

COLLISON ESTATE, CRANBOURNE EAST

NATIVE VEGETATION ASSESSMENT

Prepared for KLM Spatial



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July 2018

Report No. 18118 (1.1)

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1. EXECUTIVE SUMMARY

Brett Lane & Associates Pty. Ltd. (BL&A) undertook a native vegetation assessment of an 83-hectare area of land in Cranbourne East, previously referred to as the Collison Estate, bordered by Linsell Blvd to the north, Berwick-Cranbourne Road to the south, Mayfield Road to the west and residential development within the Cranbourne East Precinct Structure Plan to the east. The subject land is covered by a Development Plan Overlay (DPO22) under the City of Casey planning scheme.

Under Victoria's *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP 2017a) and associated Victorian Government spatial modelling, potential impacts to native vegetation and listed threatened flora and fauna species are identified through the mapping and assessment of native vegetation subject to Clause 52.17 of all Victorian Planning Schemes.

This report presents the results of this assessment relevant to native vegetation in the subject land to inform the preparation of a Development Plan as required under Schedule 22 of Clause 43.02 of the Casey Planning Scheme.

Vegetation in the study area consisted of residential garden plantings, areas of planted trees and shrubs, as well as areas of introduced pasture grasses. Planted vegetation was made up of a wide variety of introduced ornamental and hedge species, as well as a moderate proportion of commonly planted eucalypt species, wattles and paperbarks. None of these species are likely to be remnants of any pre-existing native vegetation of the subject land.

Clause 52.17 states that a permit is required to remove, destroy or lop native vegetation, including dead native vegetation. However, Clause 52.17 contains an exemption for the need for a permit for the removal of planted native vegetation recorded throughout the subject land. Furthermore, offset requirements for the removal of planted vegetation do not apply under Victoria's *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP 2017a).

The requirement of DPO22 to retain significant native vegetation is not considered to apply to vegetation recorded in the study area, given its planted nature.

Notwithstanding the fact that the removal of planted native vegetation is exempt from the need for a planning permit under Clause 52.17, it is envisaged that the responsible authority may seek the retention of individual trees or rows of vegetation throughout the development plan area in order to meet the objective of Clause 21.16 of the Casey Planning Scheme to *extend Cranbourne's treed image into Cranbourne East and establish links in the suburban area to the surrounding parkland and countryside*.

2. INTRODUCTION

KLM Spatial engaged Brett Lane & Associates Pty. Ltd. (BL&A) to conduct a native vegetation assessment of an 83-hectare area of land in Cranbourne East, previously referred to as the Collison Estate, bordered by Linsell Blvd to the north, Berwick-Cranbourne Road to the south, Mayfield Road to the west and residential development within the Cranbourne East Precinct Structure Plan to the east.

It is understood that the land was previously zoned Urban Growth Zone and proposed to be included in the Cranbourne East PSP. The Native Vegetation Precinct Plan (NVPP) contained within this PSP includes the land subject to the current assessment and did not record any native vegetation within the subject land. The Schedule to Clause 52.17 in the Casey Planning Scheme provided an exemption for the need for a permit to remove native vegetation in land within the Urban Growth Zone that is covered by a Native Vegetation (Precinct) Plan.

The subject land was subsequently removed from the Cranbourne East PSP, rezoned General Residential Zone (GRZ1) and covered by a Development Plan Overlay (DPO22) under the City of Casey planning scheme titled *Collison Estate*. Despite the existing NVPP that incorporates DPO22 identifying no native vegetation in the Collison Estate land, DPO22 requires a *biodiversity assessment identifying native vegetation and threatened species of flora and fauna*.

This investigation was commissioned to provide information on the extent and condition of native vegetation in the study area according to Victoria's *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP 2017a), herein referred to as 'the Guidelines'. Under the Guidelines and associated Victorian Government spatial modelling, potential impacts to listed threatened flora and fauna species are identified through the mapping and assessment of native vegetation subject to Clause 52.17 of all Victorian Planning Schemes, then applying 'habitat importance' modelling to this vegetation.

Therefore, the scope of this investigation included:

- Characterisation of native vegetation in the study area, as defined in the Guidelines, including the mapping of patches and scattered trees; and
- Characteristic flora species records for the study area; and
- Characterisation of the nature and quality of native fauna habitat such as large trees and any wildlife corridors.

Potential impacts on flora and fauna matters listed under the Victorian *Flora and Fauna Guarantee Act 1988* and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* have been considered as part of a review of existing information and field investigation; no relevant implications were identified under either Act.

This report is divided into the following sections:

Section 3 describes the methods used for the assessment, definitions and the legislative background.

Section 4 presents the assessment results and implications under the Guidelines.

This investigation was undertaken by a team from BL&A, comprising Greg Cranston (Botanist) and Mal Wright (Senior Ecologist & Project Manager).

3. DEFINITIONS, METHODS AND ASSESSMENT PROCESS

3.1. Definitions

3.1.1. Study area

The study area for this investigation is approximately 83 hectares of land, comprising 94 individual land parcels and public road reserves, located in Cranbourne East, three kilometres east of the Cranbourne city centre. The study area is bordered by Linsell Blvd to the north, Berwick-Cranbourne Road to the south, Mayfield Road to the west and residential land to the east (Figure 1).

3.1.2. Native vegetation

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

- Patch; or
- Scattered tree.

The definitions of these categories are provided below, along with the prescribed DELWP methods to assess them. Further details on definitions of patches and scattered trees are provided in Appendix 1.

Patch

A patch of native vegetation is either:

- An area of vegetation where at least 25 per cent of the total perennial understorey plant cover is native; or
- Any area with three or more native canopy trees¹ where the drip line² of each tree touches the drip line of at least one other tree, forming a continuous canopy; or
- Any mapped wetland included in the *Current wetlands map*, available in DELWP systems and tools.

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

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

Scattered tree

A scattered tree is:

- A native canopy tree¹ that does not form part of a patch.

¹ A native canopy tree is a mature tree (i.e. it is able to flower) that is greater than 3 metres in height and is normally found in the upper layer of the relevant vegetation type.

² The drip line is the outermost boundary of a tree canopy (leaves and/or branches) where the water drips on to the ground.

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

3.2. Planning permit and application requirements

State planning provisions are established under the Victorian *Planning and Environment Act 1987*. Clause 52.17 of all Victorian Planning Schemes states that:

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

A permit is not required if:

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

It is understood that the land was previously zoned Urban Growth Zone and proposed to be included in the Cranbourne East PSP. The Native Vegetation Precinct Plan (NVPP) contained within this PSP includes the land subject to the current assessment and did not record any native vegetation within the subject land. The Schedule to Clause 52.17 in the Casey Planning Scheme provided an exemption for the need for a permit to remove native vegetation in land within the Urban Growth Zone that is covered by a Native Vegetation (Precinct) Plan.

The subject land was subsequently removed from the Cranbourne East PSP, rezoned General Residential Zone (GRZ1).

3.2.1. *Planted vegetation exemption*

One of the exemptions listed in Table 52.17-7 relevant to the study area is described below.

Planted vegetation: Native vegetation that is to be removed, destroyed or lopped that was either planted or grown as a result of direct seeding. This exemption does not apply to native vegetation planted or managed with public funding for the purpose of land protection or enhancing biodiversity.

3.2.2. *Application requirements*

Any application to remove, destroy or lop native vegetation must comply with the application requirements specified in the Guidelines (DELWP 2017a).

When assessing an application, Responsible Authorities are also obligated to refer to Clause 12.01-2 (Native vegetation management) in the Planning Scheme which in addition to the Guidelines, refers to the following:

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

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

3.2.3. Referral to DELWP

Clause 66.02-2 of the planning scheme determines the role of DELWP in the assessment of native vegetation removal permit applications. If an application is referred, DELWP may make certain recommendations to the responsible authority in relation to the permit application.

Any application to remove, destroy or lop native vegetation must be referred to DELWP if:

- The impacts to native vegetation is in the Detailed Assessment Pathway;
- A property vegetation plan applies to the site; or
- The native vegetation is on Crown land which is occupied or managed by the responsible authority.

3.3. Field methods

The field assessment for this investigation was undertaken over three days on the 13, 14th and 21st June 2018. During this assessment, the study area was initially surveyed and vegetation visually assessed from roadsides on foot.

Individual parcels that were considered to potentially contain native vegetation were subsequently assessed by way of access granted to a number of properties within the study area.

4. ASSESSMENT RESULTS, IMPACTS AND IMPLICATIONS

4.1. Site description

The study area for this investigation (Figure 1) was approximately 83 hectares of land, comprising 94 individual land parcels and public road reserves, located in Cranbourne East, three kilometres east of the Cranbourne city centre. The study area is bordered by Linsell Blvd to the north, Berwick-Cranbourne Road to the south, Mayfield Road to the west and residential land to the east. The study area is dissected by Garden Street and Heather Grove in an east-west direction and Collison Road in a north-south direction.

Surrounding land predominantly supported residential development to the west and north, with similar residential areas currently being constructed to the east and the Casey Fields sporting precinct to the south.

The study area lies within the Gippsland Plain bioregion and falls within the Port Phillip and Westernport CMA.

The study area supported rich fertile soils on a flat landscape and is characterised by historically small rural-residential lots of 1–2 hectares in size. Vegetation in the study area consisted of residential garden plantings, areas of planted trees and shrubs, as well as areas of introduced pasture grasses. Planted vegetation was made up of a wide variety of introduced ornamental and hedge species, as well as a moderate proportion of commonly planted eucalypt species, wattles and paperbarks.

Discussions with landholders provided further indication of the level of planting of trees and shrubs that has occurred since the early stages of its current subdivision layout, with the landscape described as devoid of such vegetation some 30 to 40 years ago.

The vast majority of planted native vegetation in the study area comprised non-indigenous Victorian and Australian natives such as Blue Gum (*Eucalyptus globulus*), Spotted Gum (*Corymbia maculata*), Sugar Gum (*Eucalyptus cladocalyx*) and Giant Honey-myrtle (*Melaleuca armillaris* subsp. *armillaris*).

Some planted natives such as Manna Gum (*Eucalyptus viminalis*) and Swamp Paperbark (*Melaleuca ericifolia*) are species that would have naturally occurred in the wider region in valleys, on watercourses or drainage lines and swampy areas, modelling of Ecological Vegetation Classes that would have existed on the expanse of flat land on which the study area is located indicate that none of these species are likely to be remnant of the Plains Grassland/Plains Grassy Woodland mosaic that occurred on the Gippsland Plains, described in more detail in Section 4.2.

A general description of planted vegetation is provided below for properties along each of the five roadways within the study area. Photographs of this vegetation are provided in Appendix 2.

Garden Street/Heather Grove

Several of the properties along the northern side of Garden Street contained Swamp Paperbark, concentrated along the northern fence lines of these properties backing onto the Linsell Boulevard road reserve (Photos 1, 2, 10 & 11). This vegetation did not coincide with any natural or man-made drainage lines or areas of swampland and is therefore considered to have been planted. Furthermore, pre-1750 Ecological Vegetation Class (EVC) mapping does not identify this location as a natural depression or watercourse that may have once supported Swamp Scrub (EVC 53) as outlined in Section 4.2.

Other planted species in properties along Garden Street and Heather Grove included Giant Honey-myrtle, several eucalypt species and garden plants.

Mayfield Road

The survey of properties in the west of the study area recorded planted non-indigenous eucalypts such as Blue Gum, Spotted Gum, Sugar Gum and a several other eucalypt species over an understorey dominated by introduced grasses. One mature Manna Gum was recorded in a property at 34 Mayfield Road; however, this species is not representative of the pre-existing Plains Grassy Woodland Ecological Vegetation Class as outlined in Section 4.2. Whilst it is indigenous to the wider region, it is a commonly planted species and is considered planted in this location.

A wide variety of planted introduced trees and shrubs were also recorded (Photos 3, 4, 11 & 12).

Collision Road

Similar to Mayfield Road, properties along Collision Road in the east of the study area were dominated by planted eucalypts, especially extending south from Heather Grove halfway towards Berwick-Cranbourne Road. Many of these trees are semi-mature and again included Blue Gum, Sugar Gum, Spotted Gum and some Manna Gum (Photos 5, 6 & 8 in Appendix 2). Several other introduced tree species have also been planted throughout this section of the study area.

Berwick-Cranbourne Road

Properties fronting this road in the south of the study area were characterised by a similar vegetation to the balance of the subject land; planted trees also occurred in the road reserve (Photos 9 & 10).

4.2. Native vegetation

Pre-European EVC mapping (DELWP 2018b) indicated that the study area would have supported a mosaic of Plains Grassy Woodland (EVC 55) and Plains Grassland (EVC 132) prior to European settlement based on modelling of factors including rainfall, aspect, soils and remaining vegetation.

Watercourses and depressions in the wider region have been mapped as previously supporting Swamp Scrub (EVC 53).

No patches of native vegetation or scattered trees as defined under the Guidelines were recorded in the study area. Planted introduced and native trees and shrubs were common throughout.

4.3. Fauna habitat

Planted trees and shrubs occurring at moderate densities throughout the study area would provide roosting and foraging habitat for native birds and arboreal mammals. Many of the trees and shrubs in the study area could support nests and dreys for these species in their canopies; however, none of the trees recorded were of sufficient age and maturity to have developed nesting hollows for native fauna.

The study area is isolated from other areas of treed habitat in the surrounding area by significant built-up areas. For example, the Royal Botanic Gardens Cranbourne is separated from the study area by a built-up area to the southwest spanning two kilometres.

This investigation did not record any habitat corridors connecting the study area to other areas of habitat in the surrounding area.

4.4. Planning implications – native vegetation

A planning permit under Clause 52.17 of the Casey Planning Scheme is not required for the removal of planted native vegetation from within the study area given the exemption for this vegetation outlined in Section 3.2.1. Furthermore, offset requirements for the removal of planted vegetation do not apply under Victoria's *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP 2017a).

The requirement of the Development Plan Overlay (DPO22) to retain significant native vegetation is not considered to apply to vegetation recorded in the study area, given its planted nature.

Notwithstanding the fact that the removal of planted native vegetation is exempt from the need for a planning permit under Clause 52.17, it is envisaged that the responsible authority may seek the retention of individual trees or rows of vegetation throughout the development plan area in order to meet the objective of Clause 21.16 of the Casey Planning Scheme to *extend Cranbourne's treed image into Cranbourne East and establish links in the suburban area to the surrounding parkland and countryside*.

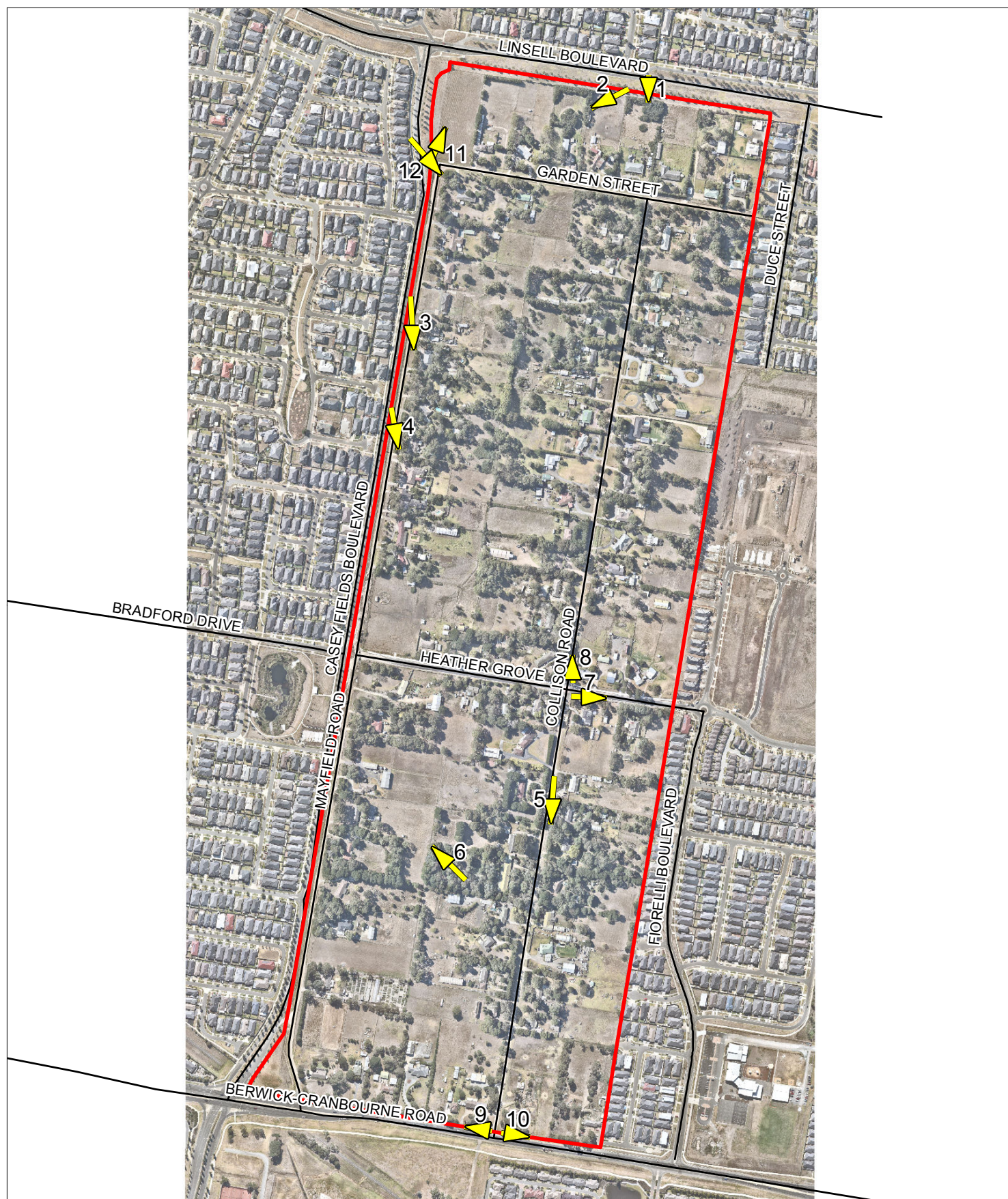
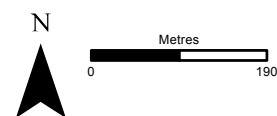


Figure 1: Study area

Project: Collision Estate, Cranbourne East **Client:** KLM Spatial **Date:** 12/07/2018

- ▭ Study area
- ▶ Photo number (Appendix 2)
- Roads



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Appendix 1: Details of the assessment process in accordance with the Guidelines

Purpose and objective

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

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

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

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

Assessment pathways

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

- Basic;
- Intermediate; or
- Detailed.

This assessment pathway is determined by two factors:

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

greater or equal to the large tree benchmark diameter at breast height (DBH) for the relevant bioregional EVC. Any scattered tree that is not a large tree is a small scattered tree. The extent of large and small scattered trees is determined as follows:

- *Large scattered tree* – The area of a circle with a 15 metre radius, with the trunk of the tree at the centre.
- *Small scattered tree* – The area of a circle with a 10 metre radius, with the trunk of the tree at the centre.

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

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

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

Landscape scale information - Strategic biodiversity value

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

Landscape scale information - Habitat for rare or threatened species

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

This includes two groups of habitat:

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

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

Biodiversity value

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

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

Habitat hectares = extent of native vegetation x condition score

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

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

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

General habitat score = habitat hectares x general landscape factor

Species habitat score = habitat hectares x species landscape factor

Offset requirements

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

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

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

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

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

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

Offset attributes

Offsets must meet the following attribute requirements, as relevant:

- General offsets
 - *Offset amount:* General offset = general habitat score x 1.5

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

Appendix 2: Photographs of vegetation recorded in the study area



Photo 1: Planted Swamp Paperbark in properties along northern boundary of study area



Photo 2: Planted Swamp Paperbark in properties along northern boundary of study area



Photo 3: Planted eucalypts in properties along Mayfield Road



Photo 4: Planted eucalypts in properties along Mayfield Road



Photo 5: Planted eucalypts in properties along Collison Road



Photo 6: Planted trees in rear of property on Collison Road



Photo 7: Trees in properties along Heather Grove (Collison Road looking east)



Photo 8: Trees in properties along Collison Road (Heather Grove looking north)



Photo 9: Trees along Berwick-Cranbourne Road (Collison Road facing west)



Photo 10: Trees along Berwick-Cranbourne Road (Collison Road facing east)



Photo 11: Pasture on Garden Street (facing north)



Photo 12: Giant Honey-myrtle on corner of Garden Street and Mayfield Road