39 Melaluka Road Leopold

Vegetation Assessment
and
Native Vegetation Removal Report

A Report to
TGM Group Pty Ltd

Prepared by

Mark Trengove **Ecological Services**
PO Box 1502 Geelong 3220
mtrengove@pipeline.com.au
ph 0428 298087

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***Mark Trengove* Ecological Services**
PO Box 1502 Geelong 3220
mtrengove@pipeline.com.au
ph 0428 298087

1 INTRODUCTION

1.1 Project Background

An area of land, located at 39 Melaluka Road Leopold, is proposed to be developed as a residential sub division. This report was commissioned by TGM Group Pty Ltd to determine any implications for the removal of native vegetation at the subject site.

Under Clause 52.17 of the Planning Scheme, the State has gazetted the Native Vegetation Removal Regulations (revised in December 2017). The Regulations 'introduce a risk based approach to assessing applications to remove native vegetation' (DELWP Website i)

Refer to Section 4 for further discussion.

1.2 Objectives

The objectives of this investigation are to:

- Describe the flora values of the land.
- Evaluate the conservation significance of the land.
- Assess any potential impacts of the proposed development.
- Discuss the implications of relevant government policy and legislation.
- Determine any native vegetation offset implications.

1.3 Study Area

The study area is comprised of approximately 2.5 ha of land located at 39 Melaluka Road Leopold, located within the City of Greater Geelong. The site is zoned Low Density Residential Zone (LDRZ) under the City of Greater Geelong Planning Scheme (Land.vic website i).

The site is within the Otway Plains bioregion and is located within the Corangamite Catchment Management Authority region (Department of Environment, Land, Water and Planning [DELWP] website ii).

The site appears to have a history of agricultural and domestic use and having been subjected to significant disturbance (pasture improvement). However, areas of partially intact indigenous vegetation, dominated by Lightwood, remain.

The location of the study area is shown on Figure 1.

Figure 1. 39 Melaluka Road Leopold, shown in dark.

1.4 Proposed Development

The proposed land use is to rezone the land to General Residential Zone.

2 METHODS

2.1 Taxonomy

Scientific names for plants follow the Flora of Victoria (RBG website). Common names for plants follow the Flora of Victoria Vols 2-4 (Walsh and Entwisle 1994-1999).

2.2 Literature and Database Review

Relevant literature, online resources and databases were reviewed to provide an up to date assessment of ecological values associated with the study area and surrounds, including:

- The Victorian Department of Environment, Land, Water and Planning (DELWP) NVIM tool (DELWP website ii) for:
    - Modelled data for remnant vegetation patches and habitat for rare or threatened species and
    - the extent of historic and current Ecological Vegetation Classes (EVC)s.
- The Victorian Biodiversity Atlas (VBA) (DELWP website iii) for previously documented flora and fauna records within the project locality (to approximately 10 kilometres of the study area)
- Aerial photography of the study area (Google maps).

2.3 Field Survey

The site was inspected on foot on the 1st of July 2019. The entire site was traversed. Records were made of all indigenous vascular plant species. Records were made of the existing habitat values and dominant exotic vascular plant species. The location of areas of native vegetation were mapped.

2.4 Limitations

The assessment was conducted during winter, a time of year that are suitable for the detection of most but not all flora species likely to occur on site. The site was unslashed and ungrazed at the time of survey. The survey includes only vascular flora.

Due to the relatively degraded condition of the study area vegetation, the site inspection is considered sufficient to assess the ecological values of the proposed impact site. As a result, for the purposes of assessing the proposed impact site, there are not considered to be any significant limitations to the study.

2.5 Defining Significance

A number of criteria are applied in order to assess the significance of flora species and vegetation communities. The definition of the criteria is detailed in Appendix 1.

2.6 Defining and Assessing Vegetation

Native vegetation in Victoria has been defined by DELWP as belonging to two categories. These are:

Patch native vegetation

Patch native vegetation is either:

- any area of vegetation where at least 25 per cent of the total perennial understorey plant cover is native
- any area with three or more native canopy trees where the canopy foliage combines
- Any area of wetland as defined by current DELWP mapping.

Scattered tree native vegetation

Scattered tree native vegetation is:

- a native canopy tree that does not form part of a patch.

Habitat hectares

Habitat hectares (Vegetation Quality Assessment) is a site-based measure that combines extent and condition of native vegetation. The current condition of native vegetation is assessed against a benchmark for its Ecological Vegetation Class (EVC). EVCs are classifications of native vegetation types. The benchmark for an EVC describes the attributes of the vegetation type in its mature natural state, which reflects the pre-settlement circumstances. The condition score of native vegetation at a site can be determined through undertaking a habitat hectare assessment.

The habitat hectares of native vegetation is calculated by multiplying the current condition of the vegetation (condition score) by the extent of native vegetation.

(DELWP Website i).

3 RESULTS

3.1 Ecological Vegetation Class

Ecological Vegetation Classes (EVCs) are the primary level of classification of vegetation communities within Victoria. An EVC contains one or more plant (floristic) community and represents a grouping of vegetation communities with broadly similar ecological attributes. Classification of EVCs in this report follows Oates and Taranto (2001).

The pre-1750 EVC mapping of the study area undertaken by DELWP (DELWP Website i) indicates that the study area was comprised of EVC 55 Plains Grassy Woodland. EVC 55 Plains Grassy Woodland is currently listed as 'Endangered' in the Otway Plains bioregion (DELWP website ii).

The current study records areas of partially intact vegetation that accords with EVC 55 Plains Grassy Woodland within the study area.

Refer to Figure 2 for DELWP EVC mapping.

Figure 2. Distribution of EVCs pre-1750. Data by DELWP (DELWP Website i).

3.2 Flora

One indigenous vascular plant species was recorded from the study area. Refer to Table 1 for a list of plant species recorded, including conservation significance. Refer to Table 2 for a list of dominant exotic plant species.

3.3 Vegetation Condition

The study area is dominated by exotic pasture grasses and ruderal weeds. These areas appear to have been subject to past and on-going disturbance, including pasture improvement. Refer to Table 1 for a list of the indigenous plant species recorded during this study.

The areas of partially intact vegetation are comprised of the following:

- Lightwood at greater than 25% cover value

Plantations of Tuart (*Eucalyptus gomphocephalum*), *Eucalyptus* spp and *Cypress* spp also occur. Established exotic gardens also occur.

Areas of relatively intact native vegetation occur on the adjacent Bellarine Rail trail, located to the north.

Refer to Plates 1-3 for photographs of the vegetation. Refer to Figure 4 for the location of native vegetation.

Table 1 Indigenous Vascular Plant Species, significance and location

Botanical Name	Common Name	Significance
Acacia implexa	Lightwood	Regional

Table 2 Exotic Vascular Plant Species

Botanical Name	Common Name
Bromus sp	Brome Grass
Cynodon dactylon	Couch Grass
Dactylis glomeratus	Cock's-foot
Ehrharta erecta	Panic Veltd-grass
Galenia pubescens	Blanket Weed
Lolium sp	Rye-grass
Lycium ferrocissimum	Boxthorn
Nassella trichotoma	Serrated Tussock
Phalaris aquatica	Canary-grass
Polygonum aviculare	Knotweed
Trifolium sp	Clover

3.4 Significant Flora

No National or State significant plant species were recorded. The single indigenous plant species is assessed to be of Regional conservation significance. Refer to Table 1 for significance listing. Refer to Appendix 1 for the rational for assessing significance.

4 Native Vegetation Permitted Clearing Regulations

Under Particular Provision (Native Vegetation Clause 52.17) the State has gazetted the Native Vegetation Permitted Clearing Regulations, revised in December 2017. The Native Vegetation Permitted Clearing Regulations introduce a risk-based approach to assessing applications to remove native vegetation.

The objective for the permitted clearing of native vegetation is that it results in no net loss. This means permitted clearing has a neutral impact on Victoria's biodiversity.

The purpose of Clause 52.17 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 achieved by applying the following three step approach in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation* (Department of Environment, Land, Water and Planning, 2017):

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 if a permit is granted to remove, destroy or lop native vegetation.

To manage the removal, destruction or lopping of native vegetation to minimise land and water degradation. (DELWP Website i).

When native vegetation removal is permitted, an offset must be secured which achieves a no net loss outcome for biodiversity. To achieve this the offset makes a contribution to Victoria's biodiversity that is equivalent to the contribution made by the native vegetation that was removed. The type and amount of offset required depends on the native vegetation being removed and the contribution it makes to Victoria's biodiversity.

Implications for the current proposal are discussed as follows. Refer to Figure 3 for Location mapping (DELWP data).

Figure 3

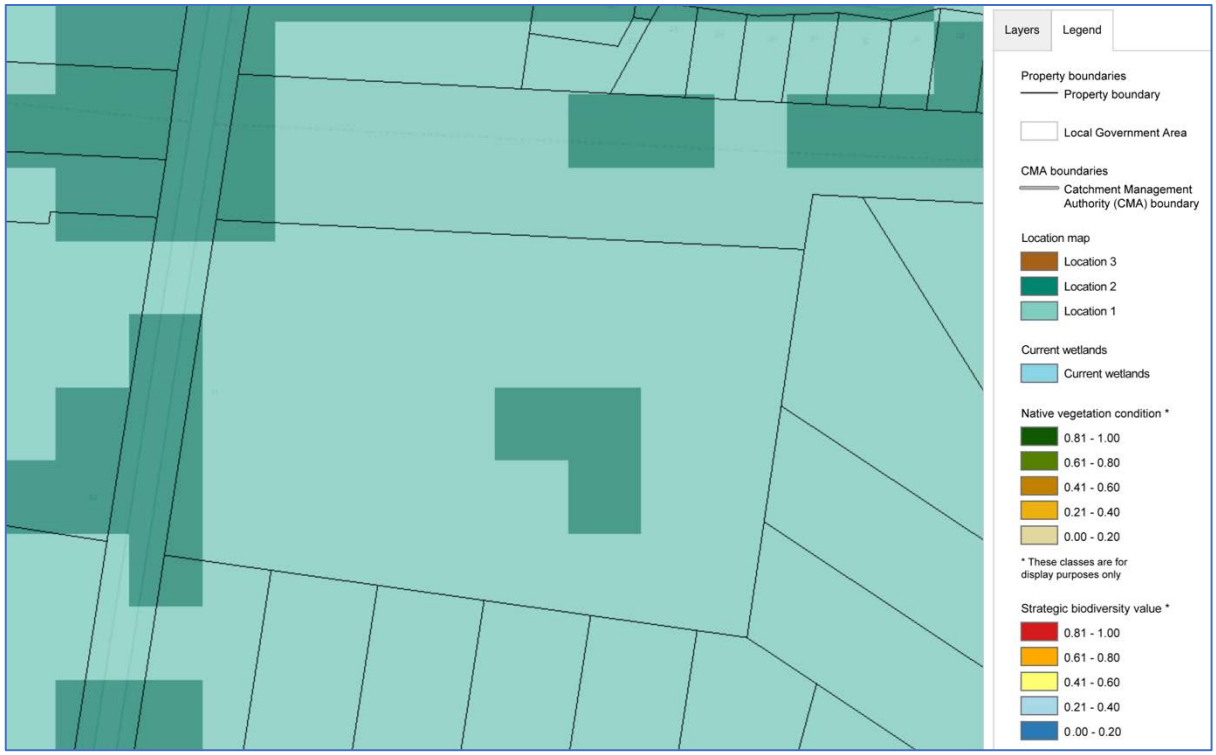


Figure 3. Distribution of vegetation according to 'Location'. Light green equates to 'Location 1' (i.e. lowest risk), Dark green equates to Location 2 (medium risk) (DELWP Website i). The area of recorded native vegetation is located within Location 1.

4.1 Patch Native Vegetation

Under the Native Vegetation Permitted Clearing Regulations, any areas of patch native vegetation that are proposed to be removed are subject to protection/and or recruitment offsets, depending upon the characteristics of the site.

One area of patch native vegetation, dominated by Lightwood, was recorded for the study area.

4.2 Scattered Tree Native Vegetation

Under the Native Vegetation Permitted Clearing Regulations, any scattered tree native vegetation that is proposed to be removed are subject to protection/and or recruitment offsets, depending upon the characteristics of the site.

Scattered trees, that is, mature native canopy trees that exist outside of a patch, are also assessed under the Regulations. Within the Otway Plains bioregion, EVC 55 has Eucalyptus spp as ‘canopy trees’.

For practicality, a standard extent amount has been developed for scattered trees, based on the habitat hectare assessment method.

No scattered trees were recorded for the study area.

4.3 Implications

The results show that the current native vegetation condition for the study area consists of one patch. Consequently, there would be implications for the removal of native vegetation under the Native Vegetation Permitted Clearing Regulations if a permit was sought to remove the trees.

In keeping with the requirements of the Regulations the DELWP Native Vegetation Information Management online tool (DELWP website v) has been utilized to generate a Native vegetation removal report (ID 327-20190702-010) to determine the assessment pathway and to calculate any vegetation offset requirements (Appendix 2).

Should a permit to remove all the native vegetation recorded by this assessment be sought, the application would be a basic pathway application.

The offset requirements would be to achieve 0.002 general habitat units, with a minimum strategic biodiversity score of 0.192, to be achieved within the Corangamite CMA or Geelong Council area.

Figure 4 Location of native vegetation

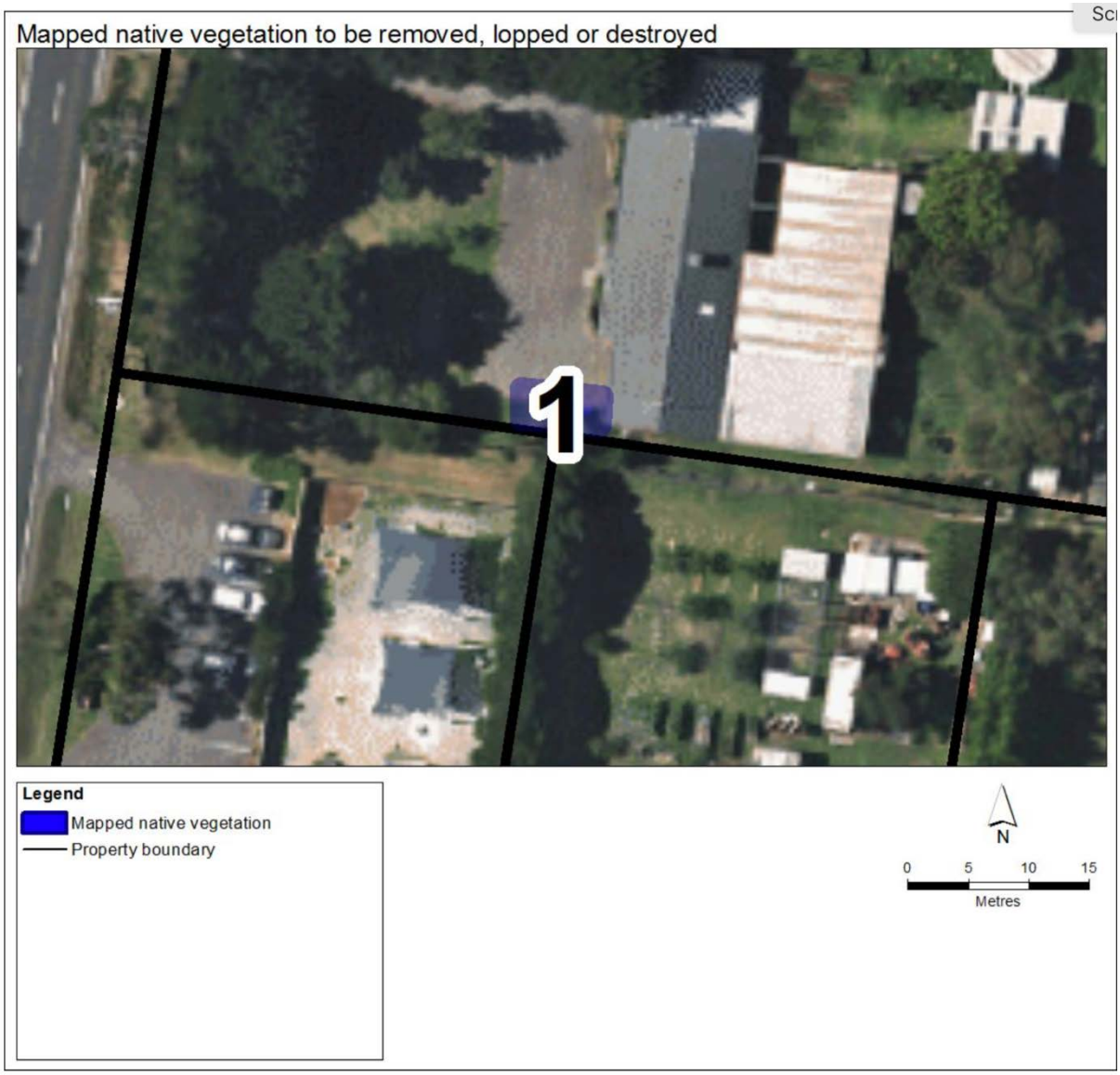


Figure 4. Location of native vegetation.

Refer to Appendix 2 for the Native vegetation removal report.

Refer to Plates 1-3 for photographs of the vegetation existing conditions.

5 CONCLUSIONS

Description

The land at 39 Melaluka Road Leopold, that is the subject of this report, has been subjected to past disturbance (agriculture, including pasture improvement) and mostly contains vegetation that is relatively degraded and dominated by exotic plant species. Habitat values within these areas are negligible.

One area of native vegetation (Lightwood) occurs on the subject property.

The current study records areas of partially intact vegetation that accords with EVC 55 Plains Grassy Woodland within the study area. EVC 55 Plains Grassy Woodland is currently listed as 'Endangered' in the bioregion.

Implications

No State or National significant plant species were recorded.

Should a permit to remove all the native vegetation recorded by this assessment be sought, the application would be a basic pathway application. The offset requirements would be to achieve 0.002 general habitat units, with a minimum strategic biodiversity score of 0.192, to be achieved within the Corangamite CMA or Geelong Council area.

Limitations

There are not considered to be any significant limitations to this study.

Appendix 1 - ASSESSING CONSERVATION SIGNIFICANCE

Conservation significance is assessed at a range of scales, including global, international, national, state, regional and local. Criteria used for determining the conservation significance of flora and fauna at national to local scales are presented below for botanical and zoological conservation significance.

Botanical Significance

National botanical significance applies to an area when it supports one or more of the following attributes:

a population of at least one nationally threatened plant species listed by Briggs and Leigh (1996) or plant species listed on the schedules to the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

A nationally threatened ecological community listed on the schedules of the *Environment Protection and Biodiversity Conservation Act 1999*.

State botanical significance applies to an area when it supports one or more of the following attributes:

A population of at least one plant species threatened in Victoria, as listed by Gullan et al. (1990), NRE (2000a) or more recently in the unpublished records of the Flora Information System (NRE), or on the schedules to the Victorian *Flora and Fauna Guarantee Act 1988*.

An ecological community considered threatened in Victoria through its listing on the schedules of the *Flora and Fauna Guarantee Act 1988*.

Regional botanical significance applies to an area that supports one or more of the following attributes:

Supports a population of one or more regionally depleted species defined in a valid regional assessment of biodiversity (eg. Regional Native Vegetation Plan, Environment Conservation Council Report or Comprehensive Regional Assessment documents).

An ecological vegetation class that is considered endangered or vulnerable in a particular bioregion (based on Conn 1993 and the Regional Native Vegetation Plan), in which case the area is of **High Regional** significance.

An ecological vegetation class that is considered depleted in a particular bioregion (based on Conn 1993 and the Regional Native Vegetation Plan), in which case it is of **Regional** significance.

Local botanical significance applies to all remnant native vegetation that does not meet the above criteria. In much of Victoria native vegetation has been so depleted by past clearing and disturbance that all remaining vegetation must be considered to be of at least local conservation significance.

Appendix 2 Native Vegetation Removal Report

Native vegetation removal report

A report to support an application to remove, destroy or lop native vegetation in the **Basic** 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: **02 July 2019 15:17 PM**

Lat./Long.: -38.1792635316108,144.457611380753

Native vegetation report ID: 327-20190702-010

Address: 31-49 MELALUKA ROAD LEOPOLD 3224

Assessment pathway

The assessment pathway and reason for the assessment pathway

Assessment pathway	**Basic Assessment Pathway**
Extent of past plus proposed native vegetation removal	0.003 hectares
No. large trees	0 large tree(s)
Location category	Location 1 The native vegetation is not in an area mapped as an endangered Ecological Vegetation Class, sensitive wetland or coastal area. Removal of less than 0.5 hectares 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	0.002 general habitat units
Offset attributes	
Vicinity	Corangamite Catchment Management Authority (CMA) or Greater Geelong City Council
Minimum strategic biodiversity value score	0.192
Large trees	0 large tree(s)

Native vegetation removal report – report ID 327-20190702-010

Native vegetation removal report

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	0.003 hectares
Condition score of all mapped native vegetation	0.200
Strategic biodiversity value score of all mapped native vegetation	0.240
Extent of patches native vegetation	0.003 hectares
1	0.003 hectares
Extent of scattered trees	0 hectares
No. large trees within patches	0 large tree(s)
No. large scattered trees	0 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
N/A				

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.**

flat land

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.**

to be determined

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.**

to be determined

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 in to an agreement with DELWP.

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

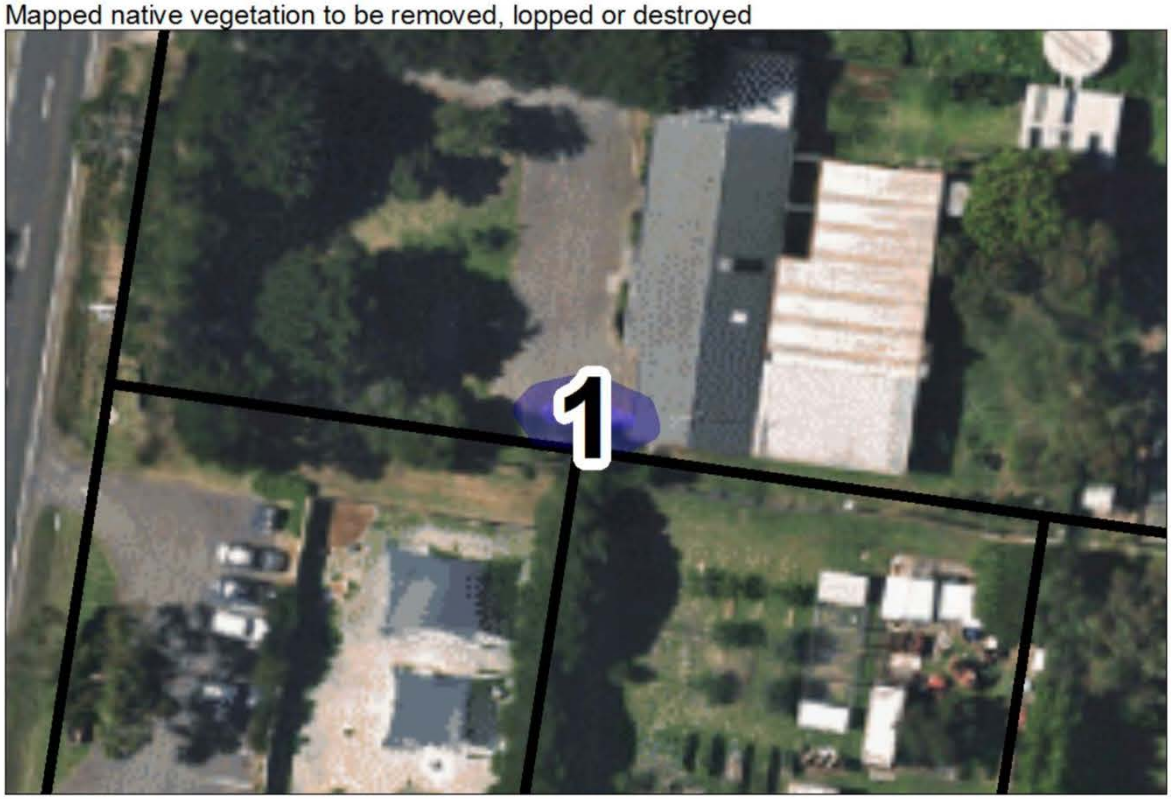
Applications under Clause 52.16

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.

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

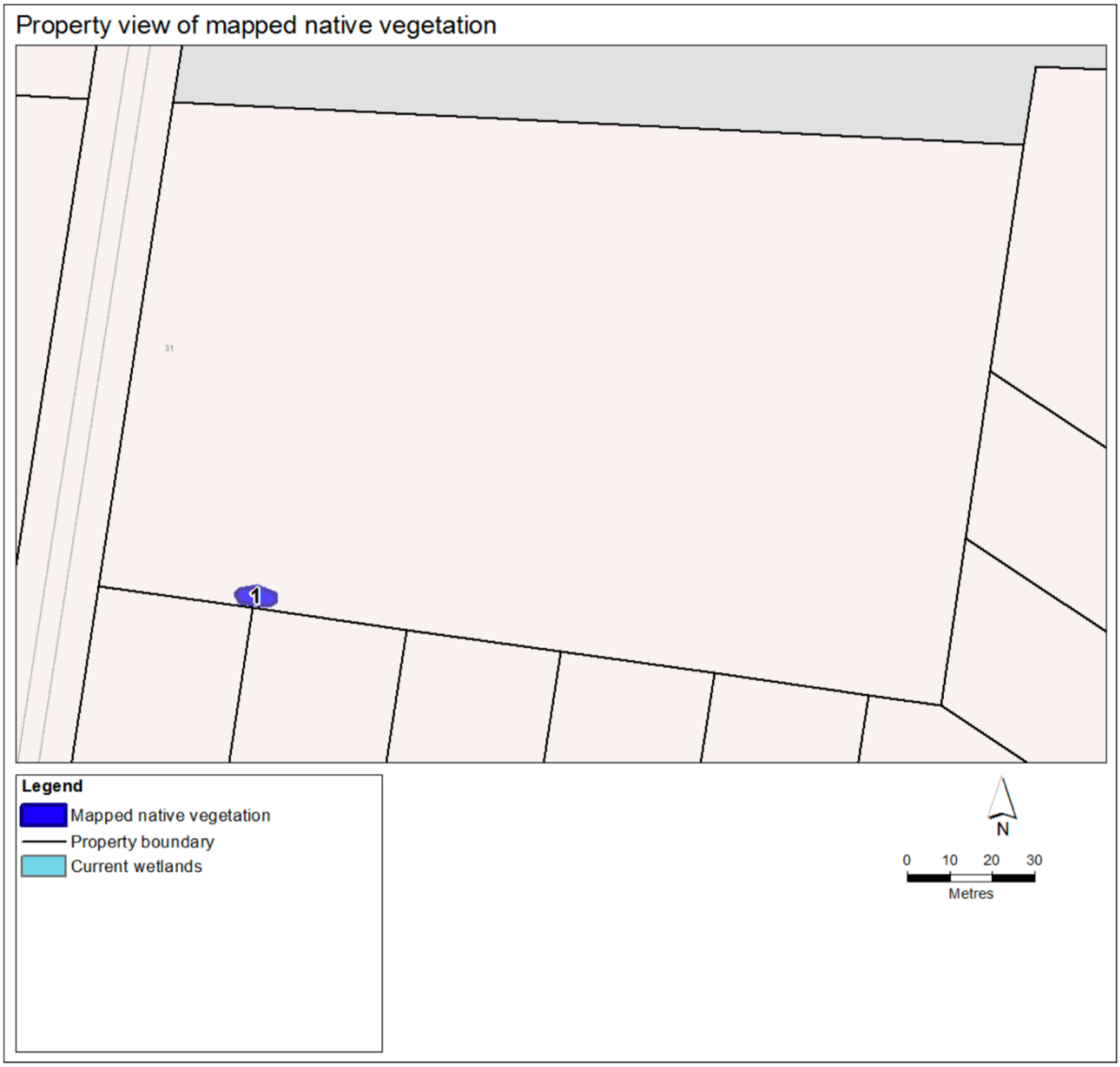
N

0 5 10 15

Metres

Native vegetation removal report – report ID 327-20190702-010

Figure 2 – Map of property in context



Native vegetation removal report – report ID 327-20190702-010

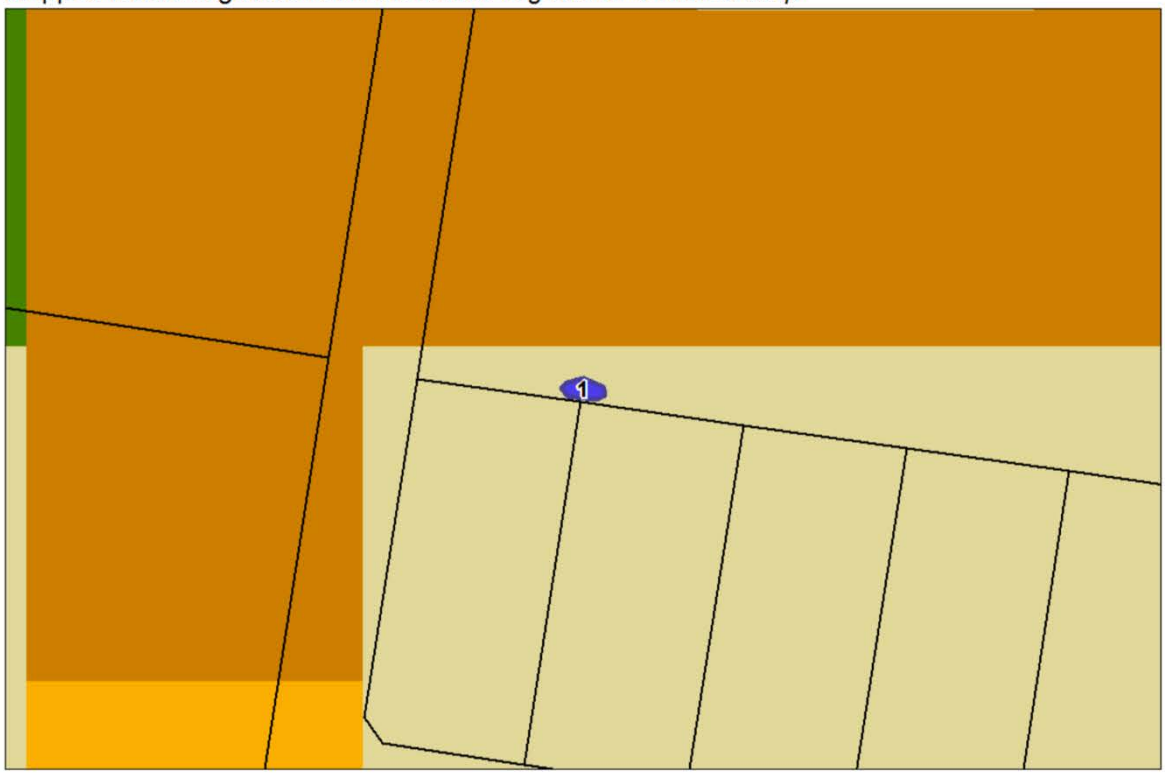
Figure 3 – Biodiversity information maps

Mapped native vegetation and the *Native vegetation location map*

Native vegetation removal report – report ID 327-20190702-010

Native vegetation removal report

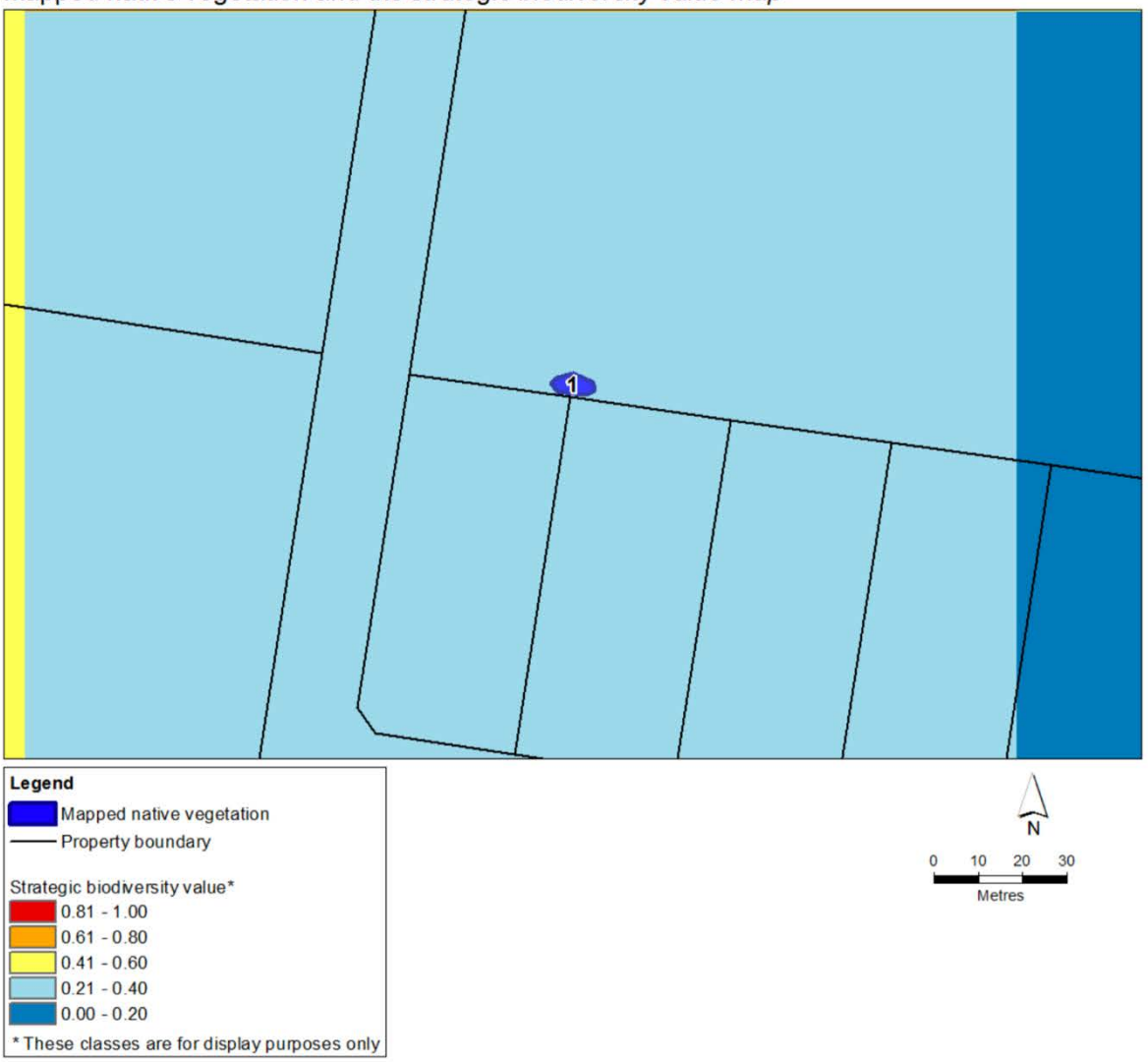
Mapped native vegetation and the *Native vegetation condition map*



Native vegetation removal report – report ID 327-20190702-010

Native vegetation removal report

Mapped native vegetation and the *Strategic biodiversity value map*



Native vegetation removal report – report ID 327-20190702-010

Appendix 1 - Details of offset requirements

Native vegetation to be removed

Extent of all mapped native vegetation (for calculating habitat hectares)	0.003	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 *Native vegetation condition map*.
Habitat hectares	0.001	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	0.240	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 *Strategic biodiversity value map*.
General landscape factor	0.620	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	0.001	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)	0.002	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	0.192	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	Corangamite CMA or Greater Geelong City 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	0 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.

6 REFERENCES

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http://planningschemes.dpcd.vic.gov.au/schemes/geelong

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http://www.depi.vic.gov.au/environment-and-wildlife/biodiversity/evc-benchmarks

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Plates 1-3 Vegetation Photographs

Plate 1. Patch of Lightwood native vegetation.

Plate 2. Exotic vegetation, typical conditions.

Plate 3. Planted exotic and non-native vegetation, typical conditions.