

Final Report

Biodiversity Assessment for proposed expansion to the Yannathan Sand Quarry: 870 and 910 Western Port Road, Yannathan, Victoria

Prepared for

Ricardo Energy Environment and Planning

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SUMMARY

Introduction

Ecology and Heritage Partners Pty Ltd was commissioned by Ricardo Energy Environment and Planning to conduct an Ecological Assessment of the proposed extension to the Yannathan Sand Quarry.

This assessment was undertaken to identify and characterise the vegetation on-site, determine the presence (or likelihood thereof) of any significant flora and fauna species and/or ecological communities, and address any implications under Commonwealth and State environmental legislation.

Methods

A field assessment was undertaken on 17 December 2020 to obtain information on terrestrial flora and fauna values within the study area. Vegetation within the study area was assessed according to the habitat hectare methodology, which is described in the Vegetation Quality Assessment Manual.

Results

Flora

Thirty flora species (13 native and 17 non-native) were recorded within the study area during the field assessment. Two flora species listed as protected under the *Flora and Fauna Guarantee Act 1988* were present within the study area. No additional significant flora species were recorded in the study area. Based on the highly modified nature of the study area, historical and ongoing land-uses, landscape context and the proximity of previous records, significant flora species are considered unlikely to occur within the study area due to the absence of suitable habitat and high levels of disturbance.

Fauna

No significant fauna species are considered likely to occur within the study area, due to the lack of suitable habitat features (e.g. wetlands, structurally diverse vegetation, hollow bearing trees), and modified state of the study area through previous removal of vegetation for agricultural use and construction of two large water retention basins.

Communities

Vegetation within the study area did not meet the condition thresholds that define any significant ecological communities.

Removal of native vegetation (the Guidelines)

The naturally established patches of Swampy Riparian Woodland shown on Figure 2 are not included in the impact assessment, due to being classified as 'regrowth' which has naturally established on the land within the last ten years.

The vegetation proposed to be removed is within Location 2, with one Large scattered tree (with an extent of 0.0703 hectares) proposed to be removed. As such, the permit application falls under the Intermediate Assessment pathway.

The offset requirement for native vegetation removal is 0.015 General Habitat Units (HUs) and one Large Tree.

Legislative and Policy Implications

Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act - Federal)

No nationally significant values were recorded within the study area or are considered likely to occur, and the proposed action is unlikely to have a significant impact on any matter of NES. As such, a referral to the Commonwealth Environment Minister is not required regarding matters listed under the EPBC Act.

Flora and Fauna Guarantee Act 1988 (FFG Act - Victoria)

Two species listed as protected under the FFG Act were recorded within the study area, Prickly Moses *Acacia verticillata* and Shiny Cassinia *Cassinia longifolia*. A total of two Prickly Moses and approximately 15 Shiny Cassinia are proposed to be removed. The study area occurs within private property, therefore a permit under the FFG Act will not be required for the removal of these species.

Mineral Resources (Sustainable Development) Act 1990 (MRSD Act)

A work plan variation will need to be prepared as the proposed development does not meet any of the exemptions listed under the Act. In order for a Work Plan to be approved, the relevant State Government departments must be satisfied of “all necessary planning consents and approvals” including where Victoria’s native vegetation policy requires action has been addressed.

Planning and Environment Act 1987

The clearing of native vegetation for extractive industries is exempt from the requirement for a planning permit subject to an assessment as part of the work plan approval process.

Other Legislation and Policy

Implications relating to other local and State policy (*Wildlife Act 1975, Catchment and Land Protection Act 1994*, local government authorities) as well as additional studies or reporting that may be required (Conservation Management Plan, Weed Management Plan, Construction Environment Managements Plan) are provided in Section 4.

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1 INTRODUCTION

1.1 Background

Ecology and Heritage Partners Pty Ltd was commissioned by Ricardo Energy Environment and Planning on behalf of Hanson Construction Materials Pty Ltd (Hanson) to undertake a Biodiversity Assessment for proposed expansion to the Yannathan Sand Quarry at 870 and 910 Western Port Road, Yannathan, Victoria.

We understand that Hanson plan to extend the sand quarry extraction area boundary beyond the current Work Plan and realign the existing watercourse. As such, the Work Plan Variation requires an updated ecological assessment corresponding to the proposed extraction areas and watercourse.

The purpose of the assessment was to identify the extent and type of native vegetation present within the study area and to determine the presence of significant flora and fauna species and/or ecological communities. This report presents the results of the assessment and discusses the potential ecological and legislative implications associated with the proposed action. The report also provides recommendations to address or reduce impacts and, where necessary, highlights components that require further investigation.

1.2 Study Area

The study area is located in the north western section of 870 and 910 Western Port Road, Yannathan and is approximately 80 kilometres south-east of Melbourne's CBD (Figure 1). The study area covers approximately 23 hectares and is bound by the existing quarry along the southern boundary, Milners Road to the west, Western Port Road to the north, and agricultural land to the east. Past land use within the study area has historically been used for grazing activities and predominantly cleared of native vegetation (Plate 1).

In addition to grazing land, the study area supports four water retention basins, existing buildings, laydown areas, the main access road into the quarry and grazing land (Plate 2). It is generally flat, with no ridges, crests within or immediately adjacent to the site. A minor drainage line is present within the study area, running east to west through the middle of the site, which is proposed to be realigned.

For the purposes of this assessment, the proposed 'extension area' and 'realigned watercourse' areas (as shown in Figure 2) were subject to the on-ground assessment.

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

2 METHODS

2.1 Desktop Assessment

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

- The DELWP NatureKit Map (DELWP 2022a) and Native Vegetation Information Management (NVIM) Tool (DELWP 2022b) for:
 - Modelled data for location risk, native vegetation patches, scattered trees and habitat for rare or threatened species; and,
 - The extent of historic and current Ecological Vegetation Classes (EVCs).
- EVC benchmarks (DELWP 2022c) for descriptions of EVCs within the relevant bioregion;
- The Victorian Biodiversity Atlas (VBA) for previously documented flora and fauna records within the project locality (DELWP 2022d);
- The Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) Protected Matters Search Tool (PMST) for matters of National Environmental Significance (NES) protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (DCCEEW 2022);
- Relevant listings under the Victorian *Flora and Fauna Guarantee Act 1988* (FFG Act), including the latest Threatened (DELWP 2022e) and Protected (DELWP 2019) Lists;
- The online VicPlan Map (DELWP 2022f) to ascertain current zoning and environmental overlays in the study area;
- Aerial photography of the study area; and
- Previous ecological assessments relevant to the study area; including:
 - Flora and Fauna Assessment and Net Gain Analysis of the Proposed Expansion of the Hanson Yannathan San Extraction Quarry, Victoria. Ecology and Heritage Partners 2013.

2.2 Field Assessment

A field assessment was undertaken on 17 December 2020 to obtain information on flora and fauna values within the study area. The study area was walked, with all commonly observed vascular flora and fauna species recorded, significant records mapped and the overall condition of vegetation and habitats noted. Ecological Vegetation Classes (EVCs) were determined with reference to DELWP pre-1750 and extant EVC mapping (DELWP 2022a) and their published descriptions (DELWP 2022c).



Plate 1. Previously disturbed agricultural land within the study area.

Plate 2. Water retention dams within the study area.

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

The clearing of native vegetation for mining and extractive industries is exempt from the requirement for a planning permit under the *Planning and Environment Act 1987* subject to an assessment as part of the work plan approval process required under the *Mineral Resources (Sustainable Development) Act 1990* (MRSD Act). The removal of native vegetation for the Earth Resources Industry (ERI) is regulated through the Mining and Extractive Industry Work Approvals Process. A Memorandum of Understanding (MoU) between the former DSE and DPI recognises that native vegetation should be offset in accordance with the relevant legislation.

Further information regarding the legislative requirements are provided in Section 4.

2.3.1 Assessment Pathway

The Guidelines manage the impacts on biodiversity from native vegetation removal using an assessment-based approach. Two factors – extent risk and location category – are used to determine the assessment pathway. The location category (1, 2 or 3) has been determined for all areas in Victoria and is available on DELWP’s NVIM Tool (DELWP 2022b). Determination of assessment pathway is summarised in Table 1.

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

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

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

2.3.2 Vegetation Assessment

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

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

Category	Definition	Extent	Condition
Patch of native vegetation	An area of vegetation where at least 25 per cent of the total perennial understorey plant cover is native; OR An area with three or more native canopy trees where the drip line of each tree touches the drip line of at least one other tree, forming a continuous canopy; OR any mapped wetland included in the <i>Current Wetlands map</i> , available in DELWP systems and tools.	Measured in hectares. Based on hectare area of the native patch.	Vegetation Quality Assessment Manual (DSE 2004). Modelled condition for <i>Current Wetlands</i> .
Scattered tree	A native canopy tree that does not form part of a native patch.	Measured in hectares. Each Large scattered tree is assigned an extent of 0.071 hectares (30m diameter). Each Small scattered tree is assigned a default extent of 0.31 hectares (10 metre diameter)	Scattered trees are assigned a default condition score of 0.2 (outside a patch).

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

2.3.3 Impact Avoidance and Minimisation

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

2.3.4 Offsets

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

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

2.4 Assessment Qualifications and Limitations

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

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

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

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

Targeted flora or fauna surveys were not undertaken, as this was beyond the preliminary scope of the project. Nevertheless, the terrestrial flora and fauna data collected during the field assessment and information obtained from relevant desktop sources is considered to adequately inform an accurate assessment of the ecological values present within the study area.

3 RESULTS

3.1 Vegetation Condition

Several patches of native vegetation, regrowth and one scattered native tree were recorded within the study area. The remainder of the study area comprised introduced and planted vegetation, present as pasture grass and screen plantings around buildings and along the property boundary.

A list of all flora species recorded during the field assessment are provided in Appendix 1.1.

3.1.1 Patches of Native Vegetation

Native vegetation in the study area is representative of one EVC: Swampy Riparian Woodland (EVC 83). The presence of this EVC is generally consistent with the modelled pre-1750s native vegetation mapping (DELWP 2022a), however the vegetation comprised within the patches has naturally regrown since the previous assessment undertaken in 2013 (Ecology and Heritage Partners 2013). Specific details relating to the observed EVC is provided below.

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

Swampy Riparian Woodland

Swampy Riparian Woodland (SRW) was recorded within and directly adjacent to the study area, present in varying conditions. A linear strip of SRW was recorded adjacent to the western boundary of the study area, containing several large trees and an understory dominated by Swamp Paperbark *Melaleuca ericifolia* (SRW1, Figure 2). This patch is considered to be remnant

Within the study area, SRW occurred as naturally established (regrowth) vegetation. Previous vegetation mapping of the study area did not record any patches of SRW within the current study area (Ecology and Heritage Partners 2013), which is consistent with the historical imagery for the study area. The patches of SRW mapped in the recent assessment primarily comprised of scattered understory species, such as Shiny Cassinia *Cassinia longifolia*, Prickly Moses *Acacia verticillata*, Prickly Tea-tree *Leptospermum continentale* and Blackwood *Acacia melanoxylon* (SRW2, SRW3, SRW4, SRW5, SRW6, SRW 9, SRW10, SRW11, SRW12, SRW13, Figure 2), or patches of Common Reed *Phragmites australis*, Pale Rush *Juncus pallidus* and Tall Spike-rush *Eleocharis sphacelata* (SRW7 [Plate 3]; SRW8 [Plate 4], Figure 2). No patches contained large trees, supporting the conclusion that they have naturally established since the previous assessment was undertaken.

3.1.2 Large Trees in Patches

Five Large Trees, comprising four Swamp Gums *Eucalyptus ovata* and one stag, were recorded in the Swampy Riparian Woodland patch located along the western boundary of the study area (Plate 5; Figure 2).

3.1.3 Scattered Trees

One scattered tree, a large Swamp Gum, was recorded within the study area (Plate 6; Figure 2).



Plate 3. Patch of Rush establishment along the modified drainage line within the study area.



Plate 4. Patch of Tall Spike-rush establishment along the modified drainage line within the study area.



Plate 5. Large tree in a Swampy Riparian Woodland patch along the western boundary of the study area.



Plate 6. A large scattered Swamp Gum present in the north western corner of the study area.

3.1.4 Introduced and Planted Vegetation

Areas not supporting native vegetation had a high cover (>95%) of exotic grass species, dominated by environmental weeds such as Rye-grass *Lolium* spp., Sweet Vernal-grass *Anthoxanthum odoratum*, Yorkshire Fog *Holcus lanatus*, Brown-top Bent *Agrostis capillaris* and Prairie Grass *Bromus catharticus*.

Planted species occurred throughout the study area, with a selection of mixed native shrub species planted around the site office, containing Black Sheoak *Allocasuarina littoralis*, Prickly Tea-tree, Swamp Paperbark *Melaleuca ericifolia* and Blackwood. The location of planted vegetation is shown on Figure 2, which is mainly located on bund walls surrounding the outer edge of the western and northern side of the current study area (Plate 7).

Noxious weeds were present within the study area, with Blackberry *Rubus fruticosus* spp. agg. mainly located along the dam fringes and Spear Thistle *Cirsium vulgare* present in limited numbers within the study area's southern half (Plate 8; Figure 2). Blackberry is also a Weed of National Significance (WoNS).



Plate 7. A row of planted trees along the study area's western boundary.



Plate 8. A noxious weed, Spear Thistle, present along the dam edge within the study area.

3.2 Fauna Habitat

Most of the study area consisted of paddocks and existing dams, which contained improved exotic pastures, likely to be used as a foraging resource by common generalist bird species that are tolerant of modified open areas. Fauna observed using this habitat included; Pacific Black Duck *Anas superciliosa*, Australian Magpie *Cracticus tibicen*, Common Blackbird *Turdus merula*, Welcome Swallow *Hirundo neoxenica* and Eastern Banjo Frog *Limnodynastes dumerilii*.

It should be noted that since the assessment was undertaken, the two dams present within the proposed extension area have been removed as per a directive from Earth Resources Regulations (ERR), and aquatic habitat is no longer present.

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

The below clearing scenario is based on the removal of native vegetation present within the current study area, as provided by Ricardo Energy Environment and Planning on 25 August 2022 (Figure 2). The naturally established patches of Swampy Riparian Woodland shown on Figure 2 are not included in the below assessment due to being classified as regrowth which has naturally established on the land within the last ten years (See Section 4.3.2 for further details). This includes 0.73 hectares of naturally established Swampy Riparian Woodland within the proposed extension area.

3.3.1 Vegetation proposed to be removed

The study area is within Location 2, with 0.0703 hectares of native vegetation proposed to be removed (Figure 2). As such, the permit application falls under the Intermediate assessment pathway (Table 3).

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

Assessment pathway	Intermediate
Location Category	2
Total Extent (past and proposed) (ha)	0.0703
Extent of past removal (ha)	0.00
Extent of proposed removal (ha)	0.0703
Large Trees (scattered and in patches) to be removed (no.)	1
EVC Conservation Status of vegetation to be removed	Endangered (Swampy Riparian Woodland)

3.3.2 Offset Targets

The offset requirement for native vegetation removal is 0.015 General Habitat Units and 1 Large Tree.

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

Table 4. Offset Targets.

General Offsets Required	0.015 General Habitat Units
Large Trees	1
Vicinity (catchment/council)	Port Phillip and Westernport CMA / Cardinia Shire Council
Minimum Strategic Biodiversity Value*	0.352

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

3.4 Significance Assessment

3.4.1 Flora

The VBA contains records of one nationally significant and nine State significant flora species previously recorded within 10 kilometres of the study area (DELWP 2022d) (Figure 3). The PMST nominated 12 additional nationally significant species which have not been previously recorded but have the potential to occur in the locality (DCCEEW 2022) (Appendix 1.4).

No national or State significant flora were recorded during the site assessment, and based on the highly modified and disturbed condition of the study area, landscape context and the proximity of previous records, significant flora species are considered unlikely to occur within the study area due to the and high levels of disturbance through past agricultural activities (e.g. pasture paddocks), construction of two large water retention dams and absence of suitable habitat.

3.4.2 Fauna

The VBA contains records of 11 nationally significant and 12 State significant fauna species previously recorded within 10 kilometres of the study area (DELWP 2022d) (Figure 4). The PMST nominated an additional 19 nationally significant species which have not been previously recorded but have the potential to occur in the locality (DCCEEW 2022) (Appendix 2.1).

There are 155 previous records of Southern Brown Bandicoot *Isodon obesulus* within 10 kilometres of the study area (Figure 4; Appendix 2.1). The habitat preferences of Southern Brown Bandicoot are relatively broad, with the species known to occur in a variety of habitats, including seemingly disturbed areas dominated by exotic species (e.g. Blackberry *Rubus* spp.) (Maclagan *et al.* 2018).

However, the vegetation within the proposed extraction extension footprint did not contain any of the preferred habitat characteristics of Southern Brown Bandicoot, with a lack of structural vegetation (e.g. shrubs or large tussocks). Further, the study area is relatively isolated from nearby habitat corridors. As a result, Southern Brown Bandicoot are considered unlikely to occur within the expansion footprint or use the vegetation within the extraction footprint as a habitat corridor to traverse between other habitats. Linear corridors of vegetation are present surrounding the study area within the road reserves of Milners Road and Burt Road, however no impacts are proposed to these areas.

The nearby past Southern Brown Bandicoot records are largely confined to Adams Creek Nature Conservation Reserve, which is a large bushland reserve located approximately six kilometres south of the study area (Figure 4).

Based on the modified nature of the study area, the removal of the dams (as per an ERR directive), landscape context and the proximity of previous records, additional significant fauna species are considered unlikely to rely on habitat within the study area for foraging or breeding purposes due to the lack of suitable and/or important habitat features (e.g. large, hollow bearing trees).

3.4.3 *Ecological Communities*

No national or State-significant communities are present within the study area.

4 LEGISLATIVE AND POLICY IMPLICATIONS

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

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) establishes a Commonwealth process for the assessment of proposed actions likely to have a significant impact on any matters of National Environment Significance (NES), described in Table 5.

Table 5. Potential impacts to matters of National Environmental Significance (NES)

Matter of NES	Potential Impacts
World Heritage properties	The proposed action will not impact any properties listed for World Heritage.
National heritage places	The proposed action will not impact any places listed for national heritage.
Ramsar wetlands of international significance	The study area occurs upstream of one Ramsar wetland (DCCEEW 2022): Westernport Ramsar site (10 – 15 kms) Provided management practices and construction techniques are consistent with Construction Techniques for Sediment Pollution Control (EPA 1991) and Environmental Guidelines for Major Construction Sites (EPA 1996), the proposed action is highly unlikely to impact the ecological character of any Ramsar wetland.
Threatened species and ecological communities	No nationally significant flora species were recorded within the study area.
Migratory and marine species	There is no marine habitat within the study area. Further, the study area would not be classed as an ‘important habitat’ as defined under the EPBC Act Policy Statement 1.1 Principal Significant Impact Guidelines (DoE 2013), in that it does not contain: <ul style="list-style-type: none"> • Habitat utilised by a migratory species occasionally or periodically within a region that supports an ecologically significant proportion of the population of the species; • Habitat utilised by a migratory species which is at the limit of the species range; or, • Habitat within an area where the species is declining.
Commonwealth marine area	The proposed action will not impact any Commonwealth marine areas.
Nuclear actions (including uranium mining)	The proposed action is not a nuclear action.
Great Barrier Reef Marine Park	The proposed action will not impact the Great Barrier Reef Marine Park.
Water resources impacted by coal seam gas or mining development	The proposed action is not a coal seam gas or mining development.

4.1.1 *Implications*

No nationally significant values were recorded within the study area or are considered likely to occur, and the proposed action is highly unlikely to have a significant impact on any matter of NES. As such, a referral to the Commonwealth Environment Minister is not required regarding matters listed under the EPBC Act.

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

The FFG Act is the primary legislation dealing with biodiversity conservation and sustainable use of native flora and fauna in Victoria. Proponents are required to apply for an FFG Act Permit to 'take' listed and/or protected flora species, listed vegetation communities and listed fish species in areas of public land (i.e. within road reserves, drainage lines and public reserves). An FFG Act permit is generally not required for removal of species or communities on private land, or for the removal of habitat for a listed terrestrial fauna species.

No species listed under the FFG Act were recorded within the study area during the field assessment. The following threatening processes listed under the FFG Act should be considered in relation to the proposed development:

- Invasion of native vegetation by 'environmental weeds'.
- Alteration to the natural flow regimes of rivers and streams.

4.2.1 *Implications*

Two species listed as protected under the FFG Act were recorded within the study area, Prickly Moses and Shiny Cassinia. A total of two Prickly Moses and approximately 15 Shiny Cassinia are proposed to be removed. The study area occurs within private property, therefore a permit under the FFG Act will not be required for the removal of these species.

4.3 **Planning and Environment Act 1987 (Victoria)**

The *Planning and Environment Act 1987* outlines the legislative framework for planning in Victoria and for the development and administration of planning schemes. All planning schemes contain native vegetation provisions at Clause 52.17 which require a planning permit from the relevant local Council to remove, destroy or lop native vegetation on a site of more than 0.4 ha, unless an exemption under Clause 52.17-7 of the Victorian Planning Schemes applies.

Importantly, under the exemptions outlined in Clause 52.17-7 of the Cardinia Shire Planning Scheme, a permit is not required where native vegetation that is to be removed, destroyed or lopped to the minimum extent necessary to enable the carrying out of extractive industry in accordance with a work plan approved under the *Mineral Resources (Sustainable Development) Act 1990* and authorised by a work authority under that Act.

4.3.1 *Local Planning Scheme*

The study area is located within the Cardinia Shire Council. The study area is zoned Green Wedge Zone 1 (GWZ 1) and is covered by a Significant Landscape Overlay – Schedule 3 (SLO3) (DELWP 2022f).

4.3.2 *Implications*

Extractive Industry

The clearing of native vegetation for mining and extractive industries is exempt from the requirement for a planning permit subject under the 'Stone Extraction' exemption detailed in Clause 52.17-7 of the Cardinia Shire Planning Scheme subject to an assessment as part of the work plan approval process (MRSD Act).

Regrowth

No permit is required to remove, destroy or lop native vegetation that has naturally established or regenerated on land lawfully cleared of naturally established native vegetation, and is less than 10 years old.

The native vegetation within the current proposed extraction footprint was previously assessed in 2013, which did not record any patches of Swampy Riparian Woodland at the time. The initial vegetation clearing of the property occurred prior to 1995 (when Hanson purchased the land), with the previous land use as agriculture, and the vegetation with the study area maintained as cleared land through regular slashing (pers. comm. Yannathan Quarry Manager).

Based upon the vegetation mapping completed in 2013 (Ecology and Heritage Partners 2013), historical land use of the study area and a review of the aerial imagery, it is considered that the SRW patches within the 'extension area' have naturally regenerated on land lawfully cleared of naturally established native vegetation, and is less than 10 years old, and therefore meets the definition of 'regrowth' as per Clause 52.17-7 of the Cardinia Shire planning scheme. As such, these areas have been excluded from the native vegetation impact assessment detailed in Section 3.3.

Significant Landscape Overlay – Schedule 3

No permit under the SLO is required for vegetation that is to be removed, destroyed or lopped to the minimum extent necessary to enable the carrying out of extractive industry in accordance with a work plan approved under the *Mineral Resources (Sustainable Development) Act 1990* and authorised by a work authority granted under that Act.

4.4 Mineral Resources (Sustainable Development) Act 1990 (Victoria)

Mineral exploration and mining in Victoria are regulated under the *Mineral Resources (Sustainable Development) Act 1990* (MRSD Act). The purpose of this Act is to encourage an economically viable mining industry that operates in a way that is compatible with the environmental, social and economic objectives of the State.

One of the key objectives of this legislation is to establish a legal framework to ensure that mineral resources are developed in ways that minimise the impacts on the environment. The Act requires that a licensee proposing to work under a mining licence submit a Work Plan.

Section 79 of the Act requires that the Work Plan includes a 'Rehabilitation Plan' for the progressive rehabilitation of land disturbed by the project.

The 'Mineral Resources (Sustainable Development) (Mineral Industries) Regulations 2019' require that, as of 1 July 2020, the Rehabilitation Plan component of the draft mining Work Plan must include the proposed land uses after rehabilitation, which must consider the community views expressed during consultation.

The Regulations also require that the draft mining Work Plan must include an identification and assessment of the risks that may require monitoring, maintenance, treatment or other ongoing land management activities after rehabilitation is complete, in relation to the environment, any member of the public, or land, property or infrastructure in the vicinity of the rehabilitated land.

4.4.1 Implications

In order for a Work Plan to be approved, DELWP and the Department of Jobs, Precincts and Regions (DJPR) must be satisfied of “all necessary planning consents and approvals” including where Victoria’s native vegetation policy requires action, has been addressed (DPI 2009).

4.4.2 The Guidelines

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

The vegetation proposed to be removed is within Location 2, with one Large scattered tree (with an extent of 0.0703 hectares) proposed to be removed. As such, the permit application falls under the Intermediate Assessment pathway.

The offset requirement for native vegetation removal is 0.015 General Habitat Units (HUs) and one Large Tree.

4.5 Catchment and Land Protection Act 1994 (Victoria)

Two weeds listed as noxious under the *Catchment and Land Protection Act 1994* was recorded during the assessment, Blackberry and Spear Thistle (Figure 2). Similarly, there is evidence that the study area is currently occupied by several pest fauna species listed under the CaLP Act, European Rabbit *Oryctolagus cuniculus*, Red Fox *Vulpes vulpes*. Listed noxious weeds/pests should be appropriately controlled throughout the study area.

4.6 Wildlife Act 1975 and Wildlife Regulations 2013 (Victoria)

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

5 MITIGATION MEASURES

5.1 Avoid and Minimise Statement

The study area has not been subject to a strategic level planning process for the purposes of detailing native vegetation removal. However, the study area is within covered by the Cardinia Western Port green Wedge Management Plan (Cardinia Shire Council 2017).

It is not possible to avoid impacts to native vegetation without undermining the requirements of the project. Due to the nature of the proposed development (extractive industry) and the location of the resource in the ground, the extraction footprint is proposed to extend north from the existing extraction pit.

The extent of native vegetation within the study area is minimal, and predominately comprises of low quality vegetation which has re-established over the past ten years. One large native scattered tree is located in the north western corner. When identified during the site assessment, the tree was observed partially lying down, likely to have fallen during strong winds over the previous years, although still appeared to be surviving (Section 3.1.3, Plate 5).

In the context of the development, the modified condition of ecological values proposed to be impacted, and the extent of native vegetation proposed to be retained and enhanced within the study area, it is considered that the minimisation measures implemented are appropriate in this instance.

No feasible opportunities exist to further avoid or minimise impacts on native vegetation without undermining the key objectives of the proposal

5.2 Best Practice Mitigation Measures

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

- Ensuring any proposed works remain within the intended extraction (and greater development) footprint, i.e. not disturbing or removing areas of native vegetation outside the proposed works area. This also applies to machinery storage, materials stockpiles, personnel rest areas and access roads;
- Minimise impacts to native vegetation and habitats through construction and micro-siting techniques, including fencing retained areas of native vegetation. If indeed necessary, trees should be lopped or trimmed rather than removed. Similarly, soil disturbance and sedimentation within wetlands should be avoided or kept to a minimum, to avoid, or minimise impacts to fauna habitats;
- All contractors should be aware of ecologically sensitive areas to minimise the likelihood of inadvertent disturbance to areas marked for retention. Native vegetation (areas of sensitivity) should be included as a mapping overlay on any construction plans;
- Where possible, construction stockpiles, machinery, roads, and other infrastructure should be placed away from areas supporting native vegetation and wetlands;
- Ensure that best practice sedimentation and pollution control measures are undertaken at all times, in accordance with Environment Protection Authority guidelines (EPA 1991; EPA 1996; Victorian Stormwater Committee 1999) to prevent offsite impacts to waterways and wetlands; and,

- As indigenous flora provides valuable habitat for indigenous fauna, it is recommended that any landscape plantings that are undertaken as part of the proposed works are conducted using indigenous species sourced from a local provenance, rather than exotic deciduous trees and shrubs.

5.3 Offset Impacts and Strategy

According to DELWPs Native Vegetation Offset Register (DELWP 2022g), there are 23 offset sites within the Port Phillip and Westernport CMA and/or Cardinia Shire Council region that can be used to satisfy the General Habitat Unit and Large tree offset requirements.

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

6 FURTHER REQUIREMENTS

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

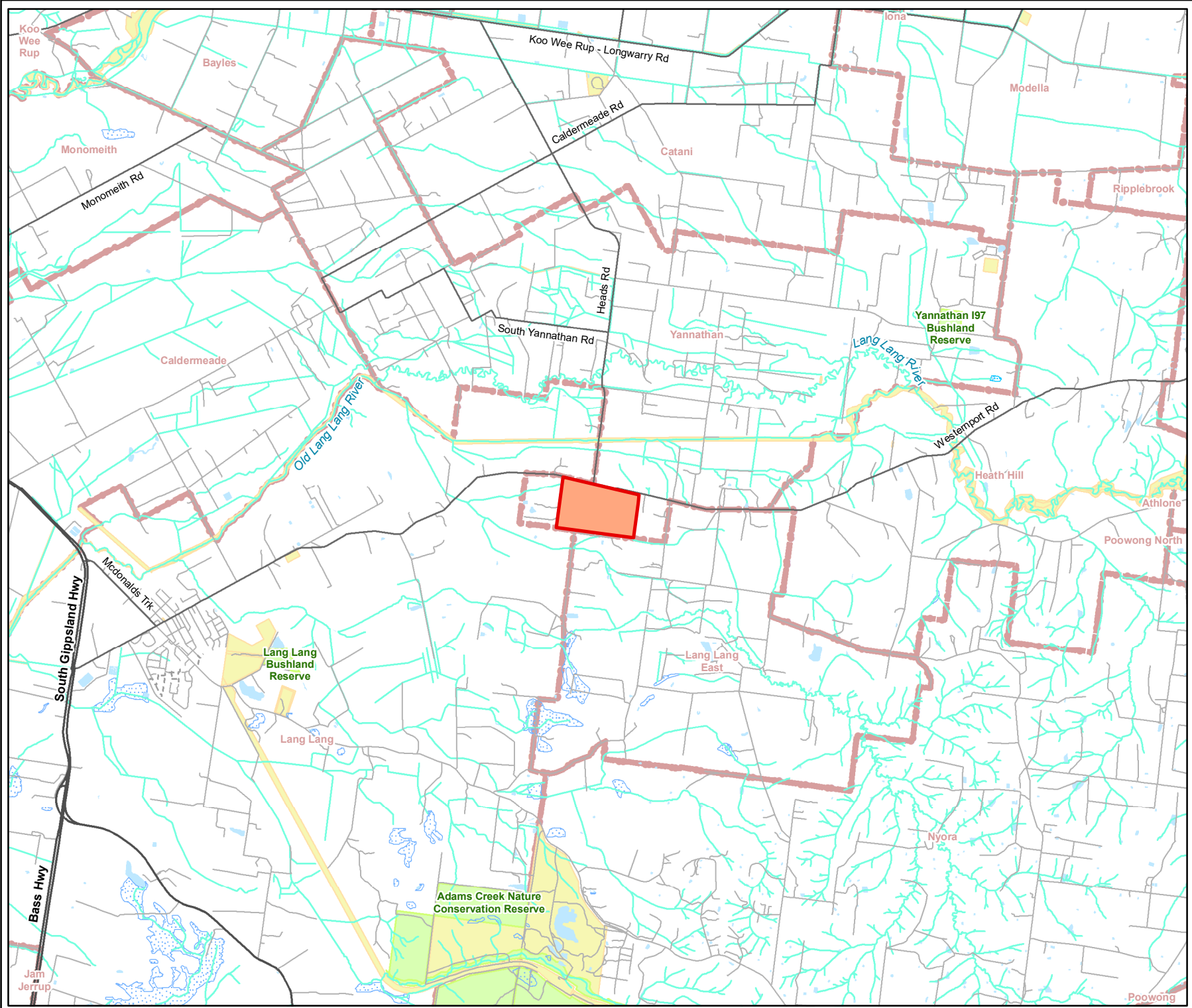
Table 6. Further requirements associated with development of the study area.

Relevant Legislation	Implications	Further Action
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	No nationally significant values were recorded within the study area or are considered likely to occur, and the proposed action is unlikely to have a significant impact on any matter of NES. As such, a referral to the Commonwealth Environment Minister is not required regarding matters listed under the EPBC Act.	No further action required.
<i>Flora and Fauna Guarantee Act 1988</i>	Two species listed as protected under the FFG Act were recorded within the study area, Prickly Moses and Shiny Cassinia. A total of two Prickly Moses and approximately 15 Shiny Cassinia are proposed to be removed. The study area occurs within private property, therefore a permit under the FFG Act will not be required for the removal of these species.	No further action required.
<i>Mining Resources (Sustainable Development) Act 1990</i>	A Work Plan variation will need to be updated in order to comply with the requirements of the MRSD Act. The offset requirement for native vegetation removal is 0.015 General Habitat Units and 1 Large Tree.	Prepare and submit a variation to the Work Plan.
<i>Planning and Environment Act 1987</i>	The clearing of native vegetation for mining and extractive industries is exempt from the requirement for a planning permit subject under the 'Stone Extraction' exemption detailed in Clause 52.17-7, and Clause 42.03 (SLO) of the Cardinia Shire Council planning scheme subject to an assessment as part of the work plan approval process (MRSD Act).	No further action required (for native vegetation removal).
<i>Catchment and Land Protection Act 1994</i>	Two weed species listed under the CaLP Act were recorded within the study area (Blackberry and Spear Thistle). To meet requirements under the CaLP Act, listed noxious weeds should be appropriately controlled throughout the study area.	Listed noxious weeds and pests should be appropriately controlled throughout the study area
<i>Wildlife Act 1975</i>	Any persons engaged to conduct salvage and translocation or general handling of terrestrial fauna species must hold a current Management Authorisation.	Ensure wildlife specialists hold a current Management Authorisation.

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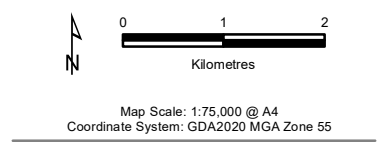
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- Legend**
- Study Area
 - Major Road
 - Collector Road
 - Minor Road
 - Proposed Road
 - Minor Watercourse
 - Permanent Waterbody
 - Land Subject to Inundation
 - Wetland/Swamp
 - Parks and Reserves
 - Crown Land
 - Localities



Figure 1
Location of the study area
Biodiversity Assessment at
Yannathan Quarry



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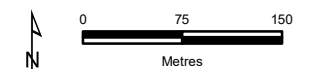
14023 Fig01_StudyArea_G20 24/08/2020 melsley



- Legend**
- Extension area
 - Total disturbed area
 - Property boundary
 - Realigned watercourse (indicative)
 - ★ Scattered Large Tree
 - Large Tree in a patch
 - ✕ Impacted tree
- Noxious weed**
- + Blackberry
 - ▲ Spear Thistle
- Vegetation**
- Swamy Riparian Woodland (EVC 83)
 - Planted vegetation
 - Naturally established regrowth
 - Impacted vegetation



Figure 2
Ecological features
Biodiversity Assessment at Yannathan Quarry

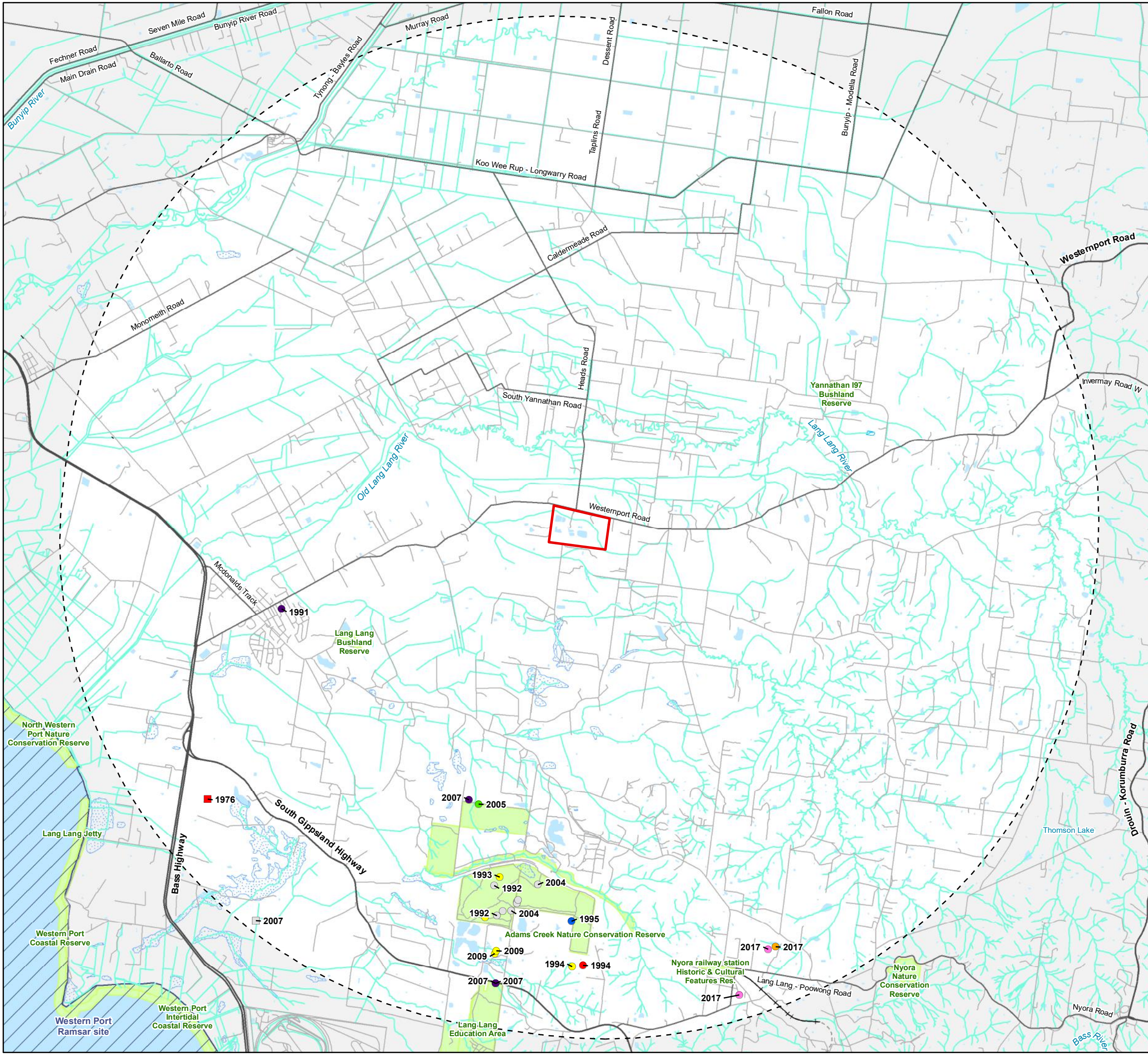


Map Scale: 1:5,700 @ A4
 Coordinate System: GDA2020 MGA Zone 55



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Legend

- Study Area
- Clasping Hypocreopsis
- Cobra Greenhood
- Giant Honey-myrtle
- Green-striped Greenhood
- Large-leaf Cinnamon-wattle
- Mauve-tuft Sun-orchid
- Spotted Gum
- Spurred Helmet-orchid
- Veined Spear-grass
- Velvet Apple-berry



Figure 3
Previously documented significant flora within 10km of the study area
Biodiversity Assessment at Yannathan Quarry

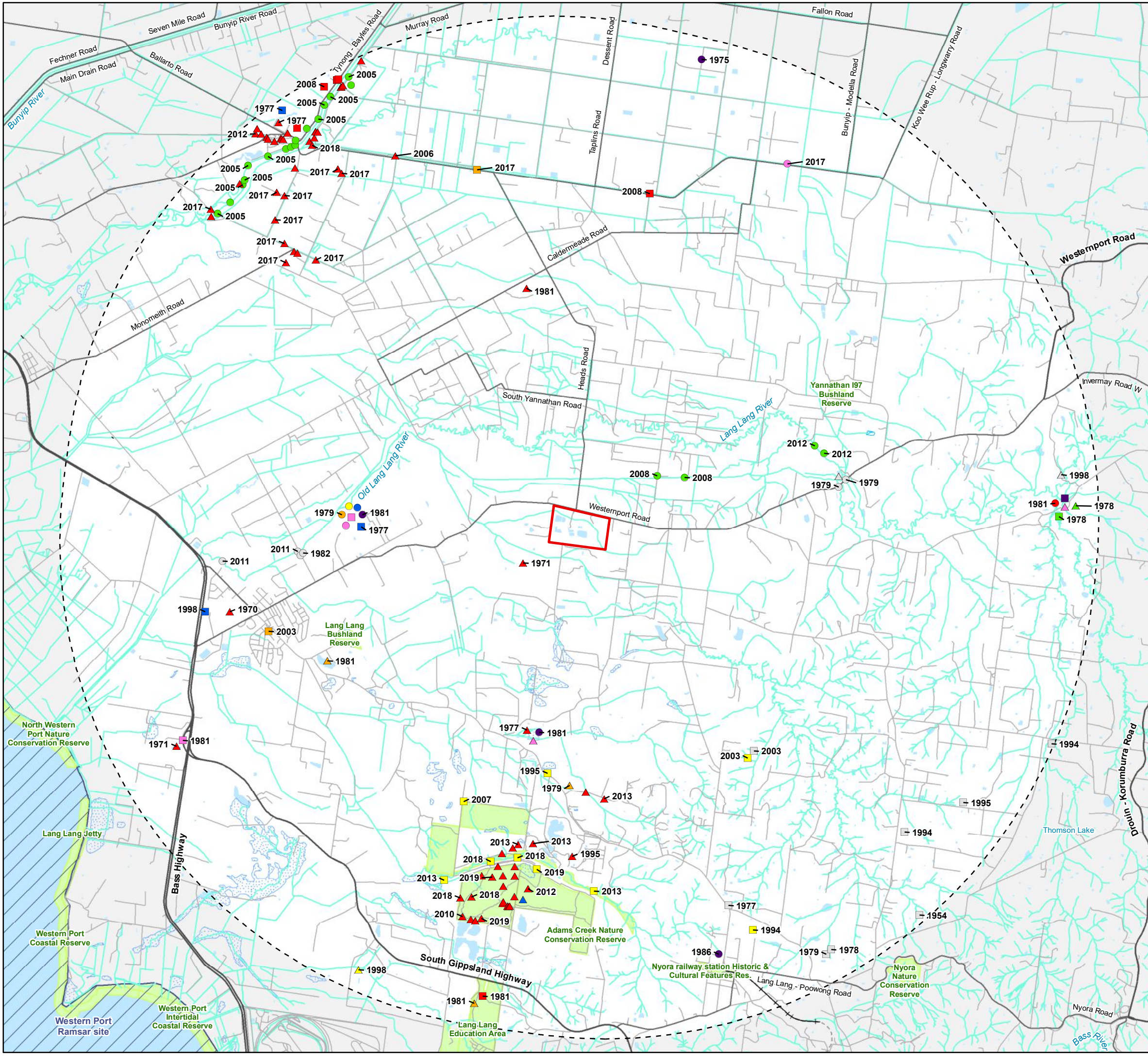
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Kilometres

Map Scale: 1:75,000 @ A3
 Coordinate System: GDA2020 MGA Zone 55

Victorian Biodiversity Atlas (VBA) // Sourced from: 'VBA_FLORA25', 'VBA_FLORA100', 'VBA_FAUNA25' and 'VBA_FAUNA100'. Updated May 2022 © The State of Victoria, Department of Environment, Land, Water and Planning. Records prior to 1949 not shown.

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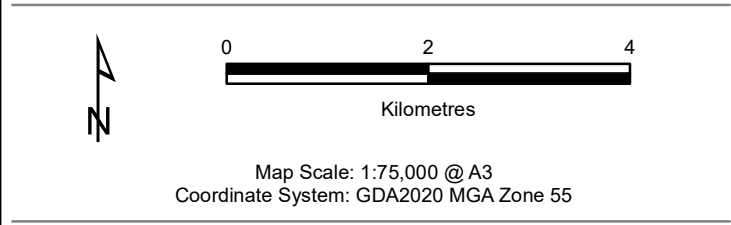
14023 Fig03 SigFlora G20 18/08/2022 melslev



- Legend**
- Study Area
 - Lace Monitor
 - Little Eagle
 - Little Egret
 - Musk Duck
 - Pilotbird
 - △ Platypus
 - ▲ Southern Brown Bandicoot
 - ▲ Southern Toadlet
 - ▲ Swamp Antechinus
 - ▲ White-bellied Sea-Eagle
 - ▲ White-footed Dunnart
 - ▲ White-throated Needletail
- Significant fauna**
- Australian Grayling
 - Blue-billed Duck
 - Caspian Tern
 - Curlew Sandpiper
 - Dwarf Galaxias
 - Eastern Curlew
 - Eastern Great Egret
 - Gang-gang Cockatoo
 - Giant Gippsland Earthworm
 - Growling Grass Frog
 - Hardhead



Figure 4
Previously documented significant fauna within 10km of the study area
Biodiversity Assessment at Yannathan Quarry



Victorian Biodiversity Atlas (VBA) // Sourced from: 'VBA_FLORA25', 'VBA_FLORA100', 'VBA_FAUNA25' and 'VBA_FAUNA100'. Updated May 2022 © The State of Victoria, Department of Environment, Land, Water and Planning. Records prior to 1949 not shown.

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14023 Fig04 SigFauna G20 18/08/2022 melv

APPENDIX 1 FLORA

Appendix 1.1 Flora Results

Legend:

I Protected under the FFG Act (DELWP 2019);

* Listed as a noxious weed under the CaLP Act;

+ Planted indigenous species that also occur in native vegetation in the study area;

** Planted indigenous species in the study area;

w Weed of National Significance.

Table A1.1. Flora within the study area.

Scientific Name	Common Name	Notes
INDIGENOUS SPECIES		
<i>Acacia melanoxylon</i>	Blackwood	-
<i>Acacia</i> spp.	Wattle	-
<i>Acacia verticillata</i>	Prickly Moses	I
<i>Allocasuarina littoralis</i>	Black Sheoak	**
<i>Cassinia longifolia</i>	Shiny Cassinia	I
<i>Eleocharis sphacelata</i>	Tall Spike-sedge	-
<i>Eucalyptus ovata</i>	Swamp Gum	+
<i>Eucalyptus radiata</i> s.l.	Narrow-leaf Peppermint	**
<i>Juncus pallidus</i>	Pale Rush	-
<i>Juncus</i> spp.	Rush	-
<i>Leptospermum continentale</i>	Prickly Tea-tree	**
<i>Melaleuca ericifolia</i>	Swamp Paperbark	**
<i>Phragmites australis</i>	Common Reed	-
NON-INDIGENOUS OR INTRODUCED SPECIES		
<i>Agrostis capillaris</i>	Brown-top Bent	-
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	-
<i>Brassica</i> spp.	Turnip	-
<i>Bromus catharticus</i>	Prairie Grass	-
<i>Cirsium vulgare</i>	Spear Thistle	*
<i>Daucus carota</i>	Carrot	-
<i>Holcus lanatus</i>	Yorkshire Fog	-
<i>Hypochaeris radicata</i>	Flatweed	-
<i>Lolium perenne</i>	Perennial Rye-grass	-

Scientific Name	Common Name	Notes
<i>Lotus angustissimus</i>	Slender Bird's-foot Trefoil	-
<i>Malva parviflora</i>	Small-flower Mallow	-
<i>Paspalum dilatatum</i>	Paspalum	-
<i>Plantago lanceolata</i>	Ribwort	-
<i>Romulea rosea</i>	Onion Grass	-
<i>Rubus fruticosus</i> spp. agg.	Blackberry	*w
<i>Sonchus asper</i> s.l.	Rough Sow-thistle	-
<i>Trifolium</i> spp.	Clover	-

Appendix 1.2 Habitat Hectare Assessment

Table A1.2. Habitat Hectare Assessment Table.

Vegetation Zone		SRF1	SRW7-SRF8 (regrowth)	SRF2-6; SRW9-13 (regrowth)	
Bioregion		Gippsland Plain	Gippsland Plain	Gippsland Plain	
EVC / Tree		Swampy Riparian Woodland	Swampy Riparian Woodland	Swampy Riparian Woodland	
EVC Number		83	83	83	
EVC Conservation Status		Endangered	Endangered	Endangered	
Patch	Large Old Trees /10	9	0	0	
	Canopy Cover /5	4	0	0	
	Under storey /25	10	5	5	
	Lack of Weeds /15	2	2	2	
	Recruitment /10	3	0	3	
	Condition	Organic Matter /5	3	3	4
		Logs /5	2	0	0
		Treeless EVC Multiplier	1.00	1.00	1.00
	Subtotal =	33.00	10.00	14.00	
Landscape Value /25		3	3	3	
Habitat Points /100		36	13	17	
Habitat Score		0.36	0.13	0.17	

Appendix 1.3 Scattered Trees and Large Trees in Patches

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

Tree # (Figure 2)	Species Name	Common Name	DBH (cm)	Size Class	Scattered / Patch	Habitat features	Status
1	Swamp Gum	<i>Eucalyptus ovata</i>	96	Large	Scattered	-	Removed (direct impact)
27	stag	-	77	Large	Patch	Hollow	Retained
28	Swamp Gum	<i>Eucalyptus ovata</i>	74	Large	Patch	-	Retained
29	Swamp Gum	<i>Eucalyptus ovata</i>	72	Large	Patch	-	Retained
30	Swamp Gum	<i>Eucalyptus ovata</i>	70	Large	Patch	-	Retained
31	Swamp Gum	<i>Eucalyptus ovata</i>	72	Large	Patch	-	Retained

Appendix 1.4 Significant Flora Species

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

Table A1.4.1 Conservation status of each species for each Act. The values in this table correspond to Columns 5 and 6 in Table A1.4.3.

EPBC (<i>Environment Protection and Biodiversity Conservation Act 1999</i>):		FFG (<i>Flora and Fauna Guarantee Act 1988</i>):	
EX	Extinct	ex	Extinct
CR	Critically endangered	cr	Critically endangered
EN	Endangered	en	Endangered
VU	Vulnerable	vu	Vulnerable
#	Listed on the Protected Matters Search Tool		

Table A1.4.2 Likelihood of occurrence rankings: Habitat characteristics assessment of significant flora species previously recorded within 10 kilometres of the study area, or that may potentially occur within the study area to determine their likelihood of occurrence. The values in this table correspond to Column 7 in Table A1.4.3.

1	Known Occurrence	<ul style="list-style-type: none"> Recorded within the study area recently (i.e. within ten years).
2	High Likelihood	<ul style="list-style-type: none"> Previous records of the species in the local vicinity; and/or, The study area contains areas of high-quality habitat.
3	Moderate Likelihood	<ul style="list-style-type: none"> Limited previous records of the species in the local vicinity; and/or The study area contains poor or limited habitat.
4	Low Likelihood	<ul style="list-style-type: none"> Poor or limited habitat for the species, however other evidence (such as lack of records or environmental factors) indicates there is a very low likelihood of presence.
5	Unlikely	<ul style="list-style-type: none"> No suitable habitat and/or outside the species range.

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

Scientific name	Common name	Total # of documented records	Last documented record	EPBC	FFG	Likely occurrence in study area
NATIONAL SIGNIFICANCE						
<i>Amphibromus fluitans</i> #	River Swamp Wallaby-grass	-	-	VU	-	4
<i>Caladenia orientalis</i> #	Eastern Spider Orchid	-	-	EN	en	5
<i>Caladenia tessellata</i> #	Thick-lipped Spider-orchid	-	-	VU	-	4
<i>Dianella amoena</i> #	Matted Flax-lily	-	-	EN	cr	4
<i>Eucalyptus strzeleckii</i> #	Strzelecki Gum	-	-	VU	cr	4
<i>Glycine latrobeana</i> #	Clover Glycine	-	-	VU	vu	4
<i>Lepidium aschersonii</i> #	Spiny Pepper-cress	-	-	VU	en	4
<i>Prasophyllum spicatum</i> #	Dense Leek-orchid	-	-	VU	cr	4
<i>Pterostylis chlorogramma</i> #	Green-striped Greenhood	5	2009	VU	en	4
<i>Pterostylis cucullata</i> #	Leafy Greenhood	-	-	VU	en	4
<i>Senecio psilocarpus</i> #	Swamp Fireweed	-	-	VU	-	4
<i>Thelymitra epipactoides</i> #	Metallic Sun-orchid	-	-	EN	en	4
<i>Xerochrysum palustre</i> #	Swamp Everlasting	-	-	VU	cr	4
STATE SIGNIFICANCE						
<i>Acacia leprosa</i> var. <i>uninervia</i>	Large-leaf Cinnamon-wattle	1	2005	-	en	4
<i>Austrostipa rudis</i> subsp. <i>australis</i>	Veined Spear-grass	1	2007	-	en	4
<i>Billardiera scandens</i> s.s.	Velvet Apple-berry	1	1976	-	en	4
<i>Corybas aconitiflorus</i>	Spurred Helmet-orchid	4	2007	-	en	4
<i>Corymbia maculata</i>	Spotted Gum	2	2017	-	vu	4

Scientific name	Common name	Total # of documented records	Last documented record	EPBC	FFG	Likely occurrence in study area
<i>Hypocreopsis amplexans</i>	Clasping Hypocreopsis	9	2004	-	cr	4
<i>Melaleuca armillaris</i> subsp. <i>armillaris</i>	Giant Honey-myrtle	1	2017	-	en	4
<i>Pterostylis grandiflora</i>	Cobra Greenhood	1	1994	-	en	4
<i>Thelymitra malvina</i>	Mauve-tuft Sun-orchid	1	1995	-	en	4

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

APPENDIX 2 FAUNA

Appendix 2.1 Significant Fauna Species

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

Table A2.1.1 Conservation status of each species for each Act/Plan. The values in this table correspond to Columns 5 to 7 in Table A2.1.3.

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

Table A2.1.2 Likelihood of occurrence rankings: Habitat characteristics assessment of significant fauna species previously recorded within 10 kilometres of the study area, or that may potentially occur within the study area to determine their likelihood of occurrence. The values in this table correspond to Column 7 in Table A2.1.3.

1	High Likelihood	<ul style="list-style-type: none"> Known resident in the study area based on site observations, database records, or expert advice; and/or, Recent records (i.e. within five years) of the species in the local area (DELWP 2018); and/or, The study area contains the species' preferred habitat.
2	Moderate Likelihood	<ul style="list-style-type: none"> The species is likely to visit the study area regularly (i.e. at least seasonally); and/or, Previous records of the species in the local area (DELWP 2021); and/or, The study area contains some characteristics of the species' preferred habitat.
3	Low Likelihood	<ul style="list-style-type: none"> The species is likely to visit the study area occasionally or opportunistically whilst en route to more suitable sites; and/or, There are only limited or historical records of the species in the local area (i.e. more than 20 years old); and/or, The study area contains few or no characteristics of the species' preferred habitat.

4	Unlikely	<ul style="list-style-type: none"> • No previous records of the species in the local area; and/or, • The species may fly over the study area when moving between areas of more suitable habitat; and/or, • Out of the species' range; and/or, • No suitable habitat present.
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Table A2.1.3 Significant fauna recorded within 10 kilometres of the study area.

Common name	Scientific name	Total # of Records (VBA)	Last Documented Record (VBA)	EPBC	FFG	Likely occurrence in study area
NATIONAL SIGNIFICANCE						
Australasian Bittern #	<i>Botaurus poiciloptilus</i>	-	-	EN	cr	4
Australian Fairy Tern #	<i>Sternula nereis nereis</i>	-	-	VU	-	4
Australian Grayling	<i>Prototroctes maraena</i>	7	2011	VU	en	4
Australian Painted Snipe #	<i>Rostratula australis</i>	-	-	EN	cr	4
Broad-toothed Rat #	<i>Mastacomys fuscus mordicus</i>	-	-	VU	vu	4
Curlew Sandpiper	<i>Calidris ferruginea</i>	1	1979	CR	cr	4
Dwarf Galaxias	<i>Galaxiella pusilla</i>	25	2012	VU	en	4
Eastern Curlew	<i>Numenius madagascariensis</i>	2	1979	CR	cr	4
Gang-gang Cockatoo	<i>Callocephalon fimbriatum</i>	8	1986	EN	-	3
Giant Gippsland Earthworm	<i>Megascolides australis</i>	9	2003	VU	en	3
Golden Sun Moth #	<i>Synemon plana</i>	-	-	VU	vu	4
Greater Glider #	<i>Petauroides volans</i>	-	-	EN	vu	4
Greater Sand Plover #	<i>Charadrius leschenaultii</i>	-	-	VU	vu	4
Grey Falcon #	<i>Falco hypoleucos</i>	-	-	VU	vu	4

Common name	Scientific name	Total # of Records (VBA)	Last Documented Record (VBA)	EPBC	FFG	Likely occurrence in study area
Grey-headed Flying-fox #	<i>Pteropus poliocephalus</i>	-	-	VU	vu	4
Growling Grass Frog	<i>Litoria raniformis</i>	9	2008	VU	vu	4
Long-nosed Potoroo #	<i>Potorous tridactylus trisulcatus</i>	-	-	VU	vu	4
Nunivak Bar-tailed Godwit #	<i>Limosa lapponica baueri</i>	-	-	VU	-	4
Orange-bellied Parrot #	<i>Neophema chrysogaster</i>	-	-	CR	vu	4
Painted Honeyeater #	<i>Grantiella picta</i>	-	-	VU	vu	4
Pilotbird	<i>Pycnoptilus floccosus</i>	2	1977	VU	en	4
Red Knot #	<i>Calidris canutus</i>	-	-	EN	en	4
Regent Honeyeater #	<i>Anthochaera phrygia</i>	-	-	CR	en	4
Smoky Mouse #	<i>Pseudomys fumeus</i>	-	-	EN	en	4
Southern Brown Bandicoot	<i>Isodon obesulus obesulus</i>	155	2019	EN	vu	3
Spot-tailed Quoll #	<i>Dasyurus maculatus maculatus</i>	-	-	EN	vu	4
Swamp Antechinus	<i>Antechinus minimus maritimus</i>	1	1998	VU	vu	4
White-throated Needle-tail	<i>Hirundapus caudacutus</i>	3	1981	VU	vu	4
Yarra Pygmy Perch #	<i>Nannoperca obscura</i>	-	-	VU	vu	4
Yellow-bellied Glider #	<i>Petaurus australis australis</i>	-	-	VU	-	4
STATE SIGNIFICANCE						
Blue-billed Duck	<i>Oxyura australis</i>	1	1981	-	vu	4
Caspian Tern	<i>Hydroprogne caspia</i>	1	1979	-	vu	4
Eastern Great Egret	<i>Ardea alba modesta</i>	2	2018	-	vu	4
Hardhead	<i>Aythya australis</i>	2	2017	-	vu	3

Common name	Scientific name	Total # of Records (VBA)	Last Documented Record (VBA)	EPBC	FFG	Likely occurrence in study area
Lace Monitor	<i>Varanus varius</i>	10	2019	-	en	3
Little Eagle	<i>Hieraaetus morphnoides</i>	3	1978	-	vu	3
Little Egret	<i>Egretta garzetta</i>	3	1998	-	en	4
Musk Duck	<i>Biziura lobata</i>	2	1981	-	vu	3
Platypus	<i>Ornithorhynchus anatinus</i>	4	1998	-	vu	4
Southern Toadlet	<i>Pseudophryne semimarmorata</i>	3	1981	-	en	3
White-bellied Sea-Eagle	<i>Haliaeetus leucogaster</i>	1	1978	-	en	4
White-footed Dunnart	<i>Sminthopsis leucopus</i>	1	2012	-	vu	3

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

APPENDIX 3 NATIVE VEGETATION REMOVAL (NVR) REPORT

Native vegetation removal report

A report to support an application to remove, destroy or lop native vegetation in the **Intermediate Assessment Pathway** using the modelled condition score

This report provides information to support an application to remove native vegetation in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation*. The report is not an assessment by DELWP or local council of the proposed native vegetation removal. Biodiversity information and offset requirements have been calculated using modelled condition scores contained in the *Native vegetation condition map*.

Date and time: 13 January 2021 13:10 PM

Lat./Long.: -38.247882976963,145.632626126845

Native vegetation report ID:

Address: 870 WESTERNPORT ROAD YANNATHAN
3981

311-20210113-012

Assessment pathway

The assessment pathway and reason for the assessment pathway

Assessment pathway	Intermediate Assessment Pathway
Extent of past plus proposed native vegetation removal	0.070 hectares
No. large trees	1 large tree(s)
Location category	Location 2 The native vegetation is in an area mapped as an Endangered Ecological Vegetation Class. Removal of less than 0.5 hectares of native vegetation will not have a significant impact on any habitat for a rare or threatened species.

Offset requirement

The offset requirement that will apply if the native vegetation is approved to be removed

Offset type	General offset
Offset amount	0.015 general habitat units
Offset attributes	
Vicinity	Port Phillip And Westernport Catchment Management Authority (CMA) or Cardinia Shire Council
Minimum strategic biodiversity value score	0.352
Large trees	1 large tree(s)

Biodiversity information about the native vegetation

Description of any past native vegetation removal

Any native vegetation that was approved to be removed, or was removed without the required approvals, on the same property or on contiguous land in the same ownership, in the five year period before the application to remove native vegetation is lodged is detailed below.

Permit/PIN number	Extent of native vegetation (hectares)
None entered	0 hectares

Description of the native vegetation proposed to be removed

Extent of all mapped native vegetation	0.070 hectares
Condition score of all mapped native vegetation	0.200
Strategic biodiversity value score of all mapped native vegetation	0.440
Extent of patches native vegetation	0.000 hectares
Extent of scattered trees	0.070 hectares
No. large trees within patches	0 large tree(s)
No. large scattered trees	1 large tree(s)
No. small scattered trees	0 small tree(s)

Additional information about trees to be removed, shown in Figure 1

Tree ID	Tree circumference (cm)	Benchmark circumference (cm)	Scattered / Patch	Tree size
A	301.6	220	Scattered	Large

Other information

Applications to remove, destroy or lop native vegetation must include all the below information. If an appropriate response has not been provided the application is not complete.

Photographs of the native vegetation to be removed

Recent, dated photographs of the native vegetation to be removed must be provided with the application. All photographs must be clear, show whether the vegetation is a patch of native vegetation or scattered trees, and identify any large trees. If the area of native vegetation to be removed is large, provide photos that are indicative of the native vegetation.

Ensure photographs are attached to the application. If appropriate photographs have not been provided the application is not complete.

Topographical and land information

Description of the topographic and land information relating to the native vegetation to be removed, including any ridges, crests and hilltops, wetlands and waterways, slopes of more than 20 percent, drainage lines, low lying areas, saline discharge areas, and areas of existing erosion, as appropriate. This may be represented in a map or plan. **This is an application requirement and your application will be incomplete without it.**

The study area is generally flat, with no ridges, crests within or immediately adjacent to the site. A minor drainage line is present within the study area, running east to west through the middle of the site.

Avoid and minimise statement

This statement describes what has been done to avoid the removal of, and minimise impacts on the biodiversity and other values of native vegetation. **This is an application requirement and your application will be incomplete without it.**

See Section 5 of the Biodiversity report

Defendable space statement

Where the removal of native vegetation is to create defendable space, a written statement explaining why the removal of native vegetation is necessary. This statement must have regard to other available bushfire risk mitigation measures. This statement is not required if your application also includes an application under the Bushfire Management Overlay.

Not applicable

Offset statement

An offset statement that demonstrates that an offset is available and describes how the required offset will be secured. **This is an application requirement and your application will be incomplete without it.**

Offsets will be sourced through the Native Vegetation Credit Register, with excess of 10 sites available (Appendix 4 of the Biodiversity Report).

Next steps

Applications to remove, destroy or lop native vegetation must address all the application requirements specified in *Guidelines for the removal, destruction or lopping of native vegetation*. If you wish to remove the mapped native vegetation you are required to apply for a permit from your local council. This *Native vegetation removal report* must be submitted with your application and meets most of the application requirements. The following needs to be added as applicable.

Property Vegetation Plan

Landowners can manage native vegetation on their property in the longer term by developing a Property Vegetation Plan (PVP) and entering into an agreement with DELWP.

If an approved PVP applies to the land, ensure the PVP is attached to the application.

Applications under Clause 52.16

An application to remove, destroy or lop native vegetation is under Clause 52.16 if a Native Vegetation Precinct Plan (NVPP) applies to the land, and the proposed native vegetation removal is not in accordance with the relevant NVPP. If this is the case, a statement that explains how the proposal responds to the NVPP considerations must be provided.

If the application is under Clause 52.16, ensure a statement that explains how the proposal responds to the NVPP considerations is attached to the application.

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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

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Obtaining this publication does not guarantee that an application will meet the requirements of Clauses 52.16 or 52.17 of planning schemes in Victoria or that a permit to remove native vegetation will be granted.



Notwithstanding anything else contained in this publication, you must ensure that you comply with all relevant laws, legislation, awards or orders and that you obtain and comply with all permits, approvals and the like that affect, are applicable or are necessary to undertake any action to remove, lop or destroy or otherwise deal with any native vegetation or that apply to matters within the scope of Clauses 52.16 or 52.17 of planning schemes in Victoria.

Figure 1 – Map of native vegetation to be removed, destroyed or lopped

Mapped native vegetation to be removed, lopped or destroyed



Legend

-  Mapped native vegetation
-  Property boundary

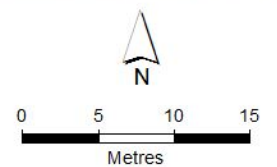


Figure 2 – Map of property in context

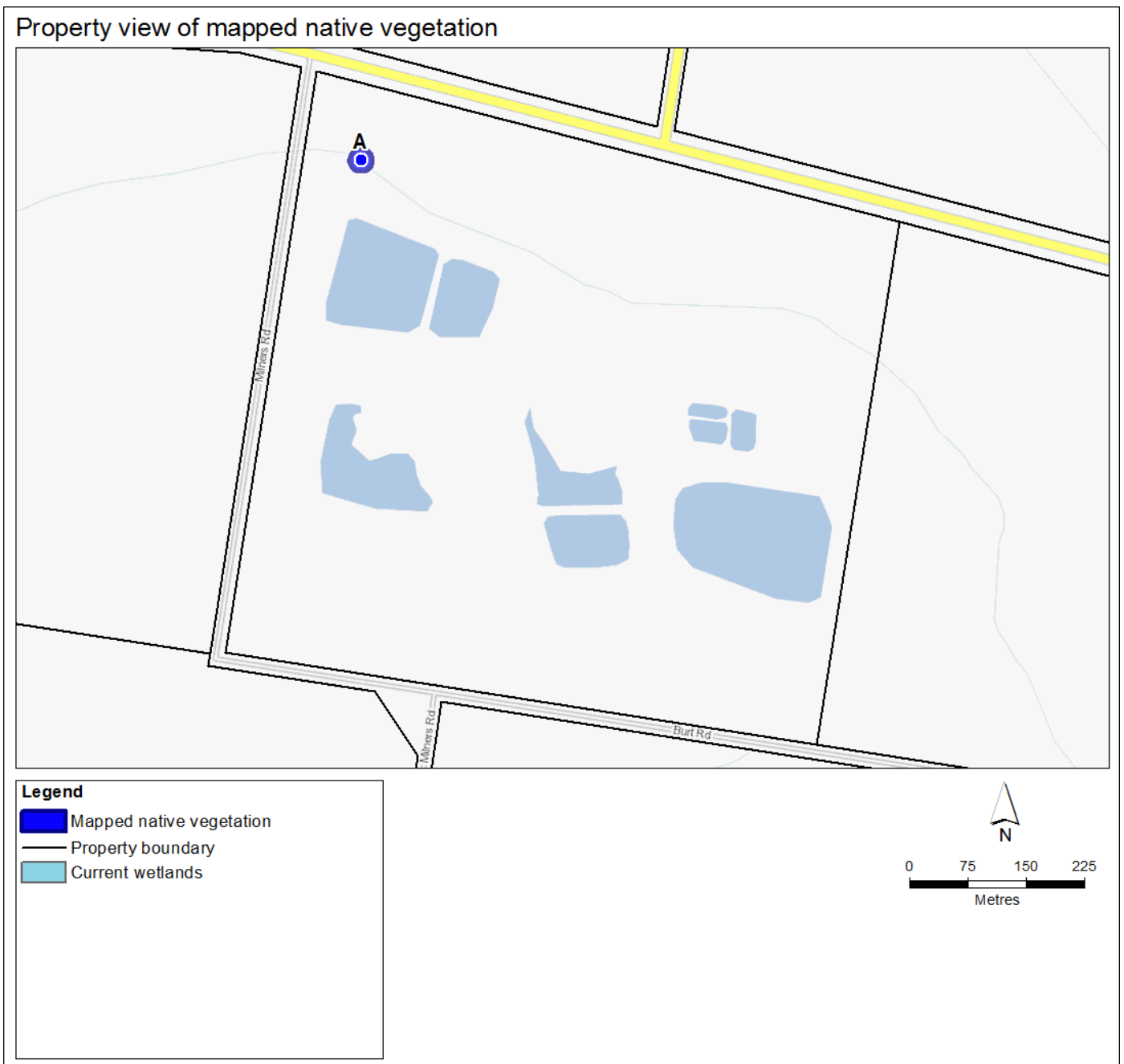
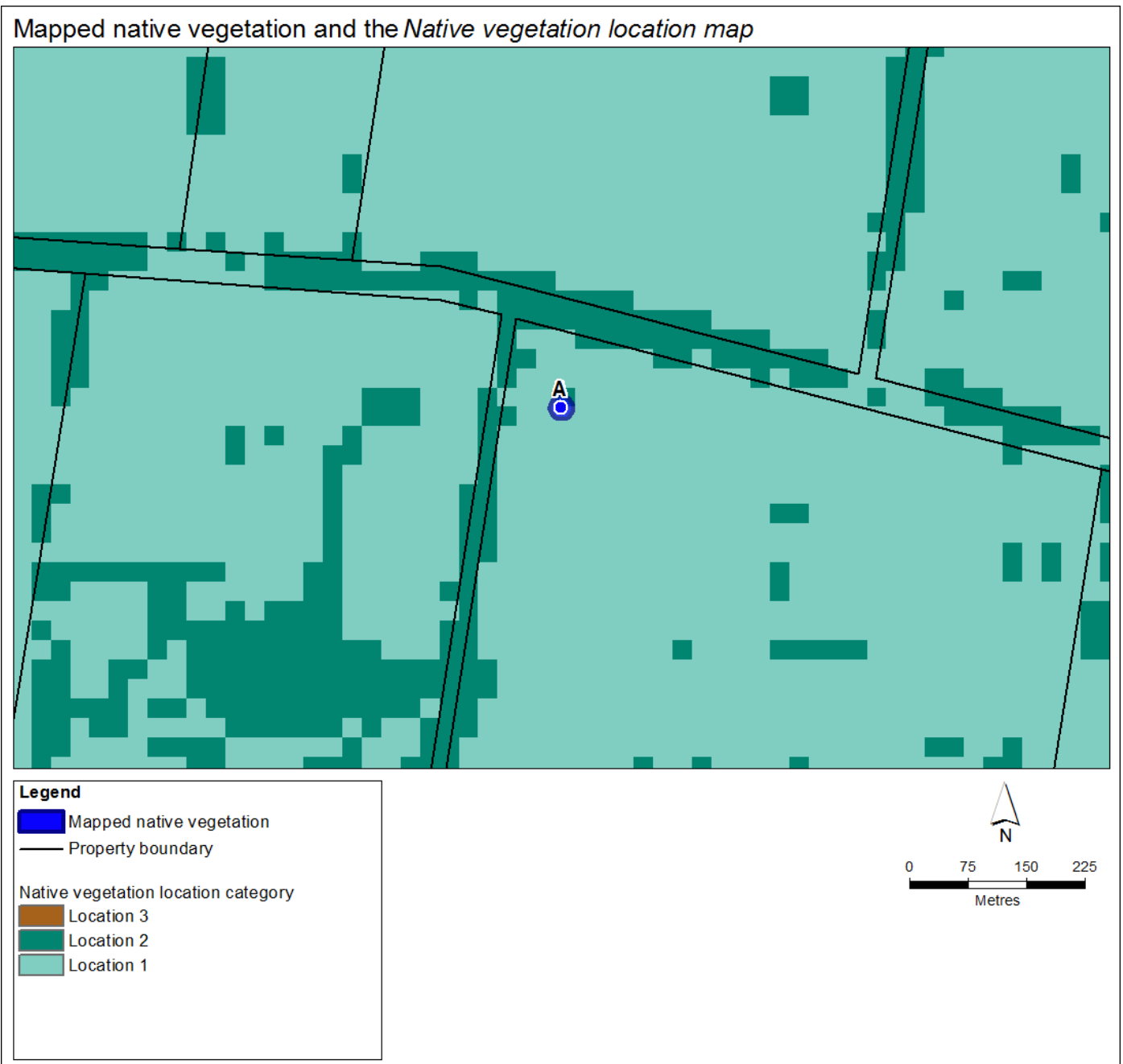
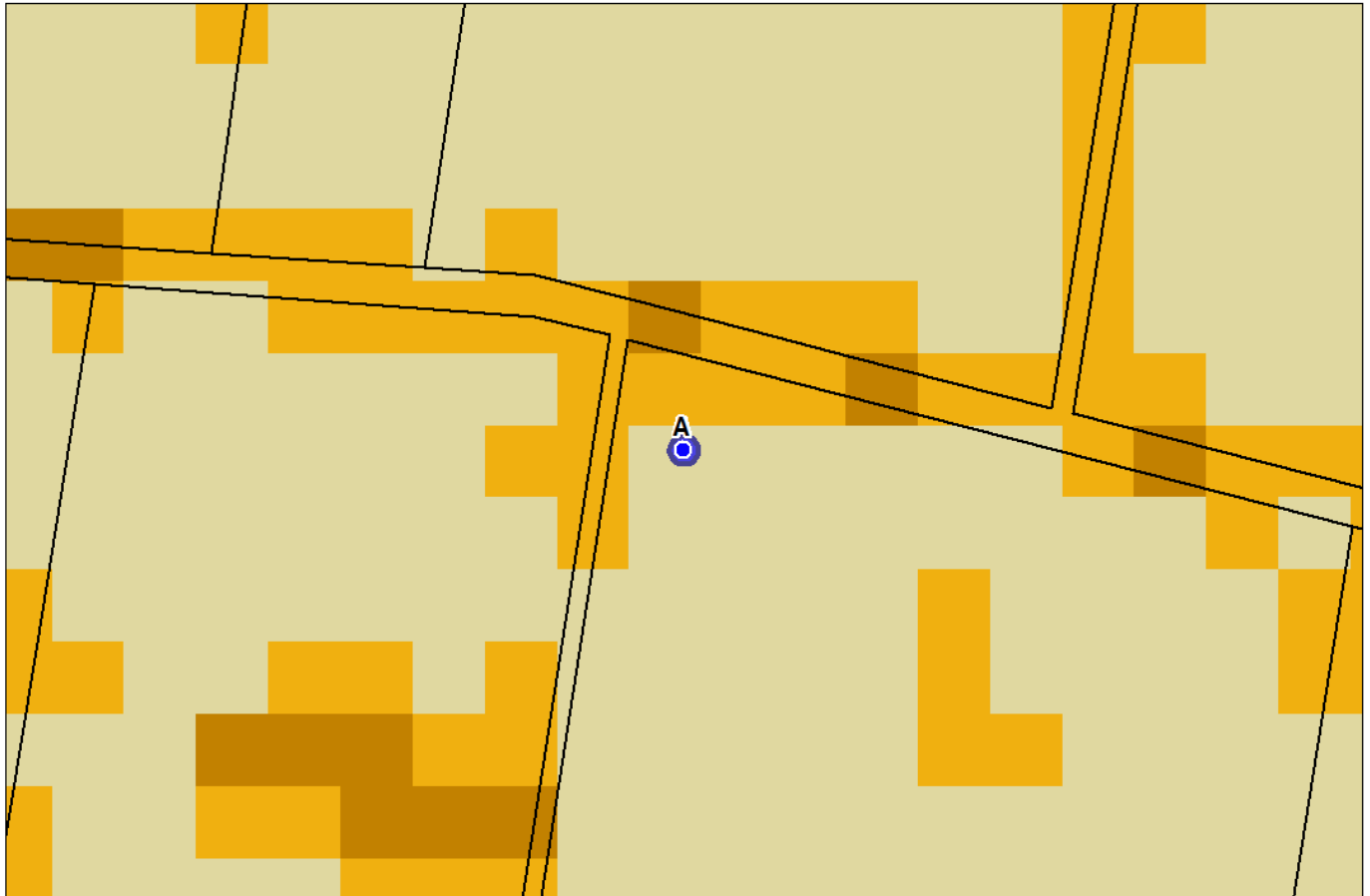




Figure 3 – Biodiversity information maps








Mapped native vegetation and the *Native vegetation condition map*



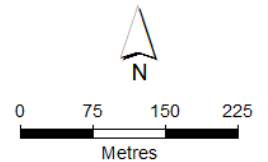
Legend

-  Mapped native vegetation
-  Property boundary

Native vegetation condition*

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

* These classes are for display purposes only





Native vegetation removal report






Mapped native vegetation and the *Strategic biodiversity value map*



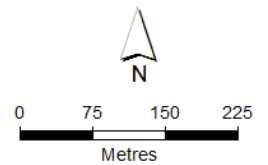
Legend

-  Mapped native vegetation
-  Property boundary

Strategic biodiversity value*

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

* These classes are for display purposes only



Appendix 1 - Details of offset requirements

Native vegetation to be removed

Extent of all mapped native vegetation (for calculating habitat hectares)	0.070	The area of land covered by a patch of native vegetation and/or a scattered tree, measured in hectares. Where the mapped native vegetation includes scattered trees, each tree is assigned a standard extent and converted to hectares. A small scattered tree is assigned a standard extent defined by a circle with a 10 metre radius and a large scattered tree a circle with a 15 metre radius. The extent of all mapped native vegetation is an input to calculating the habitat hectares.
Condition score*	0.200	The condition score of native vegetation is a site-based measure that describes how close native vegetation is to its mature natural state. The condition score is the weighted average condition score of the mapped native vegetation calculated using the <i>Native vegetation condition map</i> .
Habitat hectares	0.014	Habitat hectares is a site-based measure that combines extent and condition of native vegetation. It is calculated by multiplying the extent of native vegetation by the condition score: Habitat hectares = extent x condition score
Strategic biodiversity value score	0.440	The strategic biodiversity value score represents the complementary contribution to Victoria's biodiversity of a location, relative to other locations across the state. This score is the weighted average strategic biodiversity value score of the mapped native vegetation calculated using the <i>Strategic biodiversity value map</i> .
General landscape factor	0.720	The general landscape factor is an adjusted strategic biodiversity value score. It has been adjusted to reduce the influence of landscape scale information on the general habitat score.
General habitat score	0.010	The general habitat score combines site-based and landscape scale information to obtain an overall measure of the biodiversity value of the native vegetation. The general habitat score is calculated as follows: General habitat score = habitat hectares x general landscape factor

* **Offset requirements for partial removal:** If your proposal is to remove parts of the native vegetation in a patch (for example only understorey plants) the condition score must be adjusted. This will require manual editing of the condition score and an update to the calculations that the native vegetation removal tool has provided: habitat hectares, general habitat score and offset amount.

Offset requirements

Offset type	General 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. All proposals in the Basic and Intermediate assessment pathways will only require a general offset.
Offset multiplier	1.5	This multiplier is used to address the risk that the predicted outcomes for gain will not be achieved, and therefore will not adequately compensate the biodiversity loss from the removal of native vegetation.
Offset amount (general habitat units)	0.015	The general habitat units are the amount of offset that must be secured if the application is approved. This offset requirement will be a condition to any permit or approval for the removal of native vegetation. General habitat units required = general habitat score x 1.5
Minimum strategic biodiversity value score	0.352	The offset site must have a strategic biodiversity value score of at least 80 per cent of the strategic biodiversity value score of the native vegetation to be removed. This is to ensure offsets are located in areas with a strategic biodiversity value that is comparable to the native vegetation to be removed.
Vicinity	Port Phillip And Westernport CMA or Cardinia Shire Council	The offset site must be located within the same Catchment Management Authority boundary or municipal district as the native vegetation to be removed.
Large trees	1 large tree (s)	The offset site must protect at least one large tree for every large tree removed. A large tree is a native canopy tree with a Diameter at Breast Height greater than or equal to the large tree benchmark for the local Ecological Vegetation Class. A large tree can be either a large scattered tree or a large patch tree.

APPENDIX 4 AVAILABLE NATIVE VEGETATION CREDITS

Report of available native vegetation credits

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

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

Date and time: 06/09/2022 03:15

Report ID: 15759

What was searched for?

General offset

General habitat units	Strategic biodiversity value	Large trees	Vicinity (Catchment Management Authority or Municipal district)	
0.015	0.352	1	CMA	Port Phillip and Westernport
			or LGA	Cardinia Shire

Details of available native vegetation credits on 06 September 2022 03:15

These sites meet your requirements for general offsets.

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)
BBA-0670	17.745	147	Port Phillip and Westernport	Cardinia Shire	No	Yes	No	Abezco, VegLink
BBA-0677	16.525	1492	Port Phillip and Westernport	Whittlesea City	No	Yes	No	Abezco, VegLink
BBA-0678	46.362	2627	Port Phillip and Westernport	Nillumbik Shire	No	Yes	No	VegLink
BBA-0678_2	0.388	59	Port Phillip and Westernport	Nillumbik Shire	No	Yes	No	VegLink
BBA-2774	0.020	9	Port Phillip and Westernport	Greater Geelong City	Yes	Yes	No	VegLink
BBA-2789	1.317	14	Port Phillip and Westernport	Baw Baw Shire	Yes	Yes	No	Contact NVOR
BBA-2790	2.911	116	Port Phillip and Westernport	Baw Baw Shire	Yes	Yes	No	Contact NVOR
BBA-2870	2.544	431	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
BBA-2871	16.335	1668	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
TFN-C1650	0.098	20	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	Yes	Yarra Ranges SC
TFN-C1663	0.109	27	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	Yes	Yarra Ranges SC
TFN-C1664	2.570	65	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	No	Yarra Ranges SC
TFN-C1962	0.098	9	Goulburn Broken, Port Phillip and Westernport	Macedon Ranges Shire	No	Yes	No	Contact NVOR

VC_CFL-0838_01	0.209	697	Port Phillip And Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3084_01	0.498	386	Port Phillip And Westernport	Cardinia Shire	Yes	Yes	No	VegLink
VC_CFL-3084_02	0.613	56	Port Phillip And Westernport	Cardinia Shire	Yes	Yes	No	VegLink
VC_CFL-3687_01	0.728	78	Port Phillip And Westernport	Baw Baw Shire	Yes	Yes	No	Baw Baw SC
VC_CFL-3708_01	0.199	511	Port Phillip And Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3709_01	0.139	395	Port Phillip And Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3729_01	0.016	6	Port Phillip And Westernport	Melton City	Yes	Yes	No	VegLink
VC_CFL-3740_01	1.756	96	Port Phillip And Westernport	Cardinia Shire, Yarra Ranges Shire	Yes	Yes	No	Bio Offsets
VC_CFL-3740_01	0.365	22	Port Phillip And Westernport	Yarra Ranges Shire	Yes	Yes	No	Bio Offsets
VC_CFL-3762_01	0.549	125	Port Phillip And Westernport	Moorabool Shire	Yes	Yes	No	VegLink

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

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)
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There are no sites listed in the Native Vegetation Credit Register that meet your offset requirements when applying the alternative arrangements as listed in section 11.2 of the Guidelines for the removal, destruction or lopping of native vegetation.

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

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)
VC_CFL-3710_01	7.606	322	Port Phillip And Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3744_01	3.717	384	Port Phillip And Westernport	Macedon Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3746_01	4.962	563	Port Phillip And Westernport	Macedon Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3764_01	12.037	55	Port Phillip And Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3769_01	2.617	77	Port Phillip And Westernport	Nillumbik Shire	Yes	Yes	No	VegLink

LT - Large Trees

CMA - Catchment Management Authority

LGA - Municipal District or Local Government Authority

Next steps

If applying for approval to remove native vegetation

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

If you have approval to remove native vegetation

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

Broker contact details

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

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

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Obtaining this publication does not guarantee that the credits shown will be available in the Native Vegetation Credit Register either now or at a later time when a purchase of native vegetation credits is planned.

Notwithstanding anything else contained in this publication, you must ensure that you comply with all relevant laws, legislation, awards or orders and that you obtain and comply with all permits, approvals and the like that affect, are applicable or are necessary to undertake any action to remove, lop or destroy or otherwise deal with any native vegetation or that apply to matters within the scope of Clauses 52.16 or 52.17 of the Victoria Planning Provisions and Victorian planning schemes