fauna and native vegetation of the study area and surrounds, including:
    - Victorian Biodiversity Atlas administered by the Department of Environment, Land, Water and Planning (DELWP);
    - The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Protected Matters Search Tool; and
    - DELWP Native Vegetation Information Management system (NVIM).
- A site survey involving:
    - Characterisation and mapping of native vegetation on the site, as defined in Victoria's *Guidelines for the removal, destruction or lopping of native vegetation* (the 'Guidelines');

- Assessment of native vegetation in accordance with the Guidelines, including habitat hectare assessment;
- Compilation of flora species lists for the site;
- Assessment of the likelihood of occurrence of EPBC Act listed flora, fauna and communities on the site; and
- A targeted survey for Spiny Rice-flower in suitable habitat.

Figure 1: Subject Land

Project: Broadcast Australia, Delahey
Client: Broadcast Australia
Date: 10/09/2019

Subject land

N

Metres
0 75

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This report is divided into the following sections:

Section 3 describes the planning and legislative considerations

Section 4 describes the sources of information, including the methods used for the field survey;

Section 5 presents the assessment results of the native vegetation and fauna habitat in the subject land;

Section 6 outlines the impacts of the proposed rezoning; and

Section 7 details of the implications under legislation and policy

This investigation was undertaken by a team from BL&A, comprising Verity Fyfe (Botanist), Christopher Dunk (Senior Botanist), Chris Lee (Botanist), Brett MacDonald (Senior Botanist) and Inga Kulik (Senior Ecologist & Project Manager).

3. Planning and legislative considerations

This investigation and report address the application on the site of relevant legislation and planning policies that protect biodiversity. Local, state and Commonwealth controls are summarised below.

The Guidelines are an incorporated document at Clause 81.01 of the Brimbank Planning Scheme. This means it must be considered by planning authorities when preparing a Planning Scheme Amendment and must be applied when developing a Native Vegetation Precinct Plan (NVPP).

3.1. Local planning provisions

The subject land is located within the Brimbank local government area. It is currently zoned Special Use in the Brimbank Planning Scheme.

The subject land is located within a Bushfire-prone Area.

Local planning provisions apply under the Victorian *Planning and Environment Act 1987*.

3.1.1. Local Planning Policies

Clause 21.04 of the Brimbank local planning policy framework addresses the natural environment. This statement includes the objective to protect and enhance the municipality's environmental assets, waterways, creek valleys, grasslands, and conserve natural landscape characteristics. Implementation of the objectives is through the application of zones and overlays.

3.1.2. Overlays

The subject land is presently subject to Environmental Significance Overlay Schedule 1 (ESO1) and Schedule 2 (ESO2) in the Brimbank Planning Scheme. Through the proposed Planning Scheme Amendment, Broadcast Australia is seeking to have both of these overlays removed from the subject land. Noting that the proposed NVPP, if approved, provides a new native vegetation management framework for the subject land.

3.2. State planning provisions

State planning provisions are established under the Victorian *Planning and Environment Act 1987*.

Clause 52.17 of all Victorian Planning Schemes states that:

A permit is required to remove, destroy or lop native vegetation, including dead native vegetation.

A permit is not required:

- If an exemption in Table 52.17-7 specifically states that that a permit is not required.
- If a native vegetation precinct plan corresponding to the land is incorporated into the planning scheme and listed in the schedule to Clause 52.16.
- If the native vegetation is specified in a schedule to Clause 52.17.

Through the proposed Planning Scheme Amendment, Broadcast Australia is seeking to have an NVPP applied to the subject land. The NVPP would be incorporated into the planning scheme and listed in the schedule to Clause 52.16. Hence, Clause 52.17 does not apply for the rezoning application.

3.2.1. Exemptions

Broadcast Australia is seeking to document proposed native vegetation removal in a Native Vegetation Precinct Plan (NVPP) through the proposed Planning Scheme Amendment. Therefore, a permit for native vegetation removal under Clause 52.17 would not be required.

3.2.2. Application requirements

When assessing an application, Responsible Authorities are also obligated to refer to Clause 12.01-2 (Native vegetation management) in the Planning Scheme which requires that decisions that involve, or will lead to, the removal, destruction or lopping of native vegetation apply the three-step approach in accordance with the Guidelines:

- Avoid the removal, destruction or lopping of native vegetation.
- Minimise impacts from the removal, destruction or lopping of native vegetation that cannot be avoided.
- Provide an offset to compensate for the biodiversity impact from the removal, destruction or lopping of native vegetation.

In addition to the Guidelines, Clause 12.01-2 refers to the following:

- *Assessor's handbook – applications to remove, destroy or lop native vegetation* (DELWP 2017b).
- Statewide biodiversity information maintained by DELWP.

The application of the Guidelines (DELWP 2017a) are explained further in Appendix 1.

3.3. EPBC Act

The EPBC Act protects a number of threatened species and ecological communities that are considered to be of national conservation significance. Any significant impacts on these species require the approval of the Australian Minister for the Environment.

Implications under the EPBC Act for the current proposal are discussed in Section 7.3.

3.4. FFG Act

The Victorian FFG Act lists threatened and protected species and ecological communities (DELWP 2018c, DELWP 2017c). Any removal from public land of protected flora, which includes threatened flora species and the plants that make up threatened communities, listed under the FFG Act, requires a Protected Flora Licence or Permit under the Act, obtained from DELWP.

The FFG Act only applies to private land where a license is required to remove grass trees, tree ferns and sphagnum moss for sale, or where an Interim Conservation Order has been made to protect critical habitat for a threatened species or community. As no such habitat has ever been declared, this mechanism under the FFG Act has never been implemented.

As the land is privately owned by Digital 4 Pty Ltd and no relevant habitat has been declared, the FFG Act is not relevant and therefore is not required to be considered any further.

3.5. EE Act

One or a combination of a number of criteria may trigger a requirement for a Referral to the Victorian Minister for Planning who will determine if an Environmental Effects Statement (EES) is required according to the "Ministerial Guidelines for Assessment of Environmental Effects under the *Environment Effects Act 1978"* (DSE 2006).

Implications under the EE Act for the current proposal are discussed in Section 7.4.

3.6. CaLP Act

The *Catchment and Land Protection Act 1994* (CaLP Act) requires that land owners (or a third party to whom responsibilities have been legally transferred) must prevent the growth and spread of regionally controlled weeds.

Weed species listed on the CaLP Act that have been recorded in the subject land are discussed in Section 7.5 and are subject to a separate Land Management Plan prepared by Brett Lane & Associates (BL&A 2018) which is implemented by the landowner.

4. Existing information and methods

4.1. Existing information

Existing information used for this investigation is described below.

4.1.1. Existing reporting and documentation

The existing documentation below, relating to the subject land was reviewed:

- Brimbank Planning Scheme;
- *Growling Grass Frog Survey, Broadcast Australia Site, Sydenham*, Report 6142 (5.1) (BL&A 2006);
- *Spiny Rice-Flower Targeted Survey, Broadcast Australia Site, Sydenham*, Report 6142 (8.0) (BL&A 2008);
- *Golden Sun Moth Targeted Survey, Broadcast Australia Site, Sydenham*, Report 6142 (1.3) (BL&A 2009a);
- *Striped Legless Lizard Targeted Survey, Broadcast Australia Site, Sydenham,* Report 6142 (12.1) (BL&A 2009b);
- *Broadcast Australia – Sydenham Site, Matters of National Environmental Significance,* Report No. 6142 (9.3) (BL&A 2010a);
- *Broadcast Australia, Integrated Ecological Assessment,* Report No. 6142 (10.4) (BL&A 2010b); and
- *Broadcast Australia, Sydenham, Flora and Fauna Assessment*, Report No 6142 (22.3) (BL&A 2019).

4.1.2. Native vegetation

Pre-1750 (pre-European settlement) vegetation mapping administered by DELWP was reviewed to determine the type of native vegetation likely to occur in the subject land and surrounds. Information on Ecological Vegetation Classes (EVCs) was obtained from published EVC benchmarks. These sources included:

- Relevant EVC benchmarks for the Victorian Volcanic Plain bioregion[1] (DSE 2004a); and
- NatureKit (DELWP 2018a).

4.1.3. Listed matters

Existing flora species records and information about the potential occurrence of listed matters was obtained from an area termed the 'search region', defined here as an area with a radius of ten kilometres from the approximate centre point of the subject land (coordinates: latitude 37°43'21.52" S and longitude 144°47'8.77" E).

[1] A bioregion is defined as "a geographic region that captures the patterns of ecological characteristics in the landscape, providing a natural framework for recognising and responding to biodiversity values". In general bioregions reflect underlying environmental features of the landscape (DNRE 1997).

A list of the flora species recorded in the search region was obtained from the Victorian Biodiversity Atlas (VBA), a database administered by DELWP.

The online EPBC Act Protected Matters Search Tool (PMST) (DEE 2018a) was consulted to determine whether nationally listed species or communities potentially occurred in the search region based on habitat modelling.

4.2. Field methods

4.2.1. Vegetation survey

The vegetation field assessment was conducted on the 3rd and 4th May, 2017. An additional site assessment was undertaken on 29th November 2018 to verify the extent and quality of the wetland vegetation at the site. During both assessments, the subject land was surveyed on foot, and assessment of native vegetation was undertaken in accordance with the Guidelines (DELWP 2017a).

Sites in the subject land found to support native vegetation were mapped (Figure 2, Page 26). Mapping was undertaken through a combination of aerial photograph interpretation and ground-truthing using a hand-held GPS (accurate to approximately five metres). Species and ecological communities listed as threatened under the EPBC Act were also mapped using the same method, although an additional transect-based search of suitable habitat was undertaken for the Spiny Rice-flower, as described in Section 4.2.2 of this report.

All Nature Advisory botanists have a current certificate of competency for Vegetation Quality (Habitat Hectare) assessments in Victoria issued by DEWLP. The vegetation field assessments were undertaken by Verity Fyfe (Botanist) and Brett Macdonald (Senior Botanist).

Native vegetation

Native vegetation is currently defined in the Victoria Planning Provisions as 'plants that are indigenous to Victoria, including trees, shrubs, herbs and grasses'. The Guidelines (DELWP 2017a) further classify native vegetation as belonging to two categories:

- Patch; or
- Scattered tree.

The definitions of these categories are provided below, along with the prescribed DELWP methods to assess them.

Patch

A patch of native vegetation is either:

- An area of vegetation where at least 25% of the total perennial understorey plant cover is native; or

- Any area with three or more native canopy trees[2] where the drip line[3] 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.

Patch condition is assessed using the habitat hectare method (Parkes *et al*. 2003; DSE 2004b) whereby components of the patch (e.g. tree canopy, understorey and ground cover) are assessed against an EVC benchmark. The score effectively measures the percentage resemblance of the vegetation to its original condition.

The Native Vegetation Information Management (NVIM) system (DELWP 2018b) provides modelled condition scores for native vegetation to be used in certain circumstances.

Scattered tree

A scattered tree is:

- A native canopy tree[2] that does not form part of a patch.

Scattered trees are counted and mapped, the species identified and their circumference at 1.3 m above the ground is recorded.

Flora species and habitats

Records of flora species were made in conjunction with sampling methods used to undertake habitat hectare assessments of native vegetation described above.

The potential for habitats to support listed flora species was assessed based on the criteria outlined below:

- The presence of suitable habitat for flora species such as soil type, floristic associations and landscape context; and
- The level of disturbance of suitable habitats by anthropogenic disturbances and invasions by pest plants and animals.

Wherever appropriate, a precautionary approach was adopted in determining the likelihood of occurrence or flora listed under the EPBC Act. That is, where insufficient evidence was available on the potential occurrence of a listed species, it is assumed that it could be in an area of suitable habitat.

4.2.2. Targeted survey for Spiny Rice-flower

Initial targeted surveys for this species were undertaken in 2008 (30th June and 8th, 9th and 17th July). During the surveys, areas of suitable quality Plains Grassland (EVC 132_61) including habitat zones A, B, C and D were visually searched along transects spaced 3 metres apart. All remaining

[2] A native canopy tree is a mature tree (i.e. it is able to flower) that is greater than 3 metres in height and is normally found in the upper layer of the relevant vegetation type.
[3] The drip line is the outermost boundary of a tree canopy (leaves and/or branches) where the water drips on to the ground.

sections of the subject land were considered suboptimal habitat for this species due to previous soil disturbance, but were still visually searched along transects spaced 10 metres apart as a precaution.

Updated targeted surveys for the Spiny Rice-flower were conducted within areas of suitable habitat on 3rd and 4th May, 2017. During these surveys, areas of suitable quality Plains Grassland were visually searched along transects spaced 5 m apart in accordance with the relevant federal survey guidelines for this species (DEWHA 2009a).

During the targeted surveys, previous records of the Spiny Rice-flower were located through the use of a handheld GPS to determine the current stage of flowering of the species in the region. The previously located individuals were found to be readily identifiable at the survey time, with several obvious inflorescences observed. The surveys were in-line with current standards, undertaken at appropriate times and deemed appropriate for the investigation, hence no further surveys are required.

4.2.3. Targeted survey for Clover Glycine and other November-flowering flora species

Targeted surveying within the broader study area was conducted for Clover Glycine from the 4th to the 6th of November 2009 (BL&A 2010b). This falls within the known flowering time for Clover Glycine which occurs between September and December (Jeanes 1996). The timing of the targeted survey for Clover Glycine is therefore considered suitable to ascertain the presence or absence of the species within the study area.

Surveying for Clover Glycine was undertaken by a botanist in areas supporting Plains Grassland (EVC 132_61) along straight line transects spaced ten metres. Transects within Habitat Zone B were spaced 25 metres apart due to the lower quality native vegetation.

Although not directly targeted, the timing of this targeted survey is also considered to have been suitable to detect the following listed species:

- Button Wrinklewort;
- Clover Glycine;
- Fragrant Leek-orchid;
- Matted Flax-lily; and
- Sunshine Diuris.

The survey was in-line with relevant standards, undertaken at appropriate times and deemed appropriate for the investigation.

4.2.4. Threatened ecological communities

The subject land was assessed against published descriptions of relevant listed ecological communities modelled to potentially occur in the subject land (DEE 2018b).

Reviewed ecological community descriptions comprised identification criteria and condition thresholds from listing advice for EPBC Act communities.

A targeted survey for *Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains* (SHWTLP) was undertaken on 29th November 2018 by a Senior Botanist of Brett Lane & Associates

(now Nature Advisory) after two weeks of wet weather and rain with the vegetation having not been slashed for 4-5 weeks.

The timing of the survey and condition of the vegetation were suitable for determination of whether or not the community was present in the subject land, hence no further surveys are required.

4.2.5. Fauna survey

The initial field survey was undertaken on the 3rd and 4th March 2005 during mild, sunny weather conditions. These conditions were considered to be suitable for detecting the majority of the species that are likely to occur in the subject land. The entire subject land was walked and inspected on foot.

The techniques used to detect fauna species inhabiting the subject land included:

- Incidental searches for mammal scats, tracks and signs (e.g. diggings, signs of feeding and nests/burrows);
- Turning over logs and other ground debris for reptiles, frogs and mammals;
- Bird observations during the day; and
- General searches for reptiles and frogs; including listening to frog calls in seasonally wet areas.

Fauna habitat types were characterised on the site and are described in Section 5.6.1. The quality of fauna habitat was assessed using the criteria detailed below:

High: All fauna habitat components, including soil cracks, leaf litter and surface rocks are usually present and habitat linkages to other remnant ecosystems in the landscape are intact.

Moderate: Some fauna habitat components are missing, although linkages with other remnant habitats in the landscape are intact.

Low: Many fauna habitat components have been lost as have linkages with other remnant habitats in the landscape. Remnant vegetation possesses few indigenous components.

4.2.6. Targeted survey for Growling Grass Frog

A targeted survey for Growling Grass Frog was undertaken within the subject land on December 5th, 2005, during a warm night with a temperature above 14°C. The seasonal timing, and weather conditions during the survey were considered suitable for the detection of frogs. The survey was considered appropriate to detect the species.

The presence of the Growling Grass Frog at the site was assessed by visiting it after dark and stopping for several minutes to listen for its calls or the unique calls of any other frog species. The call of the Growling Grass Frog was then played through a tape recorder to elicit call responses from any male frogs in the area. Several minutes were then spent listening for calls in response. A spotlight was then shone on the pool and surrounds in an attempt to locate any frogs in the area.

Notes on the habitat quality and aquatic vegetation present were also taken. The aquatic habitat was assessed for their suitability for the Growling Grass Frog.

A repeated targeted survey for Growling Grass Frogs was not considered to be required due to the low quality of wetland habitat at the site and the low likelihood of occurrence for this species.

4.2.7. Targeted survey for Striped Legless Lizard

Seven grids comprising fifty house roof tiles each were set out on 6th and 7th of August 2009 in areas of the broader study area mapped as containing intact native grassland, i.e. potential habitat for Striped Legless Lizard.

Grids were located in areas expected to be preferred by Striped Legless Lizard, according to the vegetation structure, species composition and presence of other habitat elements. Areas of Kangaroo Grass (*Themeda triandra*) on rocky substrate in the south-west corner of the subject land were particularly targeted, since this area also had obvious cracking soils that may be used by the species for sheltering in hot weather.

Grids were set out in a rectangular 20 x 45 metre formation, i.e. 5 x 10 tiles, each tile five metres apart. The co-ordinates of the north-western corner of each grid were logged using a hand-held GPS unit.

Each tile across the entire study area was checked at approximately fortnightly intervals from 22nd September to 30th November 2009, a total of six checks. The tile grids were generally checked early in the morning before 10am, with the exception of 30th November 2009 when they were checked in early afternoon. Ambient temperatures were generally within the range 15 to 23°C and did not exceed 26°C. Therefore, the surveys were considered appropriate to identify presence of the species and no further surveys are required as the precautionary approach has been adopted by assuming the habitat is in appropriate areas on the subject site.

4.2.8. Targeted survey for Golden Sun Moth

Targeted surveys for Golden Sun Moth were undertaken on 23rd and 24th November 2006 as well as on 1st, 4th, 8th and 18th December 2006 across the broader study area.

Surveys involved one observer walking linear transect in areas of suitable habitat for a distance of 700 metres, and recording the distance reading when a Golden Sun Moth was encountered within a 10 metre viewing width. Incidental records of Golden Sun Moth at the Broadcast Australia Sydenham site indicated that areas dominated by native Spear and Wallaby grasses were favoured by Golden Sun Moth; however, to support this anecdotal finding, surveys were conducted in favourable habitat along with non-favourable habitat such as Kangaroo Grass dominated areas and Serrated Tussock dominated areas.

The timing for assessments was initially determined by using recommendations in the Golden Sun Moth Action Statement (DSE 2004). This document indicates an active period of between mid-November to mid-December. Golden Sun Moths are recorded as being in flight during the hottest part of sunny days (DSE 2004). As such survey days corresponded as much as practicable with hot sunny days. Therefore, the surveys are considered to be sufficient to confirm the presence of the species on the subject site and no further surveys are required.

4.2.9. Limitations of field assessments

Vegetation assessment

The updated vegetation site assessment was carried out in autumn (May 2017). As with all investigations, the duration and seasonal timing of field assessments can result in some species not being detected when they may occur at other times. Additionally, some flora species and life-forms may be undetectable at the time of the survey or unidentifiable due to a lack of flowers or fruit.

Due to the landowners compliance with the Land Management Plan, different sections of the site undergo slashing. Additionally, one patch was recently burned due to an accidental fire and there were some unmanaged areas with biomass. Each of these factors can affect the size and coverage of different flora species, making them difficult to detect, however overall the conditions and timing of the surveys were considered suitable to ascertain the extent and condition of native vegetation.

An updated wetland assessment was undertaken in November 2018 after two weeks of wet and rainy weather, with no slashing of the vegetation at the site for at least 4-5 weeks. These conditions were considered ideal for the assessment of native vegetation within wetland areas.

Targeted Spiny Rice-flower survey

The timing of the Spiny Rice-flower survey in May 2017 was seasonally appropriate during the species' flowering season (i.e. April to August). The targeted survey was conducted during the peak flowering period for the Spiny Rice-flower when the species was most likely to be detected and was undertaken in accordance with the EPBC Act survey guidelines (DEWHA 2009a). The likelihood of attaining an accurate account of the presence or otherwise of the Spiny Rice-flower during the May 2017 survey was therefore considered to be high.

Targeted Clover Glycine and other November-flowering flora species survey

The timing of the Clover Glycine survey in November 2009 was seasonally appropriate during the species' flowering season (i.e. September to December). The targeted survey was conducted during the peak flowering period for the Clover Glycine when the species was most likely to be detected. The likelihood of detecting the presence or otherwise of Clover Glycine during the November 2009 survey was therefore considered to be high.

Although not directly targeted by this survey, the timing and vegetation targeted is also considered to have been suitable to detect the following listed species, which are known to flower in November (RBGV 2019):

- Button Wrinklewort;
- Clover Glycine;
- Fragrant Leek-orchid;
- Matted Flax-lily; and
- Sunshine Diuris.

Fauna survey

The general fauna assessment was undertaken in autumn (March), during mild and sunny conditions. Although spring/summer are considered the most appropriate time for conducting general fauna assessments, these conditions were considered to be suitable for assessing fauna habitat and detecting fauna that do or are likely to occur in the grassland and wetland areas.

Targeted Growling Grass Frog survey

The weather conditions during the time of survey were considered appropriate for detecting frog species at the site. However, the site condition was very dry at the time of the survey, which means frogs would have dispersed to wetter areas in the region during this time. At wetter times of the year the site has the potential to provide temporary habitat for locally common (other) frog species.

The survey was conducted in December. Male Growling Grass Frogs call from August to April (Hero *et al.* 1991) during the breeding season; this is the best time of year to confirm if the frog species are using a site. It is more difficult to determine the presence of Growling Grass Frogs at other times of the year when they are not breeding because they do not respond to call playback as freely as in the breeding season.

Targeted Striped Legless Lizard survey

The timing of the Striped Legless Lizard survey, its duration and the weather conditions under which surveying was undertaken, were considered suitable for detecting the species. Every effort was made during the survey to ensure that surveys took place under suitable conditions to detect the species.

Targeted Golden Sun Moth survey

The timing of the Golden Sun Moth survey, its duration and the weather conditions under which surveying was undertaken, were considered suitable for detecting the species. Every effort was made during to ensure that surveys took place under suitable conditions to detect the species.

Limitations - summary

The above-listed limitations were not considered to compromise the validity of the current investigation, which was designed to address the relevant policies and decision guidelines.

Wherever appropriate, a precautionary approach has been adopted in the discussion of implications. That is, where insufficient evidence is available on the occurrence or likelihood of occurrence of a species, it is assumed that it could be in an area of habitat, if suitable, and the implications under legislation and policy are considered accordingly. This is a precautionary approach and considered appropriate for this proposal.

5. Assessment results

5.1. Site description

The subject land for this investigation (Figure 2, Page 26) was 46.1 hectares of private land located at Delahey approximately 20 kilometres north-west of Melbourne's CBD. It is bordered by Sydenham Road to the east, Taylors Road to the south, Kings Road to the west and Broadcast Australia infrastructure to the north.

The subject land supported heavy basalt clay on a gently undulating landscape. Small wet depressions were found across the site, and a drainage line runs from north to south in the east of the subject land. The area in the south-west supports a rocky rise, with large basalt boulders. The remaining area was relatively flat and lacking rocks. A small section of the south-west corner had recently been burnt at the time of the updated vegetation survey in May 2017.

The subject land has been used for grazing and other agricultural use in the past. The subject land has been regularly slashed to reduce fire hazard. Surrounding land predominantly supported residential development with scattered parks and reserves.

Vegetation in the subject land included intact native grassland dominated by wallaby and spear grasses; however, some sections were dominated by introduced grass species such as Serrated Tussock. The drainage lines and small wet depressions across the subject land supported small, disconnected, patches of grassy wetland vegetation. The rocky rise was dominated by native Kangaroo Grass. At the time of the survey, high levels of invasive Serrated Tussock grass were observed across the majority of the subject land.

The subject land lies within the Victorian Volcanic Plain bioregion and falls within the Port Phillip and Westernport Catchment Management Authority area.

5.2. Native vegetation

5.2.1. Patches of native vegetation

Pre–European EVC mapping (DELWP 2018a) indicated that the subject land and surrounds would have supported Plains Grassland (EVC 132) prior to European settlement based on modelling of factors including rainfall, aspect, soils and remaining vegetation.

Evidence on site, including floristic composition and soil characteristics, suggested that Plains Grassy Wetland (EVC 125), and *Heavier Soils* Plains Grassland (EVC 132_61) were present within the subject land (Figure 2). Descriptions of these EVCs are provided within the EVC benchmarks in Appendix 7.

Twenty remnant patches (referred to herein as habitat zones) comprising the abovementioned EVCs were identified in the subject land (Table 1).

Table 1: Description of habitat zones in the study area

Habitat Zone	EVC	Description
A	*Heavier Soils* Plains Grassland (EVC 132_61)	▪ Dominated by native grasses including Spear Grass, Kangaroo Grass, Wallaby Grass. ▪ Very good herb cover and diversity, Kidney Weed, Lemon Beauty Heads, Wood-sorrel. ▪ Moderate bryophyte & lichen cover ▪ Moderately low weed cover, many high threat species such as African Boxthorn, Chilean Needle-grass and high cover of serrated tussock. ▪ Good recruitment potential. ▪ Native litter present. ▪ Natural Temperate Grassland of the Victorian Volcanic Plains community.
B	*Heavier Soils* Plains Grassland (EVC 132_61)	▪ Dominated by native grasses including Kangaroo Grass, Wallaby Grass. ▪ Good herb cover and diversity, Pink bindweed, Cotton Fireweed, Wood-sorrel. Scattered Drooping Cassinia shrubs. ▪ Moderate bryophyte & lichen cover. ▪ Moderately high weed cover with high threat species; Serrated Tussock, Artichoke Thistle. ▪ Excellent recruitment potential. ▪ Native litter present. ▪ Natural Temperate Grassland of the Victorian Volcanic Plains community.
C	*Heavier Soils* Plains Grassland (EVC 132_61)	▪ Dominated by native grasses including Kangaroo Grass, Spear Grass. ▪ Moderate herb cover and diversity, Lemon Beauty-heads, Wood-sorrel, Black Cotton-bush. Scattered Drooping Cassinia shrubs. ▪ Good Bryophyte & lichen cover ▪ Moderately low weed cover, high threat species present such as Serrated Tussock, Artichoke Thistle; ▪ Excellent recruitment potential, a recently burned habitat zone. ▪ Low organic litter cover of non-native source. ▪ Natural Temperate Grassland of the Victorian Volcanic Plains community.

Habitat Zone	EVC	Description
D	Heavier Soils Plains Grassland (EVC 132_61)	▪ Dominated by native grasses including Spear Grass, Kangaroo Grass. ▪ Very good herb diversity, Cotton Fireweed, Small Loosestrife, ▪ Grassland Wood-sorrel. Scattered Lightwood and Drooping Cassinia shrubs. ▪ Low bryophyte & lichen cover. ▪ Moderately high weed cover, many high threat species present, Serrated Tussock, Artichoke thistle; ▪ Moderate recruitment potential ▪ Good organic litter cover, predominantly introduced source. ▪ Natural Temperate Grassland of the Victorian Volcanic Plains community.
E, Z	*Heavier Soils* Plains Grassland (EVC 132_61)	▪ Very low herb diversity, Grassland Wood-sorrel, grasses dominant, Kangaroo Grass, Wallaby Grass, Windmill Grass. ▪ Low bryophyte & lichen cover. ▪ High weed cover, only Serrated Tussock and Artichoke Thistle, both high threat species. ▪ Low recruitment potential, very low bare ground. ▪ Moderate organic litter from introduced source. ▪ Natural Temperate Grassland of the Victorian Volcanic Plains community.
F	*Heavier Soils* Plains Grassland (EVC 132_61)	▪ Dominated by native grasses including Spear Grass, Kangaroo Grass, Red-leg Grass. ▪ Very high herb diversity, Grassland Wood-sorrel, Common Woodruff, Tufted Burr-daisy. ▪ Moderate bryophyte & lichen cover. ▪ Moderately high weed cover, many high threat species present, Serrated Tussock, Artichoke Thistle. ▪ Area has been planted out with native tree and shrub species, but which are outside of their natural range so are considered weeds in the habitat zone; River red-gum, Grey Box, Drooping Sheoak. ▪ Very low recruitment potential. ▪ Very high organic litter cover, derived from the planted vegetation. ▪ Natural Temperate Grassland of the Victorian Volcanic Plains community.

Habitat Zone	EVC	Description
G	Plains Grassy Wetland (EVC 125)	▪ Wetland grass species, rushes and sedges also present, high native herb cover, Tufted Burr-daisy, Small Loosestrife, Naked Crane's-bill. ▪ Moderate bryophyte & lichen cover. ▪ Moderately low weed cover, high threat species present such as Serrated Tussock and Artichoke Thistle. ▪ Excellent recruitment potential. ▪ Very high organic litter cover from invasive plant source.
H	Plains Grassy Wetland (EVC 125)	▪ Dominated by native wetland sedge and rush species. ▪ Some Wallaby Grass present, high herb diversity, Tufted Burr-daisy, Small Loosestrife, Creeping Cudweed. ▪ Low bryophyte & lichen cover. ▪ Moderate weed cover, high threat species present, Chilean Needle-grass, Artichoke Thistle. ▪ Very high recruitment potential. ▪ High organic litter cover mostly derived from introduced species
I, AB	Plains Grassy Wetland (EVC 125)	▪ Dominated by rushes and wetland herbs. ▪ Some grasses present, Spear Grass, Wallaby Grass. High native herb diversity, Tufted Burr-daisy, Small Loosestrife, Creeping Cudweed. ▪ Low bryophyte & lichen cover. ▪ Low weed cover. High threat species present, Toowoomba Canary-grass, Serrated Tussock. ▪ High recruitment potential. ▪ Moderate organic litter cover derived from native species.
J	Plains Grassy Wetland (EVC 125)	▪ Dominant species wetland grasses, rush and sedge species. ▪ Some grasses, Windmill Grass, and high herb cover, Tufted Burr-daisy, Small Loosestrife, but low diversity. ▪ Low bryophyte & lichen cover. ▪ Moderate weed cover, high threat Serrated Tussock. ▪ High recruitment potential ▪ No organic litter present.

Habitat Zone	EVC	Description
K	Plains Grassy Wetland (EVC 125)	▪ Dominant species wetland grasses, rush and sedge species. ▪ Some grasses, Spear Grass, Wallaby Grass, and herbs, Tufted Burr-daisy, Variable Willow-herb, but low diversity. ▪ Very low bryophyte & lichen cover. ▪ High weed cover, high threat species present, Chilean Needle-grass, Artichoke Thistle. ▪ Moderately low recruitment potential. ▪ High organic litter cover derived from introduced plants.
M, N	Plains Grassy Wetland (EVC 125)	▪ Grasses dominant, Spear Grass, Wallaby Grass; wetland rush species present. ▪ High herb cover but low diversity, Tufted Burr-daisy, Sheep's Burr. ▪ Moderate bryophyte & lichen cover. ▪ High weed cover and high threat weeds present, Serrated Tussock. ▪ High recruitment potential. ▪ Moderate native litter cover.
T, V	*Heavier Soils* Plains Grassland (EVC 132_61)	▪ Dominated by grasses, Spear Grass, Wallaby Grass. ▪ Low her cover and diversity, Lemon Beauty-heads, Bluebell. Scattered Tree Violet shrubs. ▪ Low bryophyte & lichen cover. ▪ High weed cover, high threat species, Serrated Tussock, Chilean Needle-grass. ▪ Moderate recruitment potential. ▪ Low organic litter cover derived from native plant source.
U	*Heavier Soils* Plains Grassland (EVC 132_61)	▪ Native grasses dominant, Windmill Grass, Spear Grass. ▪ High native herb cover and diversity, Sheep's Burr, Smooth Solenogyne, Yellow Star. ▪ Good bryophyte & lichen cover. ▪ High weed cover, high threat species, Serrated Tussock, Chilean Needle-grass. ▪ Excellent recruitment potential. ▪ No organic litter cover.

Habitat Zone	EVC	Description
X	*Heavier Soils* Plains Grassland (EVC 132_61)	▪ Dominated by grasses, Spear Grass, Wallaby Grass. ▪ Moderate herb cover but low diversity, Grassland Wood-sorrel. ▪ High weed cover, high threat species, Serrated Tussock, Artichoke Thistle. ▪ Low bryophyte & lichen cover. ▪ Low recruitment potential. ▪ No organic litter cover.
Y	Plains Grassy Wetland (EVC 125)	▪ Dominated by grasses, Spear Grass, Wallaby Grass. ▪ Very low herb diversity and cover, Grassland Wood-sorrel. ▪ High weed cover, high threat species, Serrated Tussock, Artichoke Thistle. ▪ Low bryophyte & lichen cover. ▪ Moderate recruitment potential. ▪ Moderate organic litter cover, from introduced species source.

The habitat hectare assessment results for these habitat zones are provided in Table 2. More detailed habitat scoring results are presented in Appendix 2.

Table 2: Summary of habitat hectare assessment results

Habitat Zone	EVC	Area (ha)	Condition score (out of 100)
A	*Heavier Soils* Plains Grassland (EVC 132_61)	1.754	56
B	*Heavier Soils* Plains Grassland (EVC 132_61)	0.712	44
C	*Heavier Soils* Plains Grassland (EVC 132_61)	2.243	61
D	*Heavier Soils* Plains Grassland (EVC 132_61)	5.816	56
E	*Heavier Soils* Plains Grassland (EVC 132_61)	7.597	34
F	*Heavier Soils* Plains Grassland (EVC 132_61)	0.487	53
G	Plains Grassy Wetland (EVC 125)	0.017	59
H	Plains Grassy Wetland (EVC 125)	0.002	49
I	Plains Grassy Wetland (EVC 125)	0.257	47

Habitat Zone	EVC	Area (ha)	Condition score (out of 100)
J	Plains Grassy Wetland (EVC 125)	0.007	39
K	Plains Grassy Wetland (EVC 125)	0.010	43
M	Plains Grassy Wetland (EVC 125)	0.017	39
N	Plains Grassy Wetland (EVC 125)	0.021	39
T	*Heavier Soils* Plains Grassland (EVC 132_61)	0.123	46
U	*Heavier Soils* Plains Grassland (EVC 132_61)	0.593	48
V	*Heavier Soils* Plains Grassland (EVC 132_61)	0.562	46
X	*Heavier Soils* Plains Grassland (EVC 132_61)	0.036	49
Y	Plains Grassy Wetland (EVC 125)	0.104	32
Z	*Heavier Soils* Plains Grassland (EVC 132_61)	0.884	34
AB	Plains Grassy Wetland (EVC 125)	0.005	47
Total		**21.248**	

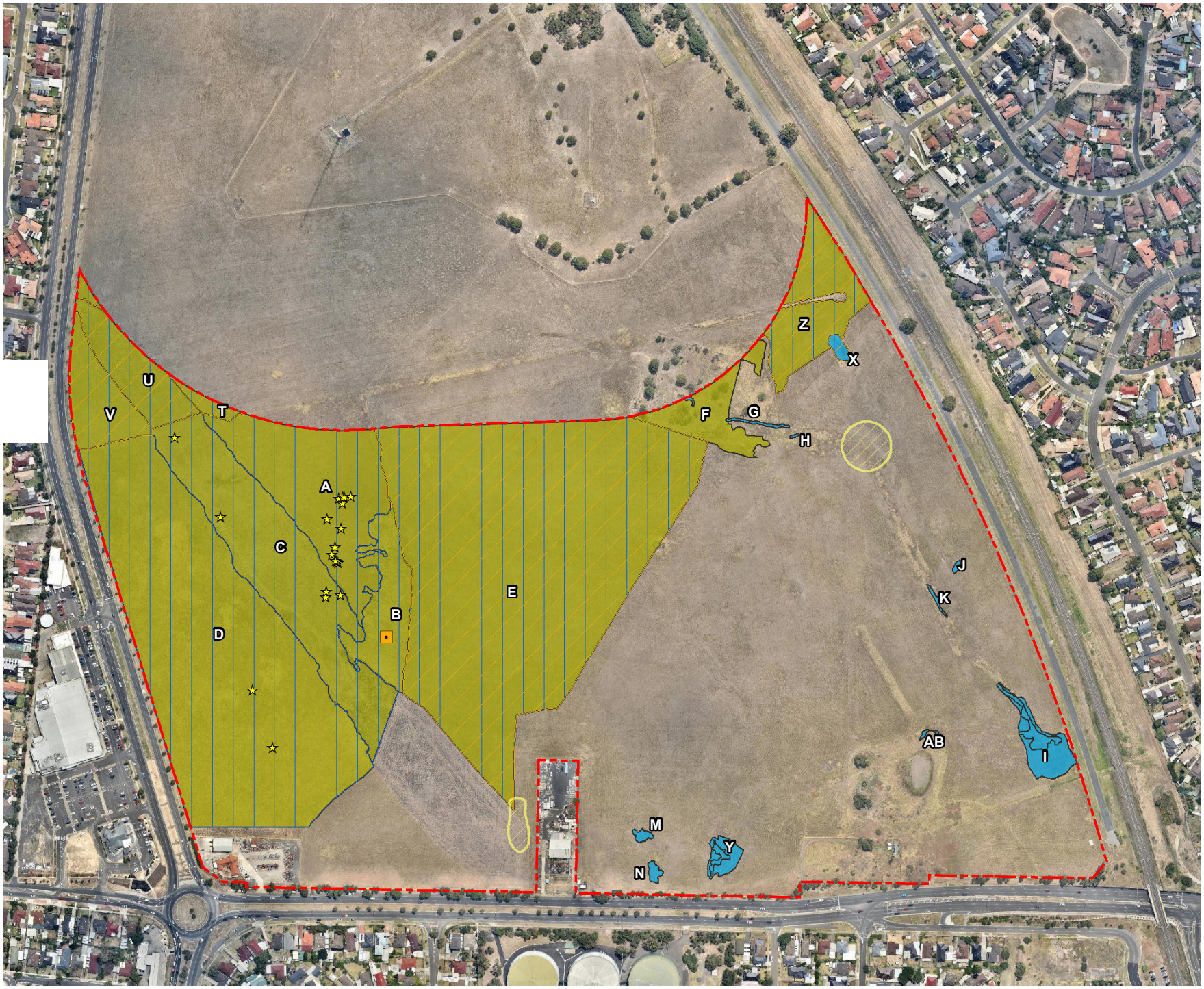

Figure 2: **Subject Land, native vegetation and fauna habitat**

Project: Broadcast Australia, Delahey
Client: Broadcast Australia
Date: 03/09/2019

- Subject land
- Heavier-soils Plains Grassland (EVC 132_61) / NTGVVP
- Plains Grassy Wetland (EVC 125)
- Spiny Rice-flower
- Golden Sun Moth habitat
- Potential GSM habitat (>20% Chilean Needle-grass)
- Striped Legless Lizard habitat
- Tough Scurf-pea

N

Metres
0 80

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Layers - Created by: el - Z:\2006 Jobs\6142 (Broadcast Australia EPBC & GSM survey)\2016-19 Work\6142.14 (New Offset Strategy - IK)\Mapping\GIS\6142_SA NV NVPP Fauna hab 190813.mxd

5.2.2. Scattered trees

No remnant indigenous scattered trees were recorded in the subject land. All trees in the subject land have been planted for amenity purposes and are native, but non-indigenous species to this area as they are not consistent with the EVC mapped for the site, i.e. Plains Grassland (132_61).

5.3. Flora species

5.3.1. Species recorded

During the habitat hectare assessment of the broader study area, 81 plant species were recorded. Of these, 44 (54%) were indigenous and 37 (46%) were introduced or non-indigenous native in origin (Appendix 3).

5.3.2. Listed species

VBA records (DELWP 2018b) and the EPBC Protected Matters Search Tool (DEE 2018a) indicated that within the search region there were records of, or there occurred potential habitat for 11 flora species listed under the Commonwealth EPBC Act. One flora species listed under the EPBC Act was recorded during the field survey, Spiny Rice-flower.

The likelihood of occurrence in the subject land of species listed under the EPBC Act is addressed in Table 3. Species considered 'likely to occur' are those that have a very high chance of being in the study area based on numerous records in the search region and suitable habitat in the study area. Species considered to have the 'potential to occur' are those, where suitable habitat exists, but recent records are scarce.

In reviewing the status of these species in the study area, the results of the field surveys undertaken in May 2017 and November 2018 together with the results from a range of field surveys in earlier years (2006 to 2010: see BL&A 2006, 2008, 2009a, 2009b and 2010b) were considered. Targeted flora surveys were undertaken in 2008 for EPBC Act listed species considered to potentially occur.

The following EPBC Act listed flora species has been recorded in the subject land:

- Spiny Rice-flower *(Pimelea spinescens* subsp. *spinescens)* – recorded in 2008 and 2017.

Two further species have suitable (although marginal) habitat within the study area, and targeted surveys have not been undertaken during the flowering period for these species. Therefore, they are considered to potentially occur. These species are:

- Small Golden Moths; and
- Large-headed Fireweed

Spiny Rice Flower

One population consisting of a total of 19 Spiny Rice-flower individuals were recorded during the targeted surveys in 2008 and 2017. All Spiny Rice-flower individuals located in the subject land occurred inside Habitat Zones A, B, C and D within an estimated area of 2 ha (Figure 2). These habitat zones covered the rocky rise which has more dense vegetation. It is thought that this habitat zone has had minimal disturbance from slashing and grazing over time due to the prevalence of surface rock in this area (BL&A 2008a). Individuals of Spiny Rice-flower were found to occur in areas dominated by Kangaroo Grass and where the cover of Serrated Tussock was relatively low.

Table 3: Listed flora species and the likelihood of their occurrence in the study area

Common name	Scientific name	Conservation status (EPBC Act)	Habitat	Number of records within 10 km	Date of last record	Likelihood of occurrence
Austral Toad-flax	*Thesium australe*	VU	Austral Toadflax is semi-parasitic on roots of a range of grass species, notably Kangaroo Grass. It occurs in subtropical, temperate and subalpine climates over a wide range of altitudes, on sedimentary, igneous and metamorphic geology on a range of soils including black clay loams to yellow podzolics and peaty loams.	1	1/10/1904	Not detected with the region for over 100 years **Unlikely to occur**
Basalt Peppercress	*Lepidium hyssopifolium*	EN	Known to establish on open, bare ground with limited competition from other plants. Previously recorded from Eucalypt woodland with a grassy ground cover, low open Casuarina woodland with a grassy ground cover and tussock grassland. Now generally found amongst exotic pasture grasses and beneath exotic trees.	1	13/12/1982	No suitable habitat present **Unlikely to occur**
Button Wrinklewort	*Rutidosis leptorhynchoides*	EN	In Victoria restricted to open stands of plains grassland and grassy woodlands, on fertile clays to clay loams, usually in areas where the grass cover is more open, either as a result of recurrent fires or grazing by native macropods or stock. It also occurs on low rises with shallow, stony soils at less than 100 m above sea level.	34	12/03/2015	Not detected in earlier or current surveys **Unlikely to occur**

Common name	Scientific name	Conservation status (EPBC Act)	Habitat	Number of records within 10 km	Date of last record	Likelihood of occurrence
Clover Glycine	*Glycine latrobeana*	VU	Found across south-eastern Australia in native grasslands, dry sclerophyll forests, woodlands and low open woodlands with a grassy ground layer. In Victoria, populations occur in lowland grasslands, grassy woodlands and sometimes in grassy heath.	1	6/03/1995	Minimal habitat present, not detected in earlier or current surveys **Unlikely to occur**
Fragrant Leek-orchid	*Prasophyllum suaveolens*	EN	Occurs in open, species rich native grassland dominated by *Themeda triandra* with perennial herbs and lilies on poorly drained red-brown soil derived from basalt (DSE 2003).	13	1/10/1962	Minimal habitat present, not detected in earlier or current surveys **Unlikely to occur**
Large-headed Fireweed	*Senecio macrocarpus*	VU	In Victoria, Large-fruit Fireweed occurs most commonly in grasslands on red-brown earth soils. It may also occur in grassy woodlands and open woodlands predominantly in the Western (Basalt) Plains grassland on red brown earth soils found on recent Quaternary (basalt) deposits.	32	12/03/2015	Habitat (although degraded) present **Potential to occur**

Common name	Scientific name	Conservation status (EPBC Act)	Habitat	Number of records within 10 km	Date of last record	Likelihood of occurrence
Matted Flax-lily	*Dianella amoena*	EN	Lowland grassland and grassy woodlands on well-drained to seasonally waterlogged fertile sandy loams to heavy cracking soils derived from sedimentary or volcanic Geology. It is widely distributed from eastern to south-western Victoria (Carter 2010).	43	14/12/2012	Not detected in earlier or current surveys **Unlikely to occur**
River Swamp Wallaby-grass	*Amphibromus fluitans*	VU	River Swamp Wallaby-grass grows mostly in permanent swamps and also lagoons, billabongs, dams and roadside ditches. The species requires moderately fertile soils with some bare ground; conditions that are caused by seasonally-fluctuating water levels.	2	31/10/2008	Not detected in earlier or current surveys **Unlikely to occur**
Small Golden Moths	*Diuris basaltica*	EN	Grows in herb-rich native grasslands, dominated by Kangaroo Grass on heavy basaltic soils, often embedded with basalt boulders. All locations that the species is known to occur form part of the 'Natural Temperate Grassland of the Victorian Volcanic Plain'.	24	21/07/2009	Minimal habitat present, highly degraded **Potential to occur**
Spiny Rice-flower	*Pimelea spinescens* subsp. *spinescens*	CR	Occurs in grassland or open shrubland on basalt derived soils, usually comprising black or grey clays. Plants from more northerly populations occur on red clay complexes, while plants from southern populations occur on heavy grey-black clay loams. Topography is generally flat but populations may occur on slight rises or in damp depressions.	660	12/03/2015	**Occurs in the subject land**

Common name	Scientific name	Conservation status (EPBC Act)	Habitat	Number of records within 10 km	Date of last record	Likelihood of occurrence
Sunshine Diuris	*Diuris fragrantissima*	EN	Native grasslands dominated by Kangaroo Grass, on heavy basalt soils, often with embedded basalt boulders. The sole remaining natural population at Sunshine occurs in a small (0.1 ha) remnant of Western (Basalt) Plains Grassland (Murphy et al 2008).	26	12/10/2009	Not detected in earlier or current surveys **Unlikely to occur**

Notes: EPBC = threatened species status under EPBC Act (CR = critically endangered; EN = endangered; VU = vulnerable).

5.4. Listed ecological communities

Five EPBC Act listed ecological communities were considered to have the potential to occur in the subject land, based on records in the search region using the EPBC Protected Matters Search Tool (DEE 2018a). One (1) was found to occur on the subject land and four (4) did not occur or meet the criteria.

The following one (1) listed ecological community **was recorded**, based on an assessment of native vegetation in the subject land against published descriptions and condition thresholds for these communities:

- *Natural Temperate Grassland of the Victorian Volcanic Plain* – listed as critically endangered under the EPBC Act (all mapped *Heavier-soils* Plains Grassland habitat zones).

The following four (4) communities **were found not to occur** at the subject land based on the factors described below:

- Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains – listed as critically endangered under the EPBC Act (DSEWPaC 2012a).

  Areas of Plains Grassy Wetland were assessed against the condition and size thresholds for seasonal herbaceous wetland, but none of the habitat zones met these thresholds.

  Habitat Zone G, which was associated with the ephemeral drainage line, contained very narrow linear strips of vegetation which met the condition thresholds for characteristic flora species cover, but did not meet the size thresholds for individual wetlands, or clusters of wetlands (0.5 hectares), to be considered part of the ecological community.

  The majority of Habitat Zones I, M, N and Y contained areas of vegetation which met the condition thresholds for characteristic flora species cover, but did not meet the size thresholds for individual wetlands, or clusters of wetlands, to be considered part of the ecological community.

  Habitat Zones AB, F, H, J and K did not meet either of the thresholds.

  As a result, none of the habitat zones mapped as Plains Grassy Wetland qualified as the EPBC Act listed community Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains.

- Grassy Eucalypt Woodland of the Victorian Volcanic Plain – listed as critically endangered under the EPBC Act (DSEWPaC 2009).
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland – listed as critically endangered under the EPBC Act (DSEWPaC 2006).
- Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia – listed as endangered under the EPBC Act (DSEWPaC 2012a).

No vegetation on the site was woodland or derived grassland; based on this assessment the three woodland communities do not occur in the subject land.

5.5. Weeds

A weed survey was conducted by Brett Lane & Associates (BL&A) on 30th August 2018, during which the presence of weeds throughout the subject land was recorded. Particular emphasis was placed

on recording the presence of 'high-threat' weeds and weeds listed as regionally controlled (C) under the *Catchment and Land Protection Act 1994* (CaLP Act). Collectively these weeds can be referred to as 'weeds of concern'. The locations of these weeds were mapped with a GPS to an accuracy of approximately 5 metres (Figure 3). Where relevant, the density of weed infestations was also recorded.

The survey found weeds to be widespread throughout subject land and an overall high cover of weeds (see Figure 3). Serrated Tussock contributed to the majority of this cover – approximately 80% of weed cover. Other common weeds included Onion Grass, Artichoke Thistle, Chilean Needle-grass, African Box-thorn, Ox-tongue, Galenia, Twiggy Turnip and Ribwort. Less common weeds included Common Prickly-pear, Toowoomba Canary-grass, Cocksfoot, Kikuyu, Paspalum, Pepper Tree, Soursob and Common Sow-thistle.

Weed control in the study area is necessary to prevent the spread of weeds from within the subject land into the surrounding landscape. In addition, land managers are required to meet their obligations under the *Catchment and Land Protection Act 1994* (CaLP Act) with respect to preventing the growth and spread of regionally controlled weeds. Land managers are committed to reduce the cover of regionally controlled weeds to negligible levels (<1 % cover). Every weed control action must be undertaken by a bushland contractor with experience controlling weeds in the Brimbank municipality.

The following weeds listed as regionally controlled (C) under the CaLP Act were recorded at the subject land:

- Serrated Tussock;
- African Box-thorn; and
- Common Prickly-pear.

The following weeds considered to be of 'high-threat' (to natural heritage values) were recorded at the subject land:

- Chilean Needle-grass;
- Galenia;
- Paspalum; and
- Pepper Tree.

A separate Land Management Plan prepared by BL&A (Report 6142 (23.0)), addresses the required weed management at the site which is being implemented by the landowners.

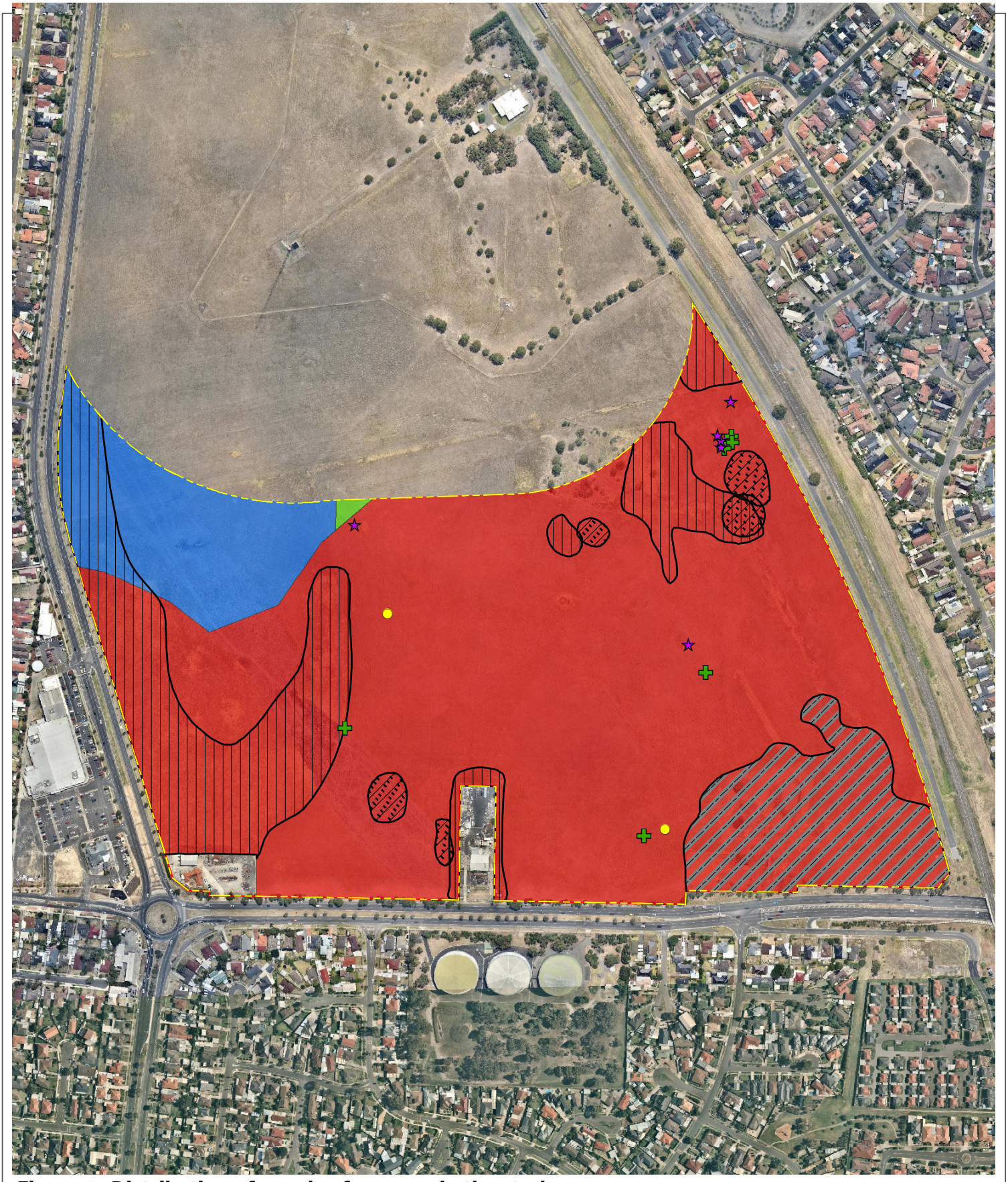

Figure 3: Distribution of weeds of concern in the study area

Project: Broadcast Australia, Delahey **Client**: Broadcast Australia **Date**: 03/09/2019

Study area
Subject land

Weed species
African Box-thorn
Artichoke Thistle
Chilean Needle-grass

Serrated Tussock cover
Very High
High
Moderate
Paspalum
Artichoke Thistle
African Box-thorn, Artichoke Thistle, Chilean Needle-grass, Common Prickly Pear, Pepper Tree, Galenia
Chilean Needle-grass

N

Metres
0 90

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5.6. Fauna

This section describes the fauna habitat features of the site and the fauna recorded or likely to occur. Fauna habitat on the site was assessed in 2005 (BL&A 2010b) and the recent vegetation survey of the site confirmed that this information is still accurate.

5.6.1. Fauna habitat assessment

The land under investigation supported the following four main habitat types, described below:

- Remnant Kangaroo grass grassland;
- Spear grass and exotic grassland;
- Wetland and aquatic habitats; and
- Planted trees.

Remnant Kangaroo grass grassland habitat

Kangaroo Grass grassland habitat was located in the south-western corner of the subject land and supported surface and embedded rocks, cracking clay soils and a cover of native tussock forming grasses, namely Kangaroo Grass (*Themeda triandra*). The density of rocks in this area was low, although generally higher than for the remainder of the subject land.

There was evidence of past grazing throughout the subject land; however, the rocky areas have not undergone cultivation or other intensive land use practices. This habitat type was isolated from other similar habitats by surrounding roads and residential development. Fauna habitat components important for grassland vertebrate species were present, such as surface and embedded rock and cracking soils within native tussock-forming grassland.

This habitat type is considered to be of moderate to high quality as fauna habitat.

Remnant Spear-grass grassland habitat

The main grass species present included Wallaby-grass (*Rytidosperma* spp.) and Spear-grass (*Austrostipa* spp.). Non-indigenous species such as Serrated Tussock (*Nassella trichotoma*) were also common in varying densities throughout the site.

Surface and embedded rocks may have been historically removed from the majority of this habitat. Collected rocks have been relocated to form a stone wall in the southern part of the subject land. Cracks in the soil, which provide fauna refuge, were present. This habitat type was extensive, although isolated from other grassland habitats in the region by surrounding residential development.

This habitat type is likely to support a number of grassland vertebrate fauna and is therefore considered to be of moderate quality.

Planted trees

Planted native, but non-indigenous eucalypts (Grey Box) occurred within Habitat Zone F and adjacent to a dam in the south-eastern portion of the subject land.

Some structural habitat components important for vertebrate fauna are present, and are likely to support a similar suite of species as the remainder of the site. The trees are likely to be used for

roosting, nesting and perching by birds. This habitat type is therefore considered to be of moderate habitat quality.

Wetland habitat

The site contained wetland habitats including:

- A dam in the south eastern part of the site; and
- A drainage line extending along the eastern part of the site.

During the assessment in 2005, the dam in the southern part of the subject land held water. Wetland habitats are likely to be seasonally inundated with water. These wetlands were shallow, disturbed and surrounded by non-indigenous vegetation and therefore provided little cover or habitat for fauna species that inhabit wetlands.

The current alignment of the drainage line in the southern part of the site is partially indistinct comprising separated areas of degraded remnant plains grassy wetland.

The site drains from the south-eastern corner under the road via a concrete culvert onto the eastern side of the railway. A grassy swale along the railway line extends north and provides potential connectivity with Taylors Creek, especially during rain and flooding events. However, generally connectivity is low.

Overall, the wetland habitats on the site were considered to be of low quality due to their degree of modification and disturbance, although some connectivity exists via concrete culvert. These habitats are therefore considered to be of low habitat quality for vertebrate fauna.

Fauna species

The VBA (DELWP 2018b) and the PMST (DEE 2018a) database searches indicated that 33 EPBC Act listed vertebrate species (20 bird, four mammal, three reptile, one frog, one invertebrate species and three fish species) occur or potentially occur within the search region (10 kilometres around the subject site).

The likelihood of occurrence of these species within the subject land was assessed (Appendix 5) and the species considered to as having the potential to occur are discussed.

Birds

Three EPBC Act listed bird species were considered to occur or potentially occur within the search region.

- Plains-wanderer – EPBC Act (Critically Endangered)

Twelve records of this species exist in the search region, the most recent from 2004. This species inhabits native grasslands with sparse cover, preferring grasslands that include *Rytidosperma* and *Austrostipa* species (Marchant and Higgins 1993). It is unlikely to be present in grasslands that have been over-cultivated, overgrazed or degraded by weeds. It is also susceptible to predation by foxes, cats and birds of prey (Baker-Gabb 1995). The subject land potentially supports suitable habitat, but has been subject to grazing, and ground predators (such as foxes) are likely to be present. The site is also isolated by a large expanse of urban development. As such, the site is unlikely to provide important habitat to the species. Development of the site is unlikely to impact the species directly but will reduce the available habitat within the region.

- Regent Honeyeater - EPBC Act (Critically Endangered)

No records of Regent Honeyeater exist in the search region. However, the PMST identified that the species or its habitat may occur in the subject land and its environs. The Regent Honeyeater is mainly an inhabitant of the Box-Ironbark forests but is considered nomadic, with movements being determined by flowering eucalypts (Emison *et al.* 1987, Higgins *et al.* 2001). They feed on a range of eucalypt species, and may occur in urban areas, especially in wooded areas (Higgins *et al.* 2001). This species may therefore occasionally feed on the eucalypts in the subject land, but it is considered unlikely to regularly occur there, nor that this constitutes important habitat. Development of the site is highly unlikely to impact this species.

- Swift Parrot - EPBC Act (Critically Endangered)

The VBA contains five records of Swift Parrot from the search area, the latest from 2009. Swift Parrots migrate to Victoria from Tasmania in winter to feed on the flowering eucalypts of the western slopes of the Great Divide. They may also occur in urban areas and farmlands with remnant eucalypt trees (Higgins 1999). They may therefore occasionally utilise the eucalypts in the subject land during migration, especially when the trees are flowering. However, the species is unlikely to occur in the subject land regularly or in great numbers due to the scarcity of the potential food tree species. This is not considered to constitute an important habitat and development of the site is highly unlikely to impact the species.

Reptiles

One listed reptile species was considered to occur within the search region.

- Striped Legless Lizard – EPBC Act (Vulnerable)

Over 400 records exist in the search region. This species' preferred habitat is dense native grasslands, often with rocky rises, that were once extensive on the volcanic plains west of Melbourne (Webster *et al.* 1992).

The subject land contains a grassland area, with dense Kangaroo Grass (*Themeda triandra*) and exotic grasses. Surface rock density is low but embedded rocks and cracking soil occurs throughout the areas of native grassland in the south western portion of the site. The site therefore contains suitable habitat for the Striped Legless Lizard.

The Striped Legless Lizard was found to be present in the northern part of the property. Two individuals were recorded during the survey. No Striped Legless Lizards were recorded in the subject land; however, all native grassland vegetation mapped within the study area (including in the subject land) has been assumed to provide potential habitat for this species and impacts have been considered accordingly.

Non-native vegetation in the south-eastern part of the subject land is heavily dominated by Serrated Tussock. This area is regularly slashed with a high litter cover and high proportion of open ground, which exposes Striped Legless Lizard to predators. This species prefers grasslands with high structural complexity (Howland *et al* 2015), which is not given in this part of the site. As such, non-native vegetation in the south-eastern part of the subject land is not considered suitable for Striped Legless Lizard. This is in line with previous assessments (BL&A 2009b) that have been accepted by the Commonwealth Department of Environment and Energy.

Therefore, the impact to the SLL habitat is considered through the avoid, minimise and offset strategy as part of the NVPP and EPBC Act referral.

Frogs

One listed frog species was considered to occur in the search region:

- Growling Grass Frog – EPBC Act (Vulnerable)

220 records occurred in the search region. These records are from Kororoit Creek, Caroline Springs, Maribyrnong River and Taylors Creek. The Growling Grass Frog is predominantly aquatic and requires permanent or semi-permanent waterbodies such, as streams, lagoons, farm dams and old quarry sites (Cogger 2000; Organ 2002) to complete its life cycle. It is usually associated with water bodies supporting large areas of fringing and aquatic vegetation, such as Common Reed (*Phragmites australis*), Bullrush (*Typha spp.*) and Water Ribbon (*Triglochin procera*) (Ashworth 1998 in Organ 2002). The Growling Grass Frog is also a highly mobile species and can move to areas supporting suitable habitat.

The subject land contains a limited area of semi-permanent water, and no connectivity to currently used habitats, which are several kilometres away from the subject site and separated from Taylors Creek and other known current habitat by extensive urban areas, culverts and a dry swale from Taylors Creek two kilometres to the east, where Growling Grass Frog have been previously recorded (two records from 1978 and 1986). The aquatic habitats on the site are considered unlikely to regularly support the Growling Grass Frog, as the dams lack dense fringing vegetation and are unlikely to hold water except during wetter parts of the year.

No individuals of this species were found during the targeted survey. Due to the very limited area of suitable habitat and its poor condition, as well as the physical isolation of the site from known current populations, no more intensive surveying for the species was warranted as the species is not considered likely to occur there. It is therefore unlikely that development of the site will impact this species.

Invertebrates

One listed invertebrate species was considered to occur in the search region:

- Golden Sun Moth – EPBC Act (Vulnerable)

The Golden Sun Moth is a diurnally active moth that once had a widespread distribution in Victoria prior to clearing for agriculture, urban and industrial development. This species is a highly specialised grassland inhabitant and occurs in grasslands that are dominated by Wallaby Grass (*Rytidosperma* spp.) at a minimum of 40% cover (O'Dwyer *et al.* 2000, O'Dwyer & Attiwill 1999). The life cycle of this moth is often closely linked to the grass species.

During targeted surveys, Golden Sun Moth were recorded in areas dominated by native Spear and Wallaby grass, including habitat zones E, T, U, V and Z.

Overall 245 Golden Sun Moths were recorded during the 2006 targeted surveys, seven of which were female.

Golden Sun Moth were not found to occur in areas dominated by Serrated Tussock or Kangaroo grass (habitat zones A, B, C and D).

Recent information suggests that Golden Sun Moth can occur in non-indigenous grasslands if they provide a cover of at least 20% Chilean Needlegrass (Department of Environment and Energy, Email from 6/4/2017).

Two small patches (0.29 hectares) of areas with >20% Chilean Needlegrass were identified by BL&A in November 2018 (see Figure 2). These are disconnected from the remaining Golden Sun Moth habitat at the site and thus Golden Sun Moth were considered unlikely to occupy these areas.

Future development of the subject land is likely to have an impact upon the species and therefore the avoid, minimise and offset strategy as part of the NVPP and EPBC Act referral have accommodated for this.

6. Impacts of proposed rezoning

6.1. Proposed development

The current proposal will involve a Planning Scheme Amendment for the subject land, including proposed rezoning to Mixed Use Zone, application of the Development Plan overlay to the full extent of subject land, application of a NVPP to the subject land and removal of the Environmental Audit Overlay and Environmental Significance Overlays.

The extent of the area of impact for the NVPP was considered to include the entirety of the subject land, as shown in Figure 4.

6.2. Impacts of proposed NVPP

Impacts have been identified for the proposed NVPP. These impacts on ecological values are outlined below and shown in Figure 4.

6.2.1. Native vegetation

The current proposal will result in the loss of a total 'extent' of 21.248 hectares of native vegetation as represented in in the Native Vegetation Removal (NVR) report provided by DELWP (Appendix 8).

This comprised the loss of 21.248 hectares of native vegetation from remnant patches. Therefore, the total extent of removal for determining 'extent risk' is 21.248 hectares. Photographs of native vegetation proposed for removal are provided in Appendix 6.

6.2.2. Modelled species important habitat

The current proposal footprint will have a proportional impact on modelled habitat above the specific offset threshold for the following rare or threatened species listed on DELWP's advisory lists as determined by DELWP and presented in Appendix 8:

- Growling Grass Frog;
- Small Golden Moths;
- Fragrant Saltbush;
- Large-headed Fireweed;
- Heath Spear-grass;
- Melbourne Yellow-gum
- Basalt Podolepis; and
- Spiny Rice-flower.

6.2.3. Listed flora species

The analysis of the likelihood of occurrence of listed flora species presented in Section 5.3.2 identified that the following species will be impacted by the proposed development (see Figure 4):

- 19 Spiny Rice-flower (EPBC Act listed) – recorded 2008/2017

The Spiny Rice-flower is listed as *Critically Endangered* under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The EPBC Act contains a list of threatened flora species that are considered to be of national conservation significance. Any impacts on these species may potentially be deemed as a 'matter of national environmental significance' and require Referral under the EPBC Act.

This is considered a significant impact and a Referral under the EPBC Act has been submitted in March 2019 to the Department of Environment and Energy.

Impacts could not be assessed based on information obtained during assessments to date for the following listed values given that assessments have not been undertaken during the flowering period:

- Small Golden Moths; and
- Large-headed Fireweed.

Targeted surveys are therefore recommended to determine the status of these values in the study area and to assess any potential impacts on these values. Should either of these species be found to be impacted by the proposed development, they will be included in the EPBC Act assessment and approval process.

6.2.4. Threatened ecological communities

The proposed development footprint will result in the following losses:

- 20.807 hectares of Natural Temperate Grassland of the Victorian Volcanic Plain.

This is considered a significant impact and a Referral under the EPBC Act has been submitted in March 2019 to the Department of Environment and Energy.

6.2.5. Listed fauna species and habitat

The proposed development is likely to result in a significant impact on the EPBC Act listed fauna values presented below:

- Golden Sun Moth habitat (9.797 hectares); and
- Potential Striped Legless Lizard Habitat (20.325 hectares).

A Referral under the EPBC Act for the impacts on the above-listed values arising from the proposed action was submitted to the federal Department of Environment and Energy (DEE) in March 2019.

Figure 4: **Native vegetation proposed to be removed**

Project: Broadcast Australia, Delahey
Client: Broadcast Australia
Date: 13/08/2019

Subject land
Spiny Rice-flower
Native vegetation proposed to be removed

N

Metres
0 80

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7. Implications under legislation and policy

7.1. Summary of planning implications

The Guidelines are an incorporated document at Clause 81.01 of the Brimbank Planning Scheme. This means it must be considered by planning authorities when preparing a Planning Scheme Amendment and must be applied when developing a Native Vegetation Precinct Plan (NVPP).

7.2. Implications under the Guidelines

7.2.1. Avoid and minimise statement

In accordance with the Guidelines, all applications to remove native vegetation must provide an avoid and minimise statement which details any efforts undertaken to avoid the removal of, and minimise the impacts on, biodiversity and other values of native vegetation, and how these efforts focussed on the most valuable areas of native vegetation.

These objectives seek to achieve no net loss of biodiversity through the application of the three-step approach (avoid, minimise, offset). A balance of the ecological and planning objectives must be considered in the approach.

Strategic Planning Context

The site presents as part of an isolated and fragmented 'island' disconnected from any broader ecological corridor and is within the midst of an established, predominantly residential area, surrounded by major road, rail and broadcasting infrastructure. Due to the island site characteristics of the land, including the intensive surrounding urban subdivision, the native vegetation values on the site do not form part of any broader natural environment corridor or system.

The objective of the project is to maximise the rare strategic opportunity for future sustainable infill urban use and development of the land to build up the existing urban area and to capitalise on efficiencies from investment in existing infrastructure and services in line with key metropolitan planning objectives.

Avoidance and minimisation options are accordingly limited in this context without undermining the important strategic objectives of the project, and the opportunity to deliver housing and growth in an established urban setting consistent with the relevant overarching planning policy framework. Therefore in this context, a site specific strategy is proposed to achieve biodiversity outcomes involving avoidance and minimisation through a translocation strategy, in conjunction with an appropriate off-site off set strategy.

Constraints to Site Planning

The retention of conservation / grassland areas on the site is not proposed as it would be likely to result in unsustainable and compromised urban and environmental outcomes, including:

- 'Edge effects' through weed invasion and disturbance associated with urban development;
- An ongoing requirement to manage weeds, including for fire protection purposes involving ongoing spraying and slashing activities; and

- The limited potential for any 'remnant' conservation / grassland area to remain viable over the long-term or to meaningfully enhance or embellish biodiversity or ecological values for a strategic site planning seeks to have established as an integrated part of the existing urban setting.

The above considerations confirm the absence of practical options to avoid or minimise the impacts of native vegetation removal without undermining the strategic objectives of the project, including achievement of the overarching strategic objectives of relevant planning policy framework.

Compromised site conditions for native vegetation instead inform an offset strategy where it is considered the required biodiversity outcomes can be better achieved by securing high quality flora and fauna values elsewhere. This includes the opportunity to secure values that are viable into the longer-term, form part of a broader natural environment context, and are not compromised by urban edge / fragmentation effects associated with major road and rail infrastructure, and are also not compromised by ongoing slashing and spraying activities required by the land management plan to manage the extensive serrated tussock infestation across the subject land.

In addition to implementing the offset strategy to ensure the objective of no net loss to biodiversity will be achieved, the additional avoidance, minimisation and mitigation measures will be implemented to secure the future of biodiversity values within the Brimbank City Council and the broader region:

- Avoidance of impacts via translocation of all 19 Spiny Rice-flower plants on the subject land to a suitable site managed vie appropriate practices, in line with the methodology applied to the recent translocation of Spiny Rice-flower plants to the Mount Cottrell Nature Reserve in Melton which achieved a 100% success rate.
- Prior to translocation, seed will be collected from Spiny Rice-flower plants within the subject land to be used in propagation to increase the population over time; and
- Opportunities for further mitigation and enhancement including envisaged enhancement and re-vegetation of the drainage line in the east of the site to improve the availability of aquatic habitat within the subject land.

Through seed collection, propagation and translocation, a positive outcome for the Spiny Rice-flower population is expected by minimising impacts in taking plants from the site and establishing them at secure sites. Appropriate ongoing management is anticipated to ensure a successful translocation outcome.

7.2.2. Assessment pathway

The risk-based assessment pathway is determined on the basis of 'extent risk' and 'location risk'. The extent risk was found to be 21.248 hectares and the area of proposed native vegetation removal contained mapped areas of the following *location risk* categories:

- Location Risk A – covering approximately one-thirds of the vegetation removal area, along the western and eastern edges of this area;
- Location Risk B – covering approximately two-thirds of the vegetation removal area, mostly within the centre of this area; and
- Location Risk C – covering a tiny portion of the vegetation removal area, within the north-west corner of this area.

Based on the details above and the criteria outlined in 3.2 the Guidelines stipulate that the proposal will be assessed under the Detailed Assessment Pathway.

The current proposal would trigger a referral to DELWP as it meets the criteria.

7.2.3. Offset requirements

Offsets required to compensate for the proposed removal of native vegetation from the subject land are provided below.

- 18.662 species units of habitat for Growling Grass Frog;
- 17.493 species units of habitat for Small Golden Moths;
- 17. 493 species units of habitat for Fragrant Saltbush,
- 17. 493 species units of habitat for Large-headed Fireweed;
- 17. 493 species units of habitat for Heath Spear-grass;
- 17. 493 species units of habitat for Melbourne Yellow-gum;
- 17.029 species units of habitat for Basalt Podolepis; and
- 16.722 species units of habitat for Spiny Rice-flower.

Under the Guidelines *all* offsets must be secured prior to the removal of native vegetation.

7.2.4. Offset statement

The offset target for the current proposal will be achieved via a third-party offset. Two sites supporting large high-quality native grassland areas west of Melbourne that would contribute to meeting the offset requirements have been identified, and negotiations with the landowners are currently underway. Broadcast Australia is also pursuing alternative options to meet the offset requirements through offset site brokers.

It is intended that both state and federal offsets will be achieved at the same offset site(s). A detailed offset strategy will be provided once negotiations have been finalised and suitable offsets contractually secured.

Securing and managing a larger, high-quality offset site will ensure a no net loss to biodiversity. The proposed NVPP will detail the state offset requirements and require these to be secured before any removal of native vegetation occurs.

7.3. EPBC Act

The EPBC Act protects a number of threatened species and ecological communities that are considered to be of national conservation significance. Any significant impacts on these species require the approval of the Australian Minister for the Environment.

As there is a possibility of a significant impact on nationally threatened species and communities, a Referral under the EPBC Act has been made. The Minister decided that the project was a Controlled Action and that it would be assessed by Preliminary Documentation. The projects likely impacts are the removal of:

- Natural Temperate Grassland of the Victorian Volcanic Plain (20.807 hectares);

- 19 Spiny Rice-flower plants;
- Golden Sun Moth habitat (9.797 hectares); and
- Striped Legless Lizard habitat (20.325 hectares).

7.4. EE Act

The "Ministerial Guidelines for Assessment of Environmental Effects under the *Environment Effects Act 1978"* (DSE 2006), identifies criteria which trigger a Referral to the State Minister for Planning.

The current proposed removal of more than 10 hectares of native vegetation from an endangered Ecological Vegetation Class (EVC 132) triggers the criteria for a referral under the EE Act.

However, it is not anticipated that a EES process will be required due to this being a metropolitan infill project as distinct from a major infrastructure or regional project, and due to the likelihood of duplicate assessment under multiple legislative frameworks, and due to the impacts not being considered to be of regional or state significance. Further advice should be sought from the planning minister and/or their representative.

7.5. CaLP Act

The *Catchment and Land Protection Act 1994* (CaLP Act) requires that land owners (or a third party to whom responsibilities have been legally transferred) must prevent the growth and spread of regionally controlled weeds.

In accordance with the CaLP Act, the noxious weed species listed below, which were recorded in the subject land, must be controlled.

- Artichoke Thistle;
- African Boxthorn;
- Chilean Needle-grass;
- Serrated Tussock; and
- Spiny Rush.

Precision control methods that minimise off-target kills (e.g. spot spraying) should be used in environmentally sensitive areas (e.g. within or near native vegetation, waterways, etc.).

A separate Land Management Plan prepared by BL&A in 2018 addresses the required weed management at the site (see BL&A 2018).

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Appendix 1: Details of the assessment process in accordance with the Guidelines for the removal, destruction or lopping of native vegetation (DELWP 2017a)

Purpose and objective

Policies and strategies relating to the protection and management of native vegetation in Victoria are defined in the State Planning Policy Framework (SPPF). The objective identified in Clause 12.01 of all Victorian Planning Schemes is 'To ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation'.

This is to be achieved through the following three-step approach, as detailed in the Guidelines:

1. Avoid the removal, destruction or lopping of native vegetation.
2. Minimise impacts from the removal, destruction or lopping of native vegetation that cannot be avoided.
3. Provide an offset to compensate for the biodiversity impact from the removal, destruction or lopping of native vegetation.

Note: While a planning permit may still be required, if native vegetation does not meet the definition of either a patch or a scattered tree, an offset under the Guidelines is not required.

Assessment pathways

The first step in determining the type of assessment required for any site in Victoria is to determine the assessment pathway for the proposed native vegetation removal. The three possible assessment pathways for applications to remove native vegetation in Victoria are:

- Basic;
- Intermediate; or
- Detailed.

This assessment pathway is determined by two factors:

- **Location Category**, as determined using the states' Location Map. The location category indicates the potential risk to biodiversity from removing a small amount of native vegetation. The three location categories are defined as:
    - **Location 1** – shown in light blue-green on the Location Map; occurring over most of Victoria.
    - **Location 2** – shown in dark blue-green on the Location Map; includes areas mapped as endangered EVCs and/or sensitive wetlands and coastal areas.
    - **Location 3** – shown in brown on the Location Map; includes areas where the removal of less than 0.5 hectares of native vegetation could have a significant impact on habitat for rare and threatened species.
- **Extent of native vegetation** – The extent of any patches and scattered trees proposed to be removed (as well as the extent of any past native vegetation removal), with consideration as to whether the proposed removal includes any large trees. Extent of native vegetation is determined as follows:
    - **Patch** – the area of the patch in hectares.

- **Scattered Tree** – the extent of a scattered tree is dependent on whether the scattered tree is small or large. A tree is considered to be a large tree if it is greater or equal to the large tree benchmark diameter at breast height (DBH) for the relevant bioregional EVC. Any scattered tree that is not a large tree is a small scattered tree. The extent of large and small scattered trees is determined as follows:

  Large scattered tree – the area of a circle with a 15-metre radius, with the trunk of the tree at the centre.

  Small scattered tree – the area of a circle with a ten-metre radius, with the trunk of the tree at the centre.

The assessment pathway for assessing an application to remove native vegetation is then determined as detailed in the following matrix table:

Extent of native vegetation	Location Category		
	Location 1	Location 2	Location 3
< 0.5 hectares and not including any large trees	Basic	Intermediate	Detailed
< 0.5 hectares and including one or more large trees	Intermediate	Intermediate	Detailed
≥ 0.5 hectares	Detailed	Detailed	Detailed

Note: If the native vegetation to be removed includes more than one location category, the higher location category is used to determine the assessment pathway.

Landscape scale information – strategic biodiversity value

The strategic biodiversity value (SBV) is a measure of a location's importance to Victoria's biodiversity, relative to other locations across the state. It is represented as a score between 0 and 1 and determined from the Strategic biodiversity value map, available from NVIM (DELWP 2019c).

Landscape scale information – habitat for rare or threatened species

Habitat importance for rare or threatened species is a measure of the importance of a location in the landscape as habitat for a particular rare or threatened species, in relation to other habitat available for that species. It is represented as a score between 0 and 1 and is determined from the Habitat importance maps, administered by DELWP.

This includes two groups of habitat:

- **Highly localised habitats** – Limited in area and considered to be equally important, therefore having the same habitat importance score.
- **Dispersed habitats** – Less limited in area and based on habitat distribution models.

Habitat for rare or threatened species is used to determine the type of offset required in the detailed assessment pathway.

Biodiversity value

A combination of site-based and landscape scale information is used to calculate the biodiversity value of native vegetation to be removed. Biodiversity value is represented by a general or species habitat score, detailed as follows.

Firstly, the extent and condition of native vegetation to be removed are combined to determine the habitat hectares as follows:

***Habitat hectares* = extent of native vegetation x condition score**

Secondly, the habitat hectare score is combined with a landscape factor to obtain an overall measure of biodiversity value. Two landscape factors exist as follows:

- **General landscape factor** – determined using an adjusted strategic biodiversity score, and relevant when no habitat importance scores are applicable;
- **Species landscape factor** – determined using an adjusted habitat importance score for each rare or threatened species habitat mapped at a site in the Habitat importance map.

These factors are then used as follows to determine the biodiversity value of a site:

***General habitat score* = habitat hectares x general landscape factor**

***Species habitat score* = habitat hectares x species landscape factor**

Offset requirements

A native vegetation offset is required for the approved removal of native vegetation. Offsets conform to one of two types and each type incorporates a multiplier to address the risk of offset:

- A **general offset** is required when the removal of native vegetation does not have a significant impact on any habitat for rare or threatened species (i.e. the proportional impact is below the species offset threshold). In this case a multiplier of 1.5 applies to determine the general offset amount.

  ***General offset* (amount of general habitat units) = general habitat score x 1.5**

- A **species offset** is required when the removal of native vegetation has a significant impact on habitat for a rare or threatened species (i.e. the proportional impact is above the species offset threshold). In this case a multiplier of 2 applies to determine the species offset amount.

  ***Species offset* (amount of species habitat units) = Species habitat score x 2**

Note: if native vegetation does not meet the definition of either a patch or scattered tree an offset is not required.

Offset attributes

Offsets must meet the following attribute requirements, as relevant:

- General offsets
  - **Offset amount** – general offset = general habitat score x 1.5
  - **Strategic biodiversity value (SBV)** – the offset has at least 80% of the SBV of the native vegetation removed
  - **Vicinity** – the offset is in the same CMA boundary or municipal district as the native vegetation removed
  - Habitat for rare and threatened species – N/A
  - **Large trees** – the offset include the protection of at least one large tree for every large tree to be removed
- Species offsets
  - **Offset amount** – species offset = species habitat score x 2
  - Strategic biodiversity value (SBV): N/A
  - Vicinity: N/A
  - **Habitat for rare and threatened species** – the offset comprises mapped habitat according to the Habitat importance map for the relevant species
  - **Large trees** – the offset include the protection of at least one large tree for every large tree to be removed

Appendix 2: Detailed habitat hectare assessment results

Habitat Zone			A	B	C	D	E	F	G	H	I	J
Bioregion			VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP
EVC Number			132_61	132_61	132_61	132_61	132_61	132_61	125	125	125	125
Total area of Habitat Zone (ha)			1.754	0.712	2.243	5.816	7.597	0.487	0.017	0.002	0.257	0.007
Site Condition	Large Old Trees	/10	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
	Tree Canopy Cover	/5	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
	Lack of Weeds	/15	4	0	7	4	0	4	7	7	7	7
	Understorey	/25	15	10	15	15	10	15	15	15	15	15
	Recruitment	/10	6	6	10	6	0	6	6	6	6	3
	Organic Matter	/5	5	5	2	5	4	3	4	4	3	0
	Logs	/5	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
	Site condition standardising multiplier*		1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
	Site Condition subtotal		*41*	*29*	*46*	*41*	*19*	*38*	*44*	*44*	*42*	*34*
Landscape Context	Patch Size	/10	8	8	8	8	8	8	8	1	1	1
	Neighbourhood	/10	3	3	3	3	3	3	3	3	3	3
	Distance to Core	/5	4	4	4	4	4	4	4	1	1	1
Total Condition Score		**/100**	**56**	**44**	**61**	**56**	**34**	**53**	**59**	**49**	**47**	**39**

* Modified approach to habitat scoring - refer to Table 14 of DELWP's Vegetation Quality Assessment Manual (DSE, 2004).

Habitat Zone			K	M	N	T	U	V	X	Y	Z	AB
Bioregion			VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP
EVC Number			125	125	125	132_61	132_61	132_61	132_61	132_61	132_61	125
Total area of Habitat Zone (ha)			0.010	0.017	0.021	0.123	0.593	0.562	0.036	0.104	0.884	0.050
Site Condition	Large Old Trees	/10	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
	Tree Canopy Cover	/5	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
	Lack of Weeds	/15	4	4	4	4	4	4	9	9	0	7
	Understorey	/25	15	15	15	10	10	10	10	5	10	15
	Recruitment	/10	3	3	3	6	10	6	6	3	0	6
	Organic Matter	/5	4	3	3	3	0	3	0	3	4	3
	Logs	/5	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
	Site condition standardising multiplier*		1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
	Site Condition subtotal		*35*	*34*	*34*	*31*	*33*	*31*	*34*	*27*	*19*	*42*
Landscape Context	Patch Size	/10	1	1	1	8	8	8	8	1	8	1
	Neighbourhood	/10	3	3	3	3	3	3	3	3	3	3
	Distance to Core	/5	1	1	1	4	4	4	4	1	4	1
Total Condition Score		/100	**40**	**39**	**39**	**46**	**48**	**46**	**49**	**32**	**34**	**47**

* Modified approach to habitat scoring - refer to Table 14 of DELWP's Vegetation Quality Assessment Manual (DSE, 2004)

Appendix 3: Flora species recorded in the study area

Origin	Common name	Scientific name	EPBC	CaLP Act
*	African Box-thorn	*Lycium ferocissimum*		C
*	Artichoke Thistle	*Cynara cardunculus subsp. flavescens*		C
*	Aster-weed	*Aster subulatus*		
	Bedstraw	*Galium spp.*		
	Berry Saltbush	*Atriplex semibaccata*		
	Bindweed	*Convolvulus spp.*		
	Black Cotton-bush	*Maireana decalvans s.l.*		
	Blue Devil	*Eryngium ovinum*		
	Bluebell	*Wahlenbergia spp.*		
*	Buck's-horn Plantain	*Plantago coronopus*		
*	Centaury	*Centaurium spp.*		
*	Chilean Needle-grass	*Nassella neesiana*		R
*	Common Heron's-bill	*Erodium cicutarium*		
*	Common Millet	*Panicum capillare*		
*	Common Sow-thistle	*Sonchus oleraceus*		
	Common Woodruff	*Asperula conferta*		
	Composite	*Asteraceae spp.*		
	Cotton Fireweed	*Senecio quadridentatus*		
*	Couch	*Cynodon dactylon var. dactylon*		
	Creeping Cudweed	*Euchiton japonicus s.s.*		
*	Curled Dock	*Rumex crispus*		
#	Cypress-pine	*Callitris spp.*		
	Dock	*Rumex spp.*		
*	Drain Flat-sedge	*Cyperus eragrostis*		
	Drooping Cassinia	*Cassinia sp. aff. arcuata (Midlands)*		
#	Drooping Sheoak	*Allocasuarina verticillata*		
*	Fescue	*Vulpia spp.*		
*	Flatweed	*Hypochaeris radicata*		
*	Flaxleaf Fleabane	*Conyza bonariensis*		
*	Galenia	*Galenia pubescens var. pubescens*		
*	Gazania	*Gazania linearis*		
	Grassland Wood-sorrel	*Oxalis perennans*		
#	Grey Box	*Eucalyptus microcarpa*		
*	Hogweed	*Polygonum aviculare s.s.*		
	Hypoxis	*Hypoxis spp.*		
	Kangaroo Grass	*Themeda triandra*		
	Kidney-weed	*Dichondra repens*		
*	Kikuyu	*Cenchrus clandestinus*		

Origin	Common name	Scientific name	EPBC	CaLP Act
	Knobby Club-sedge	*Ficinia nodosa*		
	Lemon Beauty-heads	*Calocephalus citreus*		
	Lesser Joyweed	*Alternanthera denticulata s.l.*		
*	Lesser Quaking-grass	*Briza minor*		
	Lightwood	*Acacia implexa*		
#	Lignum	*Muehlenbeckia spp.*		
	Long-hair Plume-grass	*Dichelachne crinita*		
	Magenta Stork's-bill	*Pelargonium rodneyanum*		
	Naked Crane's-bill	*Geranium sp. 5*		
*	Onion Grass	*Romulea rosea*		
*	Ox-tongue	*Helminthotheca echioides*		
*	Paspalum	*Paspalum dilatatum*		
	Poison Lobelia	*Lobelia pratioides*		
	Raspwort	*Haloragis spp.*		
	Red-leg Grass	*Bothriochloa macra*		
*	Ribwort	*Plantago lanceolata*		
	Rice Flower	*Pimelea spp.*		
	River Red-gum	*Eucalyptus camaldulensis*		
	Rock Fern	*Cheilanthes spp.*		
	Rough Raspwort	*Haloragis aspera*		
	Rush	*Juncus spp.*		
	Saloop	*Einadia hastata*		
*	Serrated Tussock	*Nassella trichotoma*		C
	Sheep's Burr	*Acaena echinata*		
#	Silky Blue-grass	*Dichanthium sericeum subsp. sericeum*		
	Small Loosestrife	*Lythrum hyssopifolia*		
	Smooth Solenogyne	*Solenogyne dominii*		
	Spear Grass	*Austrostipa spp.*		
	Speedwell	*Veronica spp.*		
	Spike Sedge	*Eleocharis spp.*		
	Spiny Rice-flower	*Pimelea spinescens subsp. spinescens*	CR	
*	Spiny Rush	*Juncus acutus subsp. acutus*		C
*	Squirrel-tail Fescue	*Vulpia bromoides*		
#	Sticky Hop-bush	*Dodonaea viscosa*		
	Swamp Wallaby-grass	*Amphibromus spp.*		
*	Toowoomba Canary-grass	*Phalaris aquatica*		
	Tree Violet	*Melicytus dentatus s.l.*		
	Tufted Burr-daisy	*Calotis scapigera*		
*	Turnip	*Brassica spp.*		

Origin	Common name	Scientific name	EPBC	CaLP Act
	Variable Plantain	*Plantago varia*		
	Variable Willow-herb	*Epilobium billardierianum*		
	Wallaby Grass	*Rytidosperma spp.*		
	Windmill Grass	*Chloris truncata*		

Notes: EPBC = threatened species status under EPBC Act: CR = critically endangered;

CaLP Act = declared noxious weeds status under the CaLP Act; S = State Prohibited Weeds (any infestations are to be reported to DELWP. DELWP is responsible for control of State Prohibited Weeds); P = Regionally Prohibited Weeds (Land owners must take all reasonable steps to eradicate regionally prohibited weeds on their land); C = Regionally Controlled Weeds (Land owners have the responsibility to take all reasonable steps to prevent the growth and spread of Regionally controlled weeds on their land); R = Restricted Weeds (Trade in these weeds and their propagules, either as plants, seeds or contaminants in other materials is prohibited).

* = introduced to Victoria

= Victorian native taxa occurring outside their natural range

Appendix 4: Fauna species recorded in the study area

Origin	Common Name	Scientific Name
	Australian Magpie	*Gymnorhina tibicen*
	Black-winged Stilt	*Himantopus himantopus*
	Brown Falcon	*Falco berigora*
*	Common Myna	*Acridotheres tristis*
*	Common Starling	*Sturnus vulgaris*
*	House Sparrow	*Passer domesticus*
	Little Eagle	*Hieraaetus morphnoides*
	Little Raven	*Corvus mellori*
	Red Wattlebird	*Anthochaera carunculata*
	Singing Bushlark	*Mirafra javanica*
*	Skylark	*Alauda arvensis*
*	Spotted Turtle-Dove	*Streptopelia chinensis*
	White-plumed Honeyeater	*Lichenostomus penicillatus*
	Willie Wagtail	*Rhipidura leucophrys*
*	Brown Hare	*Lepus capensis*
*	European Rabbit	*Oryctolagus cuniculus*
	Marbled Gecko	*Phyllodactylus marmoratus*
	Striped Legless Lizard	*Delma impar*
	Golden Sun Moth	*Synemon plana*

Notes:

* = introduced to Victoria

Appendix 5: EPBC Act listed fauna species that occur or potentially occur in the study area

Common Name	Scientific Name	Conservation Status (EPBC Act)	Habitat	Number of Records	Year of Last Record	Likelihood of Occurrence
Birds						
Australian Painted Snipe	*Rostratula australis*	E	Generally inhabits shallow terrestrial freshwater wetlands, including temporary and permanent lakes, swamps and claypans. They also use inundated or waterlogged grassland or saltmarsh, dams, rice crops, sewage farms and bore drains. Typical sites include those with rank emergent tussocks of grass, sedges, rushes or reeds, or samphire; often with scattered clumps of lignum Muehlenbeckia or canegrass or sometimes tea-tree (Melaleuca). Sometimes utilises areas that are lined with trees, or that have some scattered fallen or washed-up timber (Department of the Environment 2016).	None	N/A	No records, unsuitable habitat - Unlikely to occur
Australasian Bittern	*Botaurus poiciloptilus*	E	Terrestrial wetlands, including a range of wetland types but prefers permanent water bodies with tall dense vegetation, particularly those dominated by sedges, rush, reeds or cutting grass (Marchant & Higgins 1990).	None	N/A	No records, unsuitable habitat - Unlikely to occur
Black-faced Monarch	*Monarcha melanopsis*	M	Rainforests, eucalypt woodlands, coastal scrub and damp gullies (Higgins et al. 2006)	None	N/A	No records, unsuitable habitat - Unlikely to occur

Common Name	Scientific Name	Conservation Status (EPBC Act)	Habitat	Number of Records	Year of Last Record	Likelihood of Occurrence
Common Greenshank	*Tringa nebularia*	M	Inhabits wide range of coastal or inland wetlands with varying levels of salinity; mainly muddy margins or rocky shores of wetlands (Higgins & Davies 1996).	None	N/A	No records, unsuitable habitat - Unlikely to occur
Common Sandpiper	*Actitis hypoleucos*	M	Inhabits a wide range of coastal or inland wetlands with varying levels of salinity; mainly muddy margins or rocky shores of wetlands. In Vic. Mostly found Westernport and Port Phillip Bay (Higgins & Davies 1996).	None	N/A	No records, unsuitable habitat - Unlikely to occur
Curlew Sandpiper	*Calidris ferruginea*	CE, M	Inhabits wide range of coastal or inland wetlands with varying levels of salinity; mainly muddy margins or rocky shores of wetlands (Higgins & Davies 1996).	1	3/04/1990	Unsuitable habitat - Unlikely to occur
Eastern Curlew	*Numenius madagascariensis*	CE, M	Inhabits sheltered coasts, especially estuaries, embayment, harbours, inlets and coastal lagoons with large intertidal mudflats or sandflats, often with beds of sea grass (Higgins & Davies 1996).	None	N/A	Unsuitable habitat - Unlikely to occur
Latham's Snipe	*Gallinago hardwickii*	M	Occurs in wide variety of permanent and ephemeral wetlands; it prefers open freshwater wetlands with dense cover nearby, such as the edges of rivers and creeks, bogs, swamps, waterholes. The species is wide spread in southeast Australia and most of its population occurs in Vic. Except in the northwest of the state (Higgins and Davies 1996).	None	N/A	No records, unsuitable habitat - Unlikely to occur

Common Name	Scientific Name	Conservation Status (EPBC Act)	Habitat	Number of Records	Year of Last Record	Likelihood of Occurrence
Osprey	*Pandion haliaetus*	M	Eastern Ospreys occur in littoral and coastal habitats and terrestrial wetlands of tropical and temperate Australia and offshore islands. They are mostly found in coastal areas but occasionally travel inland along major rivers, particularly in northern Australia (DEE 2018b)	None	N/A	No records, unsuitable habitat - Unlikely to occur
Painted Honeyeater	*Grantiella picta*	V	Inhabits box-ironbark forests and woodlands and mainly feeds on the fruits of mistletoe. Strongly associated with mistletoe around the margins of open forests and woodlands. Occurs at few localities. Uncommon breeding migrant from further north, arriving in October and leaving in February. (Higgins et al. 2001; Tzaros 2005).	None	N/A	No records, unsuitable habitat - Unlikely to occur
Pectoral Sandpiper	*Calidris melanotos*	M	Inhabit shallow fresh to saline wetlands, usually coastal to near-coastal, but occasionally farther inland. Wetlands often have open fringing mudflats and low emergent or fringing vegetation (Higgins & Davies 1996).	None	N/A	No records, unsuitable habitat - Unlikely to occur
Plains-wanderer	*Pedionomus torquatus*	CE	This species inhabits native grasslands with sparse cover, preferring grasslands that include wallaby grass and spear grass species (Marchant & Higgins 1993).	12	13/08/2004	Some habitat is available on the site. Recent records - Potential to occur

Common Name	Scientific Name	Conservation Status (EPBC Act)	Habitat	Number of Records	Year of Last Record	Likelihood of Occurrence
Red Knot	*Calidris canutus*	E, M	In Australasia the Red Knot mainly inhabit intertidal mudflats, sandflats and sandy beaches of sheltered coasts, in estuaries, bays, inlets, lagoons and harbours; sometimes on sandy ocean beaches or shallow pools on exposed wave-cut rock platforms or coral reefs. They are occasionally seen on terrestrial saline wetlands near the coast, such as lakes, lagoons, pools and pans, and recorded on sewage ponds and saltworks, but rarely use freshwater swamps. They rarely use inland lakes or swamps (Higgins & Davies 1996).	None	N/A	No records, unsuitable habitat - Unlikely to occur
Regent Honeyeater	*Xanthomyza phrygia*	CE	Inhabits dry box-ironbark eucalypt forests near rivers and creeks on inland slopes of the Great Dividing Range. It could also occur in small remnant patches or in mature trees in farmland or partly cleared agricultural land (Higgins et al. 2001).	None	N/A	Some habitat is available on the site. Potential to occur
Rufous Fantail	*Rhipidura rufifrons*	M	In east and south-east Australia, the Rufous Fantail mainly inhabits wet sclerophyll forests, often in gullies dominated by eucalypts such as Tallow-wood (Eucalyptus microcorys), Mountain Grey Gum (E. cypellocarpa), Narrow-leaved Peppermint (E. radiata), Mountain Ash (E. regnans), Alpine Ash (E. delegatensis), Blackbutt (E. pilularis) or Red Mahogany (E. resinifera); usually with a dense shrubby understorey often including ferns (DEE 2018b).	None	N/A	No records, unsuitable habitat - Unlikely to occur
Satin Flycatcher	*Myiagra cyanoleuca*	M	Tall forests and woodlands in wetter habitats but not in rainforest (Higgins et al. 2006)	None	N/A	No records, unsuitable habitat -

Common Name	Scientific Name	Conservation Status (EPBC Act)	Habitat	Number of Records	Year of Last Record	Likelihood of Occurrence
						Unlikely to occur
Sharp-tailed Sandpiper	*Calidris acuminata*	M	Inhabit shallow fresh to saline wetlands, usually coastal to near-coastal, but occasionally farther inland. Wetlands often have open fringing mudflats and low emergent or fringing vegetation (Higgins & Davies 1996).	None	N/A	No records, unsuitable habitat - Unlikely to occur
Swift Parrot	*Lathamus discolor*	CE	Prefers a narrow range of eucalypts in Victoria, including White Box, Red Ironbark and Yellow Gum as well as River Red Gum when this species supports abundant 'lerp'. Breeds in Tasmania and migrates to the mainland of Australia for the autumn, winter and early spring months. It lives mostly north of the Great Dividing Range, passing through two areas of Victoria on migration: the Port Phillip district and Gippsland. (Emison et al. 1987; Higgins 1999; Kennedy and Tzaros 2005).	5	16/05/2009	Some habitat is available on the site. Recent records - Potential to occur
White-throated Needletail	*Hirundapus caudacutus*	M	Aerial, over all habitats, but probably more over wooded areas, including open forest and rainforest. Often over heathland and less often above treeless areas such as grassland and swamps or farmland (Higgins 1999).	None	N/A	No records, unsuitable habitat - Unlikely to occur
Yellow Wagtail	*Motacilla flava*	M	Extremely uncommon migrant. Few sightings in Victoria. Mostly occurs in well-watered open grasslands on the fringes of wetlands. Roosts in mangroves and other dense vegetation (DEE 2018b).	None	N/A	No records, unsuitable habitat - Unlikely to occur

Common Name	Scientific Name	Conservation Status (EPBC Act)	Habitat	Number of Records	Year of Last Record	Likelihood of Occurrence
Mammals						
Eastern Barred Bandicoot	*Perameles gunnii Victorian subspecies*	E	The habitat of the Eastern Barred Bandicoot (mainland) is perennial tussock grassland and eucalypt woodland with a grassy ground layer. Drainage lines and areas of high vegetative cover have been identified as prime habitat. The key determining factor for persistence of this species appears to be high structural complexity and heterogeneity within the environment, reflected in its absence from agricultural areas but persistence in rubbish dumps and other variable habitats (Menkhorst 1995)	1	5/06/2003	Unsuitable habitat - Unlikely to occur
Greater Glider	*Petauroides volans*	V	Forest habitats including peppermint, stringybark, ash and gum dominated (Menkhorst 1995).	None	N/A	Unsuitable habitat - Unlikely to occur
Grey-headed Flying-fox	*Pteropus poliocephalus*	V	Brisbane, Newcastle, Sydney and Melbourne are occupied continuously. Elsewhere, during spring, they are uncommon south of Nowra and widespread in other areas of their range. Roosts in aggregations of various sizes on exposed branches. Roost sites are typically located near water, such as lakes, rivers or the coast. Roost vegetation includes rainforest patches, stands of Melaleuca, mangroves and riparian vegetation, but colonies also use highly modified vegetation in urban and suburban areas (Department of the Environment and Energy 2018b).	1	18/12/2014	Unsuitable habitat - Unlikely to occur

Common Name	Scientific Name	Conservation Status (EPBC Act)	Habitat	Number of Records	Year of Last Record	Likelihood of Occurrence
Spot-tailed Quoll	*Dasyurus maculatus maculatus (SE mainland population)*	E	Rainforest, wet and dry forest, coastal heath and scrub and River Red-gum woodlands along inland rivers (Menkhorst 1995).	None	N/A	No records, unsuitable habitat - Unlikely to occur
Reptiles and Amphibia						
Grassland Earless Dragon	*Tympanocryptis pinguicolla*	E	The species is confined to native tussock grassland on basalt plains north and west of Melbourne, has not been confirmed in Victoria since the 1960's (Robertson & Cooper 2000).	None	N/A	Lack of records in Victoria - Unlikely to occur
Pink-tailed Worm-lizard	*Aprasia parapulchella*	V	Native tussock grassland, sparse or no tree cover, little or no leaf litter and scattered partially buried rocks (Osbourne et al. 1991). There is an isolated population in central Vic near Bendigo (Wilson and Swan 2003).	None	N/A	Lack of records in Victoria - Unlikely to occur
Striped Legless Lizard	*Delma impar*	V	Grassland specialist. Known to occur in some areas dominated by introduced species such as Phalaris aquatica, Serated Tussock (*Nasella trichotoma*) and Hypocharis radicata and at sites with a history of grazing and pasture improvement. shelter in grass tussocks, thick ground cover, soil cracks, under rocks, spider burrows, and under ground debris such as timber. The majority of sites in Victoria and NSW occur on cracking clay soils with some surface rock which provide shelter for the species (DEE 2018b)	441	3/01/2017	Confirmed in surveys in the broader study area but not on the subject land – potential to occur.

Common Name	Scientific Name	Conservation Status (EPBC Act)	Habitat	Number of Records	Year of Last Record	Likelihood of Occurrence
Growling Grass Frog	*Litoria raniformis*	V	Permanent, still or slow flowing water with fringing and emergent vegetation in streams, swamps, lagoons and artificial wetlands such as farm dams and abandoned quarries (Clemann & Gillespie 2004).	220	22/10/2014	Majority of the records in Caroline Springs to the south west. No records on site. Not detected in targeted surveys - Unlikely to occur
Invertebrates						
Golden Sun Moth	*Synemon plana*	CE	Areas that are, or have been native grasslands or grassy woodlands. It is known to inhabit degraded grasslands with introduced grasses being dominant, with a preference for the native wallaby grass being present (DEWHA 2009b).	23	14/12/2010	Confirmed in surveys
Fish						
Australian Grayling	*Prototroctes maraena*	V	Large and small coastal streams and rivers with cool, clear waters with a gravel substrate and altering pools and riffles (Cadwallader & Backhouse 1983).	None	N/A	No records, unsuitable habitat - Unlikely to occur
Eastern Dwarf Galaxias	*Galaxiella pusilla*	V	Barwon River to Mitchell River. Vegetated margins of still water, ditches, swamps and backwaters of creeks, both ephemeral and permanent (Allen et al. 2002).	None	N/A	No records, unsuitable habitat -

Common Name	Scientific Name	Conservation Status (EPBC Act)	Habitat	Number of Records	Year of Last Record	Likelihood of Occurrence
						Unlikely to occur
Murray Cod	*Maccullochella peelii*	V	Slow flowing turbid water of rivers and streams of low elevation; also fast flowing clear upland streams (Allen et al. 2002).	None	N/A	No records, unsuitable habitat - Unlikely to occur

Notes: EPBC = threatened species status under EPBC Act; EX = presumed extinct in the wild; CE = critically endangered; E = endangered; V = vulnerable; M = listed migratory taxa

Appendix 6: Photographs of native vegetation proposed for removal

Example of Habitat Zones A and B

Habitat Zone C

Habitat Zone D

Example of Habitat Zones E and Z

Habitat Zone F

Example of Habitat Zones H, I,J and AB

Example of Habitat Zones G, M and N

Habitat Zone Y

Example of Habitat Zones T, U, V and X

Appendix 7: EVC benchmarks

Heavier Soils Plains Grassland (EVC 132_61.) – Victorian Volcanic Plain bioregion

Plains Grassy Wetland (EVC 125) – Victorian Volcanic Plain bioregion

Department of Sustainability and Environment

EVC/Bioregion Benchmark for Vegetation Quality Assessment

Victorian Volcanic Plain bioregion

EVC 132_61: *Heavier-soils* Plains Grassland

Description:
Treeless vegetation mostly less than 1 m tall dominated by largely graminoid and herb life forms. Occupies fertile cracking basalt soils prone to seasonal waterlogging in areas receiving at least 500 mm annual rainfall.

Life Forms:

Life form	#Spp	%Cover	LF code
Large Herb	2	5%	LH
Medium Herb	12	20%	MH
Small or Prostrate Herb	4	5%	SH
Large Tufted Graminoid	1	5%	LTG
Medium to Small Tufted Graminoid	13	40%	MTG
Medium to Tiny Non-tufted Graminoid	4	5%	MNG
Bryophytes/Lichens and Soil Crust*	na	20%	BL

* Note: treat as one life form in this EVC

LF Code	Species typical of at least part of EVC range	Common Name
SS	*Pimelea humilis*	Common Rice-flower
LH	*Rumex dumosus*	Wiry Dock
MH	*Calocephalus citreus*	Lemon Beauty-heads
MH	*Acaena echinata*	Sheep's Burr
MH	*Leptorhynchos squamatus*	Scaly Buttons
MH	*Eryngium ovinum*	Blue Devil
SH	*Solenogyne dominii*	Smooth Solenogyne
SH	*Lobelia pratioides*	Poison Lobelia
LTG	*Austrostipa bigeniculata*	Kneed Spear-grass
LTG	*Dichelachne crinita*	Long-hair Plume-grass
MTG	*Themeda triandra*	Kangaroo Grass
MTG	*Austrodanthonia caespitosa*	Common Wallaby-grass
MTG	*Elymus scaber* var. *scaber*	Common Wheat-grass
MTG	*Schoenus apogon*	Common Bog-sedge
MNG	*Microlaena stipoides* var. *stipoides*	Weeping Grass
MNG	*Thelymitra pauciflora* s.l.	Slender Sun-orchid
MNG	*Microtis unifolia*	Common Onion-orchid
SC	*Convolvulus erubescens*	Pink Bindweed

Recruitment:
Episodic/Fire or Grazing. Desirable period between disturbances is 5 years.

Organic Litter:
10% cover

EVC 132_61: *Heavier-soils* Plains Grassland - Victorian Volcanic Plain bioregion

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	*Plantago lanceolata*	Ribwort	high	low
LH	*Cirsium vulgare*	Spear Thistle	high	high
LH	*Sonchus oleraceus*	Common Sow-thistle	high	low
MH	*Hypochoeris radicata*	Cat's Ear	high	low
MH	*Leontodon taraxacoides* ssp. *taraxacoides*	Hairy Hawkbit	high	low
MH	*Trifolium subterraneum*	Subterranean Clover	high	low
MH	*Plantago coronopus*	Buck's-horn Plantain	high	low
MH	*Trifolium striatum*	Knotted Clover	high	low
MH	*Trifolium dubium*	Suckling Clover	high	low
LTG	*Phalaris aquatica*	Toowoomba Canary-grass	high	high
LNG	*Holcus lanatus*	Yorkshire Fog	high	high
MTG	*Romulea rosea*	Onion Grass	high	low
MTG	*Vulpia bromoides*	Squirrel-tail Fescue	high	low
MTG	*Briza minor*	Lesser Quaking-grass	high	low
MTG	*Bromus hordeaceus* ssp. *hordeaceus*	Soft Brome	high	low
MTG	*Briza maxima*	Large Quaking-grass	high	low
MTG	*Lolium rigidum*	Wimmera Rye-grass	high	low
MTG	*Lolium perenne*	Perennial Rye-grass	high	low
MTG	*Nassella neesiana*	Chilean Needle-grass	high	high
MNG	*Cynosurus echinatus*	Rough Dog's-tail	high	low
MNG	*Juncus capitatus*	Capitate Rush	high	low

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Department of Sustainability and Environment

EVC/Bioregion Benchmark for Vegetation Quality Assessment

Victorian Volcanic Plain bioregion

EVC 125: Plains Grassy Wetland

Description:
This EVC is usually treeless, but in some instances can include sparse River Red Gum *Eucalyptus camaldulensis* or Swamp Gum *Eucalyptus ovata*. A sparse shrub component may also be present. The characteristic ground cover is dominated by grasses and small sedges and herbs. The vegetation is typically species-rich on the outer verges but is usually species-poor in the wetter central areas.

Life Forms:

Life form	#Spp	%Cover	LF code
Large Herb	5	5%	LH
Medium Herb	6	10%	MH
Small or Prostrate Herb	3	10%	SH
Large Tufted Graminoid	3	15%	LTG
Large Non-tufted Graminoid	1	5%	LNG
Medium to Small Tufted Graminoid	8	30%	MTG
Medium to Tiny Non-tufted Graminoid	2	10%	MNG
Bryophytes/Lichens	na	10%	BL

LF Code	Species typical of at least part of EVC range	Common Name
LH	*Epilobium billardierianum*	Variable Willow-herb
LH	*Villarsia reniformis*	Running Marsh-flower
LH	*Epilobium billardierianum ssp. cinereum*	Grey Willow-herb
MH	*Potamogeton tricarinatus s.l.*	Floating Pondweed
MH	*Lilaeopsis polyantha*	Australian Lilaeopsis
MH	*Utricularia dichotoma s.l.*	Fairies' Aprons
SH	*Eryngium vesiculosum*	Prickfoot
SH	*Neopaxia australasica*	White Purslane
SH	*Lobelia pratioides*	Poison Lobelia
LTG	*Juncus flavidus*	Gold Rush
LTG	*Deyeuxia quadriseta*	Reed Bent-grass
LTG	*Amphibromus nervosus*	Common Swamp Wallaby-grass
LTG	*Poa labillardierei*	Common Tussock-grass
MTG	*Triglochin procerum s.l.*	Water Ribbons
MTG	*Glyceria australis*	Australian Sweet-grass
MTG	*Juncus holoschoenus*	Joint-leaf Rush
MTG	*Austrodanthonia duttoniana*	Brown-back Wallaby-grass
MNG	*Eleocharis acuta*	Common Spike-sedge
MNG	*Eleocharis pusilla*	Small Spike-sedge

Recruitment:
Episodic/Flood. Desirable period between disturbances is 5 years.

Organic Litter:
20% cover

Logs:
5 m/0.1 ha.(where trees are overhanging the wetland)

Victoria The Place To Be

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	*Cirsium vulgare*	Spear Thistle	high	high
MH	*Leontodon taraxacoides ssp. taraxacoides*	Hairy Hawkbit	high	low
MH	*Hypochoeris radicata*	Cat's Ear	high	low
LTG	*Phalaris aquatica*	Toowoomba Canary-grass	high	high
LNG	*Holcus lanatus*	Yorkshire Fog	high	high
MTG	*Briza minor*	Lesser Quaking-grass	high	low
MTG	*Romulea rosea*	Onion Grass	high	low
TTG	*Cyperus tenellus*	Tiny Flat-sedge	high	low

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Appendix 8: Native Vegetation Removal (NVR) report

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: **27/08/2019**
Time of issue: **4:49 pm**

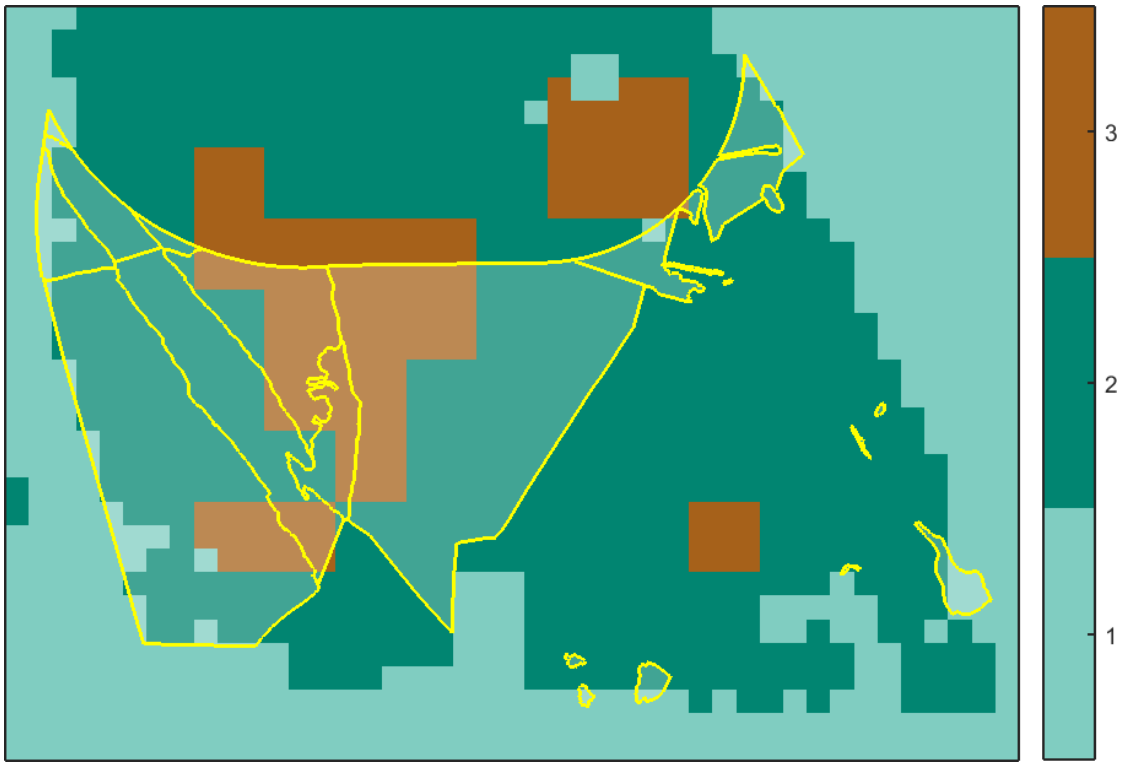
Report ID: NAA_2019_019

Project ID	6142_Broadcast_Aust_Full_removal_v2_190826

Assessment pathway

Assessment pathway	**Detailed Assessment Pathway**
Extent including past and proposed	21.248 ha
Extent of past removal	0.000 ha
Extent of proposed removal	21.248 ha
No. Large trees proposed to be removed	0
Location category of proposed removal	Location 3 The native vegetation is in an area where the removal of less than 0.5 hectares could have a significant impact on habitat for one or more rare or threatened species.The native vegetation is also in an area mapped as an endangered Ecological Vegetation Class (as per the statewide EVC map).

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:

Species offset amount[1]	18.662 species units of habitat for Growling Grass Frog, *Litoria raniformis* 17.493 species units of habitat for Small Golden Moths, *Diuris basaltica* 17.493 species units of habitat for Fragrant Saltbush, *Rhagodia parabolica* 17.493 species units of habitat for Large-headed Fireweed, *Senecio macrocarpus* 17.493 species units of habitat for Heath Spear-grass, *Austrostipa exilis* 17.493 species units of habitat for Melbourne Yellow-gum, *Eucalyptus leucoxylon subsp. connata* 17.029 species units of habitat for Basalt Podolepis, *Podolepis linearifolia* 16.722 species units of habitat for Spiny Rice-flower, *Pimelea spinescens subsp. spinescens*
Large trees	0 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 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 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 (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 that applies
- A defendable space statement as applicable
- A statement about the Native Vegetation Precinct Plan 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.

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

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 is above the species offset threshold a species offset is required. This test is done for all species mapped 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 is calculated by the following equation in accordance with the Guidelines:

Species habitat units = extent x condition 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 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-A	Patch	vvp_0132_61	Endangered	0	no	0.560	1.754	1.754	0.848	0.915	1.881	13207 Growling Grass Frog *Litoria raniformis*
										0.826	1.793	501473 Small Golden Moths *Diuris basaltica*
										0.826	1.793	502929 Fragrant Saltbush *Rhagodia parabolica*
										0.826	1.793	503116 Large-headed Fireweed *Senecio macrocarpus*
										0.826	1.793	503984 Heath Spear-grass *Austrostipa exilis*
										0.826	1.793	504484 Melbourne Yellow-gum *Eucalyptus leucoxylon subsp. connata*
										0.244	1.792	504658 Basalt Podolepis *Podolepis linearifolia*
										0.670	1.797	504823 Spiny Rice-flower *Pimelea spinescens subsp. spinescens*
1-B	Patch	vvp_0132_61	Endangered	0	no	0.440	0.712	0.712	0.914	0.912	0.599	13207 Growling Grass Frog *Litoria raniformis*
										0.825	0.571	501473 Small Golden Moths *Diuris basaltica*

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
										0.825	0.571	502929 Fragrant Saltbush *Rhagodia parabolica*
										0.825	0.571	503116 Large-headed Fireweed *Senecio macrocarpus*
										0.825	0.571	503984 Heath Spear-grass *Austrostipa exilis*
										0.825	0.571	504484 Melbourne Yellow-gum *Eucalyptus leucoxylon subsp. connata*
										0.482	0.571	504658 Basalt Podolepis *Podolepis linearifolia*
										0.825	0.571	504823 Spiny Rice-flower *Pimelea spinescens subsp. spinescens*
1-V	Patch	vvp_0132_61	Endangered	0	no	0.460	0.562	0.562	0.535	0.838	0.475	13207 Growling Grass Frog *Litoria raniformis*
										0.443	0.434	501473 Small Golden Moths *Diuris basaltica*
										0.443	0.434	502929 Fragrant Saltbush *Rhagodia parabolica*
										0.443	0.434	503116 Large-headed Fireweed *Senecio macrocarpus*
										0.443	0.434	503984 Heath Spear-grass *Austrostipa exilis*
										0.443	0.434	504484 Melbourne Yellow-gum *Eucalyptus leucoxylon subsp. connata*
										0.363	0.434	504823 Spiny Rice-flower *Pimelea spinescens subsp. spinescens*
1-U	Patch	vvp_0132_61	Endangered	0	no	0.480	0.593	0.593	0.739	0.845	0.525	13207 Growling Grass Frog *Litoria raniformis*
										0.678	0.484	501473 Small Golden Moths *Diuris basaltica*
										0.678	0.484	502929 Fragrant Saltbush *Rhagodia parabolica*
										0.678	0.484	503116 Large-headed Fireweed *Senecio macrocarpus*
										0.678	0.484	503984 Heath Spear-grass *Austrostipa exilis*
										0.678	0.484	504484 Melbourne Yellow-gum *Eucalyptus leucoxylon subsp. connata*

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
										0.163	0.509	504658 Basalt Podolepis *Podolepis linearifolia*
										0.307	0.495	504823 Spiny Rice-flower *Pimelea spinescens subsp. spinescens*
1-C	Patch	vvp_0132_61	Endangered	0	no	0.610	2.243	2.243	0.786	0.901	2.601	13207 Growling Grass Frog *Litoria raniformis*
										0.804	2.468	501473 Small Golden Moths *Diuris basaltica*
										0.804	2.468	502929 Fragrant Saltbush *Rhagodia parabolica*
										0.804	2.468	503116 Large-headed Fireweed *Senecio macrocarpus*
										0.804	2.468	503984 Heath Spear-grass *Austrostipa exilis*
										0.804	2.468	504484 Melbourne Yellow-gum *Eucalyptus leucoxylon subsp. connata*
										0.676	2.467	504658 Basalt Podolepis *Podolepis linearifolia*
										0.527	2.474	504823 Spiny Rice-flower *Pimelea spinescens subsp. spinescens*
1-D	Patch	vvp_0132_61	Endangered	0	no	0.560	5.816	5.816	0.708	0.879	6.121	13207 Growling Grass Frog *Litoria raniformis*
										0.713	5.630	501473 Small Golden Moths *Diuris basaltica*
										0.713	5.630	502929 Fragrant Saltbush *Rhagodia parabolica*
										0.713	5.630	503116 Large-headed Fireweed *Senecio macrocarpus*
										0.713	5.630	503984 Heath Spear-grass *Austrostipa exilis*
										0.713	5.630	504484 Melbourne Yellow-gum *Eucalyptus leucoxylon subsp. connata*
										0.698	5.634	504658 Basalt Podolepis *Podolepis linearifolia*
										0.637	5.611	504823 Spiny Rice-flower *Pimelea spinescens subsp. spinescens*
1-M	Patch	vvp_0125	Endangered	0	no	0.390	0.017	0.017	0.730	0.850	0.013	13207 Growling Grass Frog *Litoria raniformis*

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**
										0.670	0.011	501473 Small Golden Moths *Diuris basaltica*
										0.670	0.011	502929 Fragrant Saltbush *Rhagodia parabolica*
										0.670	0.011	503116 Large-headed Fireweed *Senecio macrocarpus*
										0.670	0.011	503984 Heath Spear-grass *Austrostipa exilis*
										0.670	0.011	504484 Melbourne Yellow-gum *Eucalyptus leucoxylon subsp. connata*
										0.670	0.011	504658 Basalt Podolepis *Podolepis linearifolia*
										0.670	0.011	504823 Spiny Rice-flower *Pimelea spinescens subsp. spinescens*
1-N	Patch	vvp_0125	Endangered	0	no	0.390	0.021	0.021	0.730	0.850	0.015	13207 Growling Grass Frog *Litoria raniformis*
										0.670	0.014	501473 Small Golden Moths *Diuris basaltica*
										0.670	0.014	502929 Fragrant Saltbush *Rhagodia parabolica*
										0.670	0.014	503116 Large-headed Fireweed *Senecio macrocarpus*
										0.670	0.014	503984 Heath Spear-grass *Austrostipa exilis*
										0.670	0.014	504484 Melbourne Yellow-gum *Eucalyptus leucoxylon subsp. connata*
										0.670	0.014	504658 Basalt Podolepis *Podolepis linearifolia*
										0.670	0.014	504823 Spiny Rice-flower *Pimelea spinescens subsp. spinescens*
1-X	Patch	vvp_0132_61	Endangered	0	no	0.490	0.036	0.036	0.630	0.820	0.032	13207 Growling Grass Frog *Litoria raniformis*
										0.650	0.029	501473 Small Golden Moths *Diuris basaltica*
										0.650	0.029	502929 Fragrant Saltbush *Rhagodia parabolica*
										0.650	0.029	503116 Large-headed Fireweed *Senecio macrocarpus*

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**
										0.650	0.029	503984 Heath Spear-grass *Austrostipa exilis*
										0.650	0.029	504484 Melbourne Yellow-gum *Eucalyptus leucoxylon subsp. connata*
										0.650	0.029	504658 Basalt Podolepis *Podolepis linearifolia*
1-Z	Patch	vvp_0132_61	Endangered	0	no	0.340	0.883	0.883	0.619	0.854	0.557	13207 Growling Grass Frog *Litoria raniformis*
										0.696	0.509	501473 Small Golden Moths *Diuris basaltica*
										0.696	0.509	502929 Fragrant Saltbush *Rhagodia parabolica*
										0.696	0.509	503116 Large-headed Fireweed *Senecio macrocarpus*
										0.696	0.509	503984 Heath Spear-grass *Austrostipa exilis*
										0.696	0.509	504484 Melbourne Yellow-gum *Eucalyptus leucoxylon subsp. connata*
										0.539	0.507	504658 Basalt Podolepis *Podolepis linearifolia*
1-E	Patch	vvp_0132_61	Endangered	0	no	0.340	7.597	7.597	0.867	0.906	4.924	13207 Growling Grass Frog *Litoria raniformis*
										0.816	4.690	501473 Small Golden Moths *Diuris basaltica*
										0.816	4.690	502929 Fragrant Saltbush *Rhagodia parabolica*
										0.816	4.690	503116 Large-headed Fireweed *Senecio macrocarpus*
										0.816	4.690	503984 Heath Spear-grass *Austrostipa exilis*
										0.816	4.690	504484 Melbourne Yellow-gum *Eucalyptus leucoxylon subsp. connata*
										0.545	4.690	504658 Basalt Podolepis *Podolepis linearifolia*
										0.816	4.690	504823 Spiny Rice-flower *Pimelea spinescens subsp. spinescens*
1-AB	Patch	vvp_0125	Endangered	0	no	0.470	0.005	0.005	0.640	0.870	0.005	13207 Growling Grass Frog *Litoria raniformis*

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**
										0.792	0.005	501473 Small Golden Moths *Diuris basaltica*
										0.792	0.005	502929 Fragrant Saltbush *Rhagodia parabolica*
										0.792	0.005	503116 Large-headed Fireweed *Senecio macrocarpus*
										0.792	0.005	503984 Heath Spear-grass *Austrostipa exilis*
										0.792	0.005	504484 Melbourne Yellow-gum *Eucalyptus leucoxylon subsp. connata*
										0.704	0.005	504658 Basalt Podolepis *Podolepis linearifolia*
1-K	Patch	vvp_0125	Endangered	0	no	0.400	0.010	0.010	0.870	0.868	0.008	13207 Growling Grass Frog *Litoria raniformis*
										0.804	0.007	501473 Small Golden Moths *Diuris basaltica*
										0.804	0.007	502929 Fragrant Saltbush *Rhagodia parabolica*
										0.804	0.007	503116 Large-headed Fireweed *Senecio macrocarpus*
										0.804	0.007	503984 Heath Spear-grass *Austrostipa exilis*
										0.804	0.007	504484 Melbourne Yellow-gum *Eucalyptus leucoxylon subsp. connata*
										0.804	0.007	504658 Basalt Podolepis *Podolepis linearifolia*
										0.804	0.007	504823 Spiny Rice-flower *Pimelea spinescens subsp. spinescens*
1-G	Patch	vvp_0125	Endangered	0	no	0.590	0.017	0.017	0.739	0.894	0.019	13207 Growling Grass Frog *Litoria raniformis*
										0.806	0.018	501473 Small Golden Moths *Diuris basaltica*
										0.806	0.018	502929 Fragrant Saltbush *Rhagodia parabolica*
										0.806	0.018	503116 Large-headed Fireweed *Senecio macrocarpus*
										0.806	0.018	503984 Heath Spear-grass *Austrostipa exilis*

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
										0.806	0.018	504484 Melbourne Yellow-gum *Eucalyptus leucoxylon subsp. connata*
										0.806	0.018	504658 Basalt Podolepis *Podolepis linearifolia*
										0.334	0.018	504823 Spiny Rice-flower *Pimelea spinescens subsp. spinescens*
1-H	Patch	vvp_0125	Endangered	0	no	0.490	0.002	0.002	0.630	0.890	0.002	13207 Growling Grass Frog *Litoria raniformis*
										0.810	0.002	501473 Small Golden Moths *Diuris basaltica*
										0.810	0.002	502929 Fragrant Saltbush *Rhagodia parabolica*
										0.810	0.002	503116 Large-headed Fireweed *Senecio macrocarpus*
										0.810	0.002	503984 Heath Spear-grass *Austrostipa exilis*
										0.810	0.002	504484 Melbourne Yellow-gum *Eucalyptus leucoxylon subsp. connata*
										0.810	0.002	504658 Basalt Podolepis *Podolepis linearifolia*
1-J	Patch	vvp_0125	Endangered	0	no	0.390	0.007	0.007	0.870	0.850	0.005	13207 Growling Grass Frog *Litoria raniformis*
										0.750	0.005	501473 Small Golden Moths *Diuris basaltica*
										0.750	0.005	502929 Fragrant Saltbush *Rhagodia parabolica*
										0.750	0.005	503116 Large-headed Fireweed *Senecio macrocarpus*
										0.750	0.005	503984 Heath Spear-grass *Austrostipa exilis*
										0.750	0.005	504484 Melbourne Yellow-gum *Eucalyptus leucoxylon subsp. connata*
										0.750	0.005	504658 Basalt Podolepis *Podolepis linearifolia*
										0.750	0.005	504823 Spiny Rice-flower *Pimelea spinescens subsp. spinescens*
1-I	Patch	vvp_0125	Endangered	0	no	0.470	0.257	0.257	0.130	0.847	0.223	13207 Growling Grass Frog *Litoria raniformis*

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**
										0.517	0.201	501473 Small Golden Moths *Diuris basaltica*
										0.517	0.201	502929 Fragrant Saltbush *Rhagodia parabolica*
										0.517	0.201	503116 Large-headed Fireweed *Senecio macrocarpus*
										0.517	0.201	503984 Heath Spear-grass *Austrostipa exilis*
										0.517	0.201	504484 Melbourne Yellow-gum *Eucalyptus leucoxylon subsp. connata*
										0.517	0.201	504658 Basalt Podolepis *Podolepis linearifolia*
1-F	Patch	vvp_0132_61	Endangered	0	no	0.530	0.487	0.487	0.864	0.899	0.491	13207 Growling Grass Frog *Litoria raniformis*
										0.804	0.466	501473 Small Golden Moths *Diuris basaltica*
										0.804	0.466	502929 Fragrant Saltbush *Rhagodia parabolica*
										0.804	0.466	503116 Large-headed Fireweed *Senecio macrocarpus*
										0.804	0.466	503984 Heath Spear-grass *Austrostipa exilis*
										0.804	0.466	504484 Melbourne Yellow-gum *Eucalyptus leucoxylon subsp. connata*
										0.799	0.466	504658 Basalt Podolepis *Podolepis linearifolia*
										0.732	0.466	504823 Spiny Rice-flower *Pimelea spinescens subsp. spinescens*
1-Y	Patch	vvp_0125	Endangered	0	no	0.320	0.104	0.104	0.730	0.850	0.061	13207 Growling Grass Frog *Litoria raniformis*
										0.660	0.055	501473 Small Golden Moths *Diuris basaltica*
										0.660	0.055	502929 Fragrant Saltbush *Rhagodia parabolica*
										0.660	0.055	503116 Large-headed Fireweed *Senecio macrocarpus*
										0.660	0.055	503984 Heath Spear-grass *Austrostipa exilis*

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**
										0.660	0.055	504484 Melbourne Yellow-gum *Eucalyptus leucoxylon subsp. connata*
										0.660	0.055	504823 Spiny Rice-flower *Pimelea spinescens subsp. spinescens*
1-T2	Patch	vvp_0132_61	Endangered	0	no	0.460	0.037	0.037	0.480	0.830	0.031	13207 Growling Grass Frog *Litoria raniformis*
										0.381	0.028	501473 Small Golden Moths *Diuris basaltica*
										0.381	0.028	502929 Fragrant Saltbush *Rhagodia parabolica*
										0.381	0.028	503116 Large-headed Fireweed *Senecio macrocarpus*
										0.381	0.028	503984 Heath Spear-grass *Austrostipa exilis*
										0.381	0.028	504484 Melbourne Yellow-gum *Eucalyptus leucoxylon subsp. connata*
										0.377	0.028	504658 Basalt Podolepis *Podolepis linearifolia*
1-T1	Patch	vvp_0132_61	Endangered	0	no	0.460	0.087	0.087	0.760	0.890	0.075	13207 Growling Grass Frog *Litoria raniformis*
										0.800	0.072	501473 Small Golden Moths *Diuris basaltica*
										0.800	0.072	502929 Fragrant Saltbush *Rhagodia parabolica*
										0.800	0.072	503116 Large-headed Fireweed *Senecio macrocarpus*
										0.800	0.072	503984 Heath Spear-grass *Austrostipa exilis*
										0.800	0.072	504484 Melbourne Yellow-gum *Eucalyptus leucoxylon subsp. connata*
										0.772	0.072	504658 Basalt Podolepis *Podolepis linearifolia*
										0.800	0.072	504823 Spiny Rice-flower *Pimelea spinescens subsp. spinescens*

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

This table lists all rare or threatened species' habitats mapped at the site.

Species common name	Species scientific name	Species number	Conservation status	Group	Habitat impacted	% habitat value affected
Small Golden Moths	*Diuris basaltica*	501473	Endangered	Dispersed	Top ranking map	0.0906
Heath Spear-grass	*Austrostipa exilis*	503984	Rare	Dispersed	Top ranking map	0.0837
Melbourne Yellow-gum	*Eucalyptus leucoxylon subsp. connata*	504484	Vulnerable	Dispersed	Top ranking map	0.0448
Growling Grass Frog	*Litoria raniformis*	13207	Endangered	Dispersed	Top ranking map	0.0388
Basalt Podolepis	*Podolepis linearifolia*	504658	Endangered	Dispersed	Top ranking map	0.0370
Fragrant Saltbush	*Rhagodia parabolica*	502929	Rare	Dispersed	Top ranking map	0.0352
Spiny Rice-flower	*Pimelea spinescens subsp. spinescens*	504823	Endangered	Dispersed	Top ranking map ; special site	0.0268
Small Golden Moths	*Diuris basaltica*	501473	Endangered	Dispersed	Habitat importance map	0.0197
Large-headed Fireweed	*Senecio macrocarpus*	503116	Endangered	Dispersed	Top ranking map	0.0192
Heath Spear-grass	*Austrostipa exilis*	503984	Rare	Dispersed	Habitat importance map	0.0167
Fragrant Saltbush	*Rhagodia parabolica*	502929	Rare	Dispersed	Habitat importance map	0.0142
Melbourne Yellow-gum	*Eucalyptus leucoxylon subsp. connata*	504484	Vulnerable	Dispersed	Habitat importance map	0.0097
Basalt Podolepis	*Podolepis linearifolia*	504658	Endangered	Dispersed	Habitat importance map	0.0060
Tough Scurf-pea	*Cullen tenax*	502776	Endangered	Dispersed	Top ranking map ; special site	0.0047
Large-headed Fireweed	*Senecio macrocarpus*	503116	Endangered	Dispersed	Habitat importance map	0.0047
Large-flower Crane's-bill	*Geranium sp. 1*	505342	Endangered	Dispersed	Habitat importance map	0.0042
Plump Swamp Wallaby-grass	*Amphibromus pithogastrus*	503624	Endangered	Dispersed	Habitat importance map	0.0039
Austral Tobacco	*Nicotiana suaveolens*	502275	Rare	Dispersed	Habitat importance map	0.0037

Brackish Plains Buttercup	*Ranunculus diminutus*	504314	Rare	Dispersed	Habitat importance map	0.0036
Spiny Rice-flower	*Pimelea spinescens subsp. spinescens*	504823	Endangered	Dispersed	Habitat importance map ; special site	0.0035
Small Scurf-pea	*Cullen parvum*	502773	Endangered	Dispersed	Habitat importance map	0.0030
Cane Spear-grass	*Austrostipa breviglumis*	503268	Rare	Dispersed	Habitat importance map	0.0029
Growling Grass Frog	*Litoria raniformis*	13207	Endangered	Dispersed	Habitat importance map	0.0028
Snowy Mint-bush	*Prostanthera nivea var. nivea*	502746	Rare	Dispersed	Habitat importance map	0.0025
Tough Scurf-pea	*Cullen tenax*	502776	Endangered	Dispersed	Habitat importance map ; special site	0.0022
Matted Flax-lily	*Dianella amoena*	505084	Endangered	Dispersed	Habitat importance map	0.0022
Pale-flower Crane's-bill	*Geranium sp. 3*	505344	Rare	Dispersed	Habitat importance map	0.0021
Rye Beetle-grass	*Tripogon loliiformis*	503455	Rare	Dispersed	Habitat importance map	0.0021
Arching Flax-lily	*Dianella sp. aff. longifolia (Benambra)*	505560	Vulnerable	Dispersed	Habitat importance map	0.0017
Pale Swamp Everlasting	*Coronidium gunnianum*	504655	Vulnerable	Dispersed	Habitat importance map	0.0016
Rosemary Grevillea	*Grevillea rosmarinifolia subsp. rosmarinifolia*	504066	Rare	Dispersed	Habitat importance map	0.0015
Velvet Daisy-bush	*Olearia pannosa subsp. cardiophylla*	502317	Vulnerable	Dispersed	Habitat importance map	0.0014
Small Milkwort	*Comesperma polygaloides*	500798	Vulnerable	Dispersed	Habitat importance map	0.0010
Dark Wire-grass	*Aristida calycina var. calycina*	503630	Rare	Dispersed	Habitat importance map	0.0008
Waterbush	*Myoporum montanum*	502240	Rare	Dispersed	Habitat importance map	0.0008
Hairy Tails	*Ptilotus erubescens*	502825	Vulnerable	Dispersed	Habitat importance map	0.0008
Buloke	*Allocasuarina luehmannii*	500678	Endangered	Dispersed	Habitat importance map	0.0004
Branching Groundsel	*Senecio cunninghamii var. cunninghamii*	503104	Rare	Dispersed	Habitat importance map	0.0004
Black Falcon	*Falco subniger*	10238	Vulnerable	Dispersed	Habitat importance map	0.0003
Golden Sun Moth	*Synemon plana*	15021	Critically endangered	Dispersed	Habitat importance map	0.0003

Buloke Mistletoe	*Amyema linophylla subsp. orientalis*	500217	Vulnerable	Dispersed	Habitat importance map	0.0003
Dwarf Brooklime	*Gratiola pumilo*	503753	Rare	Dispersed	Habitat importance map	0.0001
Clover Glycine	*Glycine latrobeana*	501456	Vulnerable	Dispersed	Habitat importance map	0.0000

Habitat group

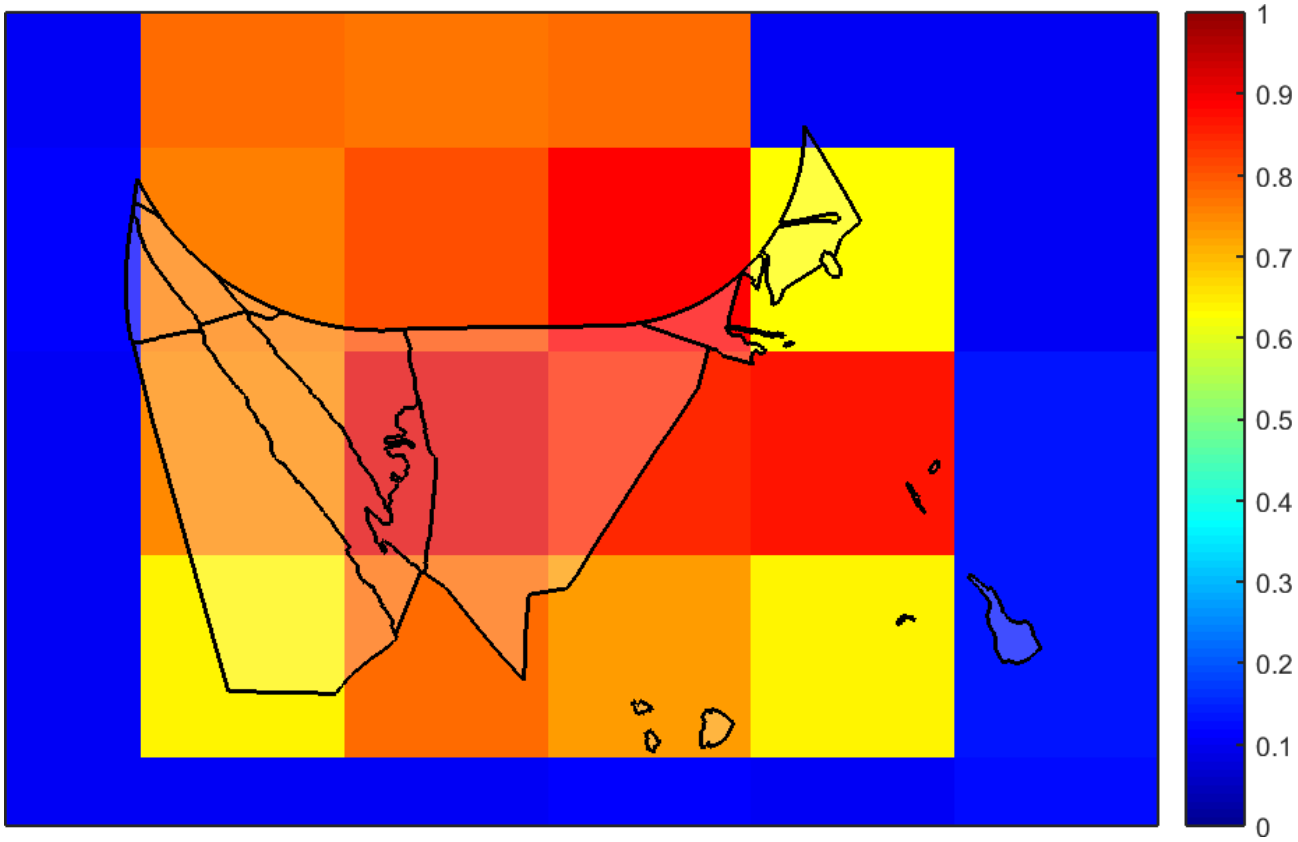
- Highly localised habitat means there is 2000 hectares or less mapped habitat for the species
- Dispersed habitat means there is more than 2000 hectares of mapped habitat for the species

Habitat impacted

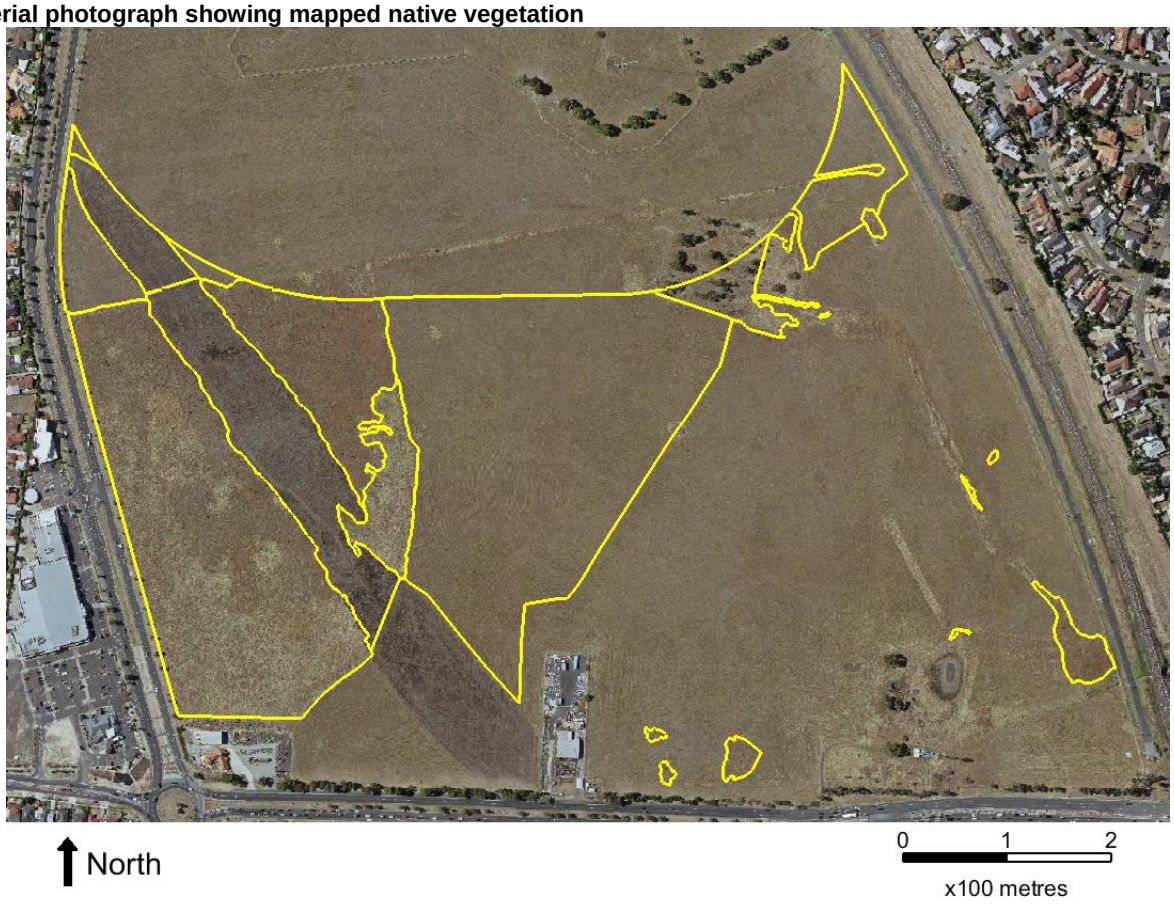
- Habitat importance maps are the maps defined in the Guidelines that include all the mapped habitat for a rare or threatened species
- Top ranking maps are the maps defined in the Guidelines that depict the important areas of a dispersed species habitat, developed from the highest habitat importance scores in dispersed species habitat maps and selected VBA records
- Selected VBA record is an area in Victoria that represents a large population, roosting or breeding site etc.

Appendix 3 – Images of mapped native vegetation

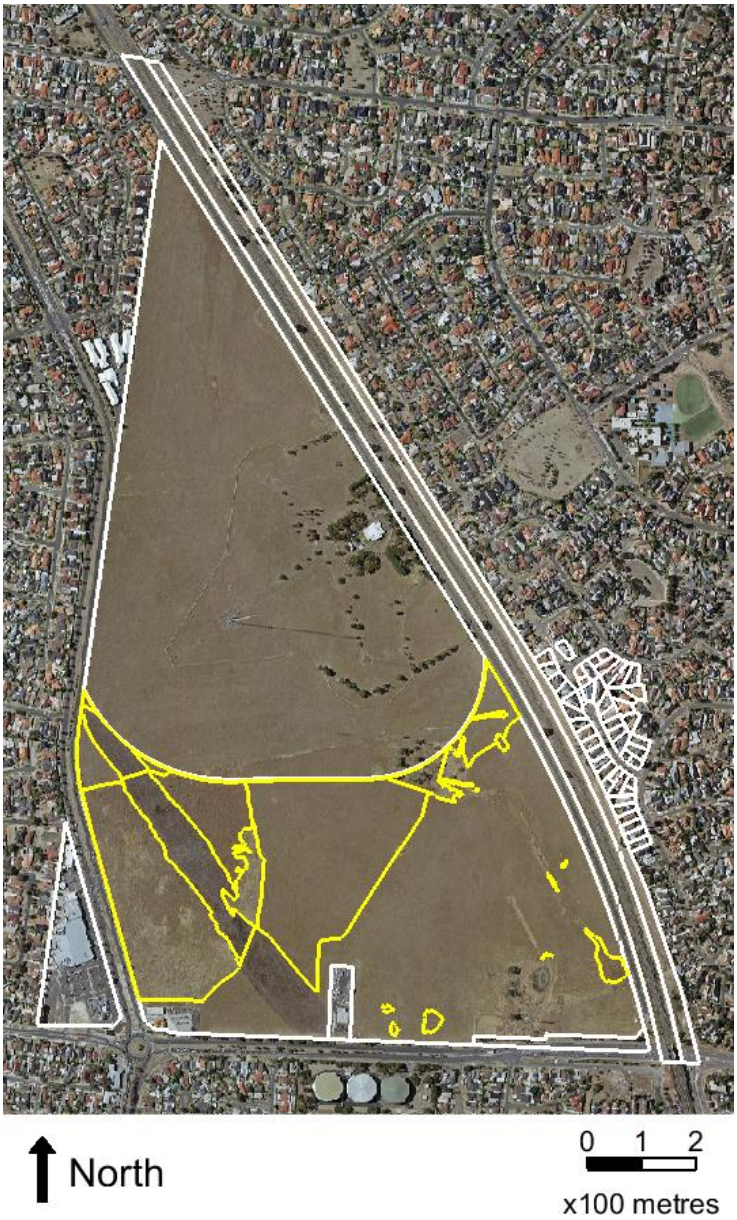
2. Strategic biodiversity values map



3. Aerial photograph showing mapped native vegetation



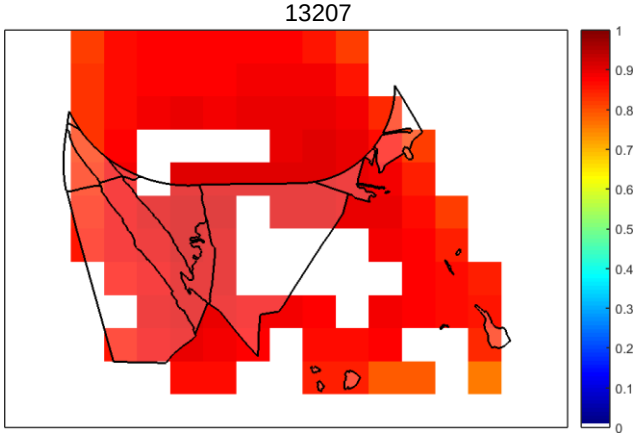
4. Map of the property in context



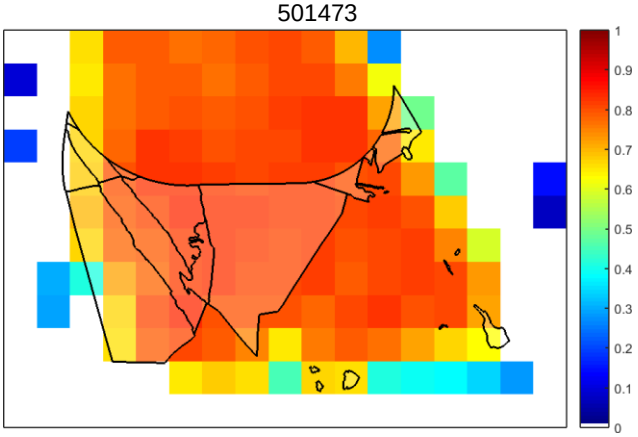
Yellow boundaries denote areas of proposed native vegetation removal.

4. Habitat importance maps

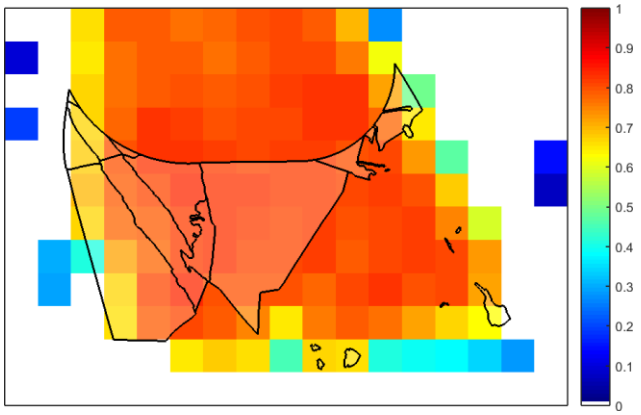
Growling Grass Frog
Litoria raniformis
13207



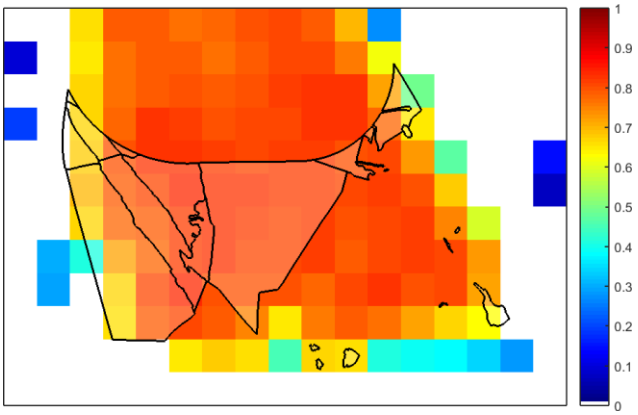
Small Golden Moths
Diuris basaltica
501473



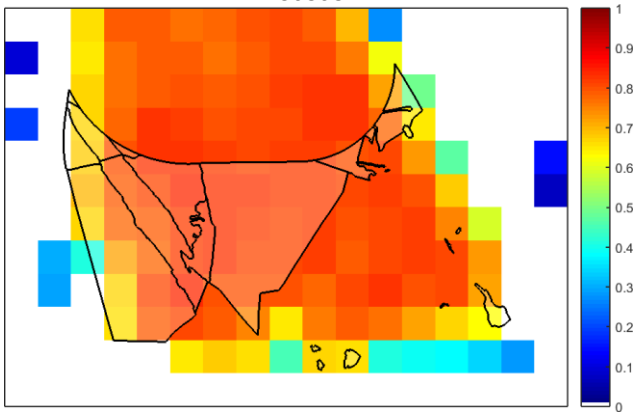
Fragrant Saltbush
Rhagodia parabolica
502929



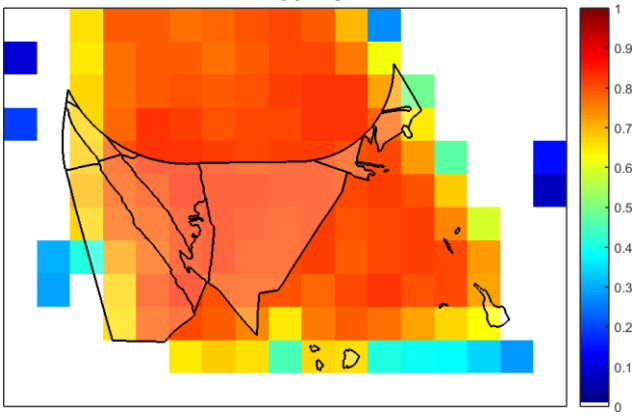
Large-headed Fireweed
Senecio macrocarpus
503116



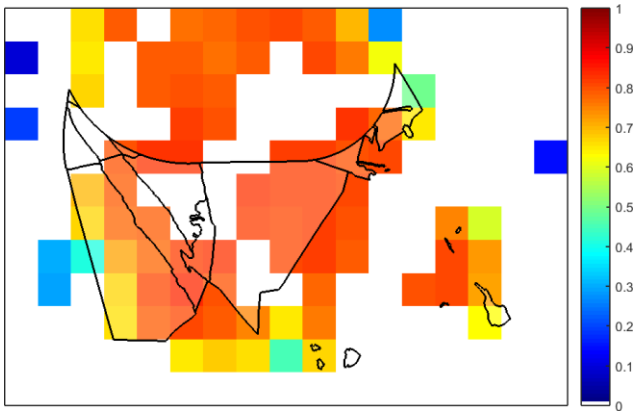
Heath Spear-grass
Austrostipa exilis
503984



Melbourne Yellow-gum
Eucalyptus leucoxylon subsp. connata
504484



Basalt Podolepis
Podolepis linearifolia
504658



Spiny Rice-flower
Pimelea spinescens subsp. spinescens
504823